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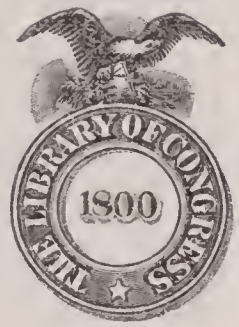

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PREFACE

GIBBON has well said: "Every man has two educations: one which he receives from others, and one, more important, which he gives to himself." Sir Walter Scott emphasizes the sentiment when he says, using almost the same words: "The best part of every man's education is that which he gives to himself."

The mind has been endowed with no more laudable or profitable ambition than that of self-improvement. The educated man, in every walk of life, carries with him his own capital—a capital unaffected by monetary crises; an investment whose interest is not regulated by the success of speculation; a treasure which none can dispute and of which none can deprive him. It is his greatest source of pleasure and profit, and it is the best legacy he can leave to his children.

In preparing the present volume, it has been the endeavor of the publishers to omit no branch of study that may be useful in the busy life of these busy times, and a perusal of the book will convince the reader that every subject has been treated concisely and thoroughly, presenting in an attractive shape all those points that go to make a finished education. Practical application to the affairs of life has been constantly kept in view, and throughout has been maintained a systematic arrangement making reference easy, and a degree of artistic typography pleasing to the eye, making the search for knowledge doubly pleasurable.

To the youth who has not had the advantages of an early education is here offered a means of thorough self-instruction—a complete commercial college bound in a book. The business man who consults these pages will find every variety of forms used in business life, and will not seek in vain for such legal information as may be needed. The professional man will have in this work a *vade mecum* of useful and practical information, saving both the expense of purchasing and the time of consulting a vast number of volumes.

It is customary to burden the initial pages of a new publication with apologies. The publishers of this book have none to make. They have invested a large amount of diligent, painstaking labor and research, and no small amount of capital, and recognize the fact that they must depend upon merit and excellence for success.

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LEGAL BUSINESS DEPARTMENT

HOW TO AVOID LITIGATION

UNTIL the millennium begins, men will not be able to exist without courts, law, and lawyers. When man was in a state of nature, before what the philosophers eall the social compact was entered into, the law that prevailed was the strong hand. Property belonged not necessarily to him who manufactured it or found it, but to him who had the physical ability to prevent other people from depriving him of it. As the verse runs, humanity began with

> —The good old plan,
> That they shall take who have the power,
> And they shall keep who can.

And much as we may talk about the reasonableness and light of our civilization, that theory lies underneath every legal process we use to-day. First the man righted his own wrongs according to his natural reason — a sort of wild justice that was made up of all injustice, and in which capital punishment was the only penalty recognized. Next the family took up the administration of the law — a step in the right direction, but only a step — and so, as men grew older in wisdom and experience, a man's wrongs were redressed first by himself, next by his family, next by his tribe, and lastly by his nation. Each of these changes was a change for the better, an approach toward impartiality and justice. Even in the night of time wise judges were at work making precedents which grew gradually into law, and that great system which we have to-day is as much a natural outgrowth of humanity as our civilization. It was seen early in our history as a race that the wisdom of the umpires to whom men addressed their disputes was not alone enough to insure peace and tranquility to the land, and hence great law-givers appeared from time to time in every nation, who have left codes out of which we have built our Common Law and Statute Law of the twentieth century. Each family of nations had its own statutes, differing widely in practise, but all founded upon justice and common sense.

The English law, which we in America have brought with us from the old home, is, like the English language, an *olla podrida* of many elements. The Saxon code lies under all with its strong tendency to personal lib-

erty, and exact and equal justice to high and low, just as the Saxon tongue is the basis and foundation of our language. The Norman Conquest brought in changes in the tenure of land, together with the martial law, the game laws, and the criminal and feudal laws of France. Mixing in this hotch-potch, the Roman Church added the ecclesiastical and part of the criminal law, drawn directly, as the French laws came indirectly, from the great *Codex Justiniani*, of the Roman Empire, and this strange mixture has grown in the centuries that have passed into the great guarantee of liberty and justice which our law to-day represents.

Always seeking after right and common sense, our law is not perfect, nor is it perfectly administered, but the whole world admits that the English-speaking people have the best laws known to man. Perfection, erring humanity will never attain.

Our criminal law has been built upon the theory that the criminal must be protected, and it is for his protection that the statutes run. At first the only punishment that men knew was death or maiming. In the middle ages thieves were boiled in oil, and robbers were impaled alive; witnesses were questioned on the rack, and evidence extorted with thumbscrew and the iron boot, crushing the flesh in the search for truth. As the years rolled by all of this was ameliorated, and to-day mercy is tempered with justice, and the shameful barbarisms of the courts of the middle ages are becoming rarer and rarer.

It is not the purpose of this work to make any man a lawyer learned in the law. It were idle, and worthy only of a catchpenny mountebank, to pretend that in a volume like this could be compressed the whole of a great science which demands of its professors years of toil and years of study and experience. Once involved in litigation, go to a lawyer, and to the best lawyer you can afford. Any one who gives the reader different advice is dishonest and knavish, and common sense must recognize this indictment.

An ounce of prevention, however, is worth a pound of cure, and we verily believe that in the pages that follow many ounces of prevention will be found. Law is a costly luxury that should only be indulged in as a last resort, when justice cannot be gained by less expensive means. The wise man avoids it as he would avoid bankruptcy or fire, and he takes all the prudent precautions that he can to escape litigation. We claim that the student of these pages will be fully equipped for that purpose.

Law is a costly luxury, we have said; and the wisdom of antiquity, which built the law, has built also on this truism. One of the earliest fables the child is told, is the story of the two cats who referred a cheese case to a monkey learned in the law, and whose chose-in-action gradually went into the digestive system of the court.

No matter what transaction you are about to engage in, study the forms we give, read the hints we publish. Do nothing blindly. Knowledge is power in no case so much as in business law. Who are the men that succeed? They are those who understand it. Which of your friends is tangled up in costly, perhaps ruinous, litigation? Ask him how it began, and he will point out to you some trifling error, made in a culpable ignorance, which, had he the lesson we teach before him, he would have avoided. Then study these pages if you would gain the benefit that lies before you. A half hour's attention before a transaction is consummated may save you thousands afterward. The diligent student may be sure of one thing, that, with this manual at command, its hints obeyed, its instructions followed, its forms used, it will take a very much better lawyer than the average business man to force him into a lawsuit, and yet his rights will be as thoroughly secure as though they had been vindicated and asserted by all the Supreme Courts of the Republic.

Legal Business Forms.

How they are Properly Drawn and Executed.

AGREEMENTS AND CONTRACTS.

A CONTRACT is legally defined to be an agreement between persons competent to contract to do or not to do, for a consideration, some specified thing. Following upon this definition, it is evident that those things to be specially examined about a contract are the parties, their legal ability and their consent. There must be two or more persons concerned, and it is vital that they must be able to contract. "*Persons*" is here taken in the legal meaning, which includes artificial persons, such as corporations and States. Corporations can only contract as they are empowered by their charters; States, as they are permitted by their constitutions. Persons not of legal age can not usually contract, but when of age they may, in certain cases, ratify contracts made in infancy. The contract of marriage may be entered into under age. Idiots and insane persons cannot contract.

Consent is vital to a contract. It may be given by a word or a nod, by the shaking of hands or by a sign. Often, in law, the old saying that "silence gives consent" is upheld. In a written contract assent is proven by the signature or mark of the persons.

The first step toward a contract is the proposition or offer, which may be withdrawn at any time before it is agreed to. When the proposition is verbal, and no time is specified, it is not binding unless accepted at once. To give one the option or refusal of property at a specified price, is simply to give him a certain time to make up his mind whether he will buy the property or not. To make the option binding he must accept within the time named. The party giving the option has the right to withdraw it, and sell the property to another, at any time previous to its acceptance, even within the time for which the refusal was given, because the offer is gratuitous, and there is no consideration to support it.

A written proposition may be accepted at any time before notice of withdrawal. But the proposer can retract at any time before it is accepted. If a letter of acceptance is mailed, however, and immediately after a letter withdrawing the offer is received, the contract is binding. An acceptance takes effect from the time it is mailed, not from the time it is received; it must be in accordance with the original proposition, for any new matter introduced would constitute a new offer. When the offer is accepted, either verbally or in

writing, it is an express assent, and is binding. Express assent is not affected by custom or usage of trade. Implied assent is accepted by the law when common sense seems to demand it. For instance, if John Jones draws a draft on Abraham Swift, which Swift refuses to accept, and James Smith accepts the draft to save John Jones' credit, there is an implied assent on the part of Jones to indemnify Smith.

A contract made under a mistake of law is not void. Everybody is presumed to know the law, and ignorance is no excuse. This, however, applies only to contracts permitted by law and clear of fraud. A refusal of an offer cannot be retracted without the consent of the second party. Once a proposition is refused, the matter is ended. And no one has the right to accept an offer except the person to whom it was made.

The consideration is the reason or thing for which the parties bind themselves in the contract, and it is either a benefit to the promisor or an injury to the other party. Considerations are technically divided into *valuable* and *good*, and it sometimes happens that the consideration need not be expressed, but is implied. A valuable consideration is either money or property or service to be given, or some injury to be endured. A promise to marry, for instance, is a valuable consideration. A good consideration means that the contract is entered into because of consanguinity or affection, which will support the contract when executed, but will not support an action to enforce an executory contract. Whether a consideration is sufficient or not is tested by its being a benefit to the promisor or an injury to the other party. If it has a legal value, it makes no difference how small that value may be. The promisor need not always be benefited, as, for instance, the endorser of a note, who is liable although he gets no benefit. But if a person promise to do something himself for which no consideration is to be received, there is no cause of action for breach of the contract. Among sufficient considerations we may include "forbearance," the waiting for payment or for the execution of another contract, and "mutual promises," if made simultaneously, not otherwise, and finally a pre-existing "moral obligation," as, for instance, when a debt has become outlawed through the statute of limitations, a promise to pay it will renew the liability of the debtor.

THE STATUTE OF FRAUDS.

The English Statute of Frauds, which has been re-enacted in most of the American States, provides that "no action shall be brought whereby to charge the defendant upon any special promise to answer for the debt, default or miscarriage of another person, unless the agreement upon which such action shall be brought, or some memorandum or note thereof, shall be in writing, and signed by the party to be charged therewith, or some other person thereunto by him lawfully authorized." This is held not to apply to original promises, but only to collateral engagements or cases where a debt already exists on the part of a third person. As in the case of a note already given to Brown by Jones, a promise from Smith to pay must be in writing to be binding. If Brown tells Jones to deliver goods to Smith, saying: "I will pay if he doesn't," or "I will see you paid," it is a mere offer of guaranty, and is a collateral undertaking, which comes within the statute; but it is different if he says: "Charge them to me," or "I will pay." The latter is an original promise, and need not be in writing. No consideration is necessary, so far as the person who guarantees is concerned, if it is a benefit to the person in whose favor the promise is made. This statute does not apply in cases where an original promise is made at the time the debt is created. The statute of frauds

also provides that no sale shall be binding unless the buyer shall first accept part of the goods so sold, and actually receive them; or, 2d, give something in earnest, to bind the bargain, or in part payment; or, 3d, that some note or memorandum, in writing, of the said bargain be made and signed by the parties or their agents. The writing must state the promise, and also the consideration. Where goods exist in the condition in which they are to be delivered, and the delivery is to take place in the future, a sale of such goods comes within the statute.

CAUSES WHICH VITIATE CONTRACTS.

There are several causes which void contracts, first among which is fraud. Fraud is defined to be "every kind of artifice employed by one person for the purpose of wilfully deceiving another to his injury." No fraudulent contract will stand in law or in equity. The party upon whom the fraud has been practiced must void the contract as soon as he discovers the fraud, for if he goes on after having knowledge of the fraud he cannot afterwards avoid it. But the one who perpetrates the fraud cannot plead that ground for voiding it. Contracts in restraint of trade are void, as also are contracts in opposition to public policy, impeding the course of justice, in restraint of marriage, contrary to the insolvent acts, or for immoral purposes. Any violation of the essential requisites of a contract, or the omission of an essential requisite, will void it.

THE DEFENCES

which may be set up against an action on contract are eleven in number, and may be summarized thus: Performance, Payment, Receipts, Accord and Satisfaction, Arbitrament and Award, Pendency of Another Action, Release, Tender, Statute of Limitations, Set-Off, Recoupment.

A Building Contract.

Memorandum of Agreement, made this 10th day of May, one thousand nine hundred and four, between Henry Davis, of St. Louis, of the first part, and Joseph Stephenson, of the same place, builder, of the second part. The said party of the second part covenants and agrees with the said party of the first part to make, erect, build and finish in good, substantial and workmanlike manner, on the lot belonging to the party of the first part, and known as No. 243 North Nineteenth street, one brick house, agreeable to the draft, plan and explanation hereto annexed, of good and substantial materials *(or* of such materials as the party of the first part may find and provide therefor), by the 1st day of September next. And the said party of the first part covenants and agrees to pay unto the said party of the second part, for the same, the sum of one thousand dollars lawful money of the United States, as follows: the sum of $200 on the 1st of June, $200 on the 1st of July, $200 on the 1st of August, $400 on the completion of the house.

(If the owner is to furnish materials, add: and, also, that he will furnish and procure the necessary materials for the said work, in such reasonable quantities, and at such reasonable time, or times, as the said party of the second part shall or may require.)

And for the true and faithful performance of all and every of the covenants and agreements above mentioned, the parties to these presents bind themselves, each unto the other, in the penal sum of $200, as liquidated damages to be paid by the failing party.

In witness wherof, The parties to these presents have hereunto set their hands (and seals) the day and year first above written.

Signed, sealed and delivered in presence of
JAMES WILSON.
H. C. BOYD.

HENRY DAVIS.
JOSEPH STEPHENSON.

Contract with Employe.

This Agreement, made this 22d day of December, 19— between J. F. Townley, of Chicago, of the first part, and Campen, Strauss & Co., of St. Louis, Mo., of the second part, witnesseth: That the said J. F. Townley agrees faithfully and diligently to serve the said Campen, Strauss & Co., as clerk, in the store of said Campen, Strauss & Co. *(or otherwise)*, at St. Louis, for the period of one year, from and after the 1st day of January next, for the sum of $1,500 per year. In consideration of which service, so to be performed, the said Campen, Strauss & Co. agree to pay the said J. F. Townley the sum of $125 per month, payable on the first day of each month, during said term.

And it is understood and agreed that the death of either of them, occurring prior to the expiration of said term of one year, shall terminate this agreement.

In witness whereof, etc.

CAMPEN, STRAUSS & CO.
J. F. TOWNLEY.

Contract for the Sale of Property.

This Agreement, made this 5th day of March, 19— between Alan McDowell, of St. Louis, and C. S. Wheeler & Co., of New York, witnesseth: That the said Alan McDowell agrees to sell and deliver to the said C. S. Wheeler & Co., at their store in New York, five thousand bushels of potatoes on or before the 2d day of May, 19— and the said C. S. Wheeler & Co., in consideration thereof, agree to pay to the said Alan McDowell fifty cents per bushel for said potatoes, immediately upon the completion of the delivery thereof.

In witness whereof we have hereunto set our hands, this 5th day of March, 19— at New York City.

C. S. WHEELER & CO.
ALAN MCDOWELL.

Short Form of Contract.

John D. Simons hereby agrees to sell one thousand head of two-year-old cattle, to be delivered in Chicago before February 1, 19— to Knox, Stout & Co., at $20 a head, and the said Knox, Stout & Co. agree to pay $20 per head for all two-year-old cattle, up to one thousand head, delivered by said John D. Simons, prior to February 1, 19—

Signed at Chicago, Ill., this 20th day of September, 19—

KNOX, STOUT & CO.
JOHN D. SIMONS.

Agency and Attorney.

WHEN one person is authorized to act in a business capacity for another, under a contract either express or implied, he becomes the agent of the latter, and the act of the agent, when legally authorized, is the same as if done by the principal. For ordinary contracts constituting an agency, a written or verbal agreement or appointment is required, but contracts required to be under seal can only be made by an agent whose appointment is established by a sealed instrument. An agent may be so constituted by his acts without a formal appointment. Where a principal willingly and knowingly allows a person to do acts in his name, he will be presumed to have given him authority. Where several persons are appointed by law as agents, the thing to be done may generally be executed by a majority of them.

The extent to which the agent's authority binds the principal is to be gathered from the appointment, and depends upon the power which has been delegated to him by express or implied contract. The principal is not bound if the agent go beyond his authority, unless, with knowledge of the fact, he has taken the benefit of it.

Different Kinds of Agency.

THE various kinds of agency are called special and general; limited and unlimited; factor and broker. A special agency is an agency to do a single act, and every person doing business with a special agent must ascertain what the extent of his authority is, and at his own risk. A general agency consists of delegated authority to do anything about a particular business, the principal being bound for all acts of the agent that come within the scope of the business. Limited agency is that in which particular instructions restrict and limit the agent's authority. Unlimited agency is one in which a special agent is given authority to use any means he may find necessary to accomplish the desired

end. The factor, commonly called commission merchant, is one who has the property of his principal in his own possession, for sale, such property being called a consignment. Such agent, accompanying a cargo on a voyage, is called a supercargo. A broker is one who is employed to negotiate sales between the buyer and seller. He does not have possession of the property which he negotiates, nor authority to sell in his own name.

With few exceptions to the rule, an agent is not obliged to account for the price of goods he has sold until he has recovered the money from the purchaser.

When an agent makes the contract in the name of the principal, and under his authority, he generally avoids personal liability.

The agent is given the right of lien on the property in his possession, and also the right to insure it, to secure the payment of his commission. He is also entitled to reimbursement for costs and damages which, through no fault of his, he has been obliged to pay in relation to the agency.

The principal has reciprocal rights against third persons, corresponding with his own liabilities, and may sue them, when they are responsible, or their contracts made with the agency. He is liable to third persons for the negligence or unskilfulness of the agent, when he is acting in the fulfilment of the agency business, even if he is not under his immediate direction. The general principle is, that for all torts, frauds, misfeasances and defaults of the agent, done in the regular course of the agency business, the principal is liable, whether he participated in it or not, provided it were not the agent's wilful act. The agent is liable equally with the principal for all wrongs done by him under order of his principal.

Unless expressly authorized, the agent has no right to delegate his own powers to a subagent.

A notice to an agent is generally considered notice to the principal.

Money paid by an agent can be recovered by the principal, if it has been paid by mistake; if the consideration has failed; if the money was illegally extorted from him as agent; or if it was fraudulently applied to some illegal purpose by the agent.

An agency may be dissolved: by a revocation by the principal of the power of the agent; by operation of law.

Power of Attorney—Short and Simple Form.

Know all men by these presents: That I, the undersigned, of Minneapolis, Minn., do hereby make, constitute and appoint R. J. Belford, of St. Paul, Minn., my true and lawful attorney, for me, and in my name and stead —— *(here insert the subject-matter of the power);* to do and perform all the necessary acts in the execution and prosecution of the aforesaid business, and in as full and ample a manner as I might do if I were personally present.

HOWARD BELDEN.

Executed in presence of
HENRY LEMSON.

Letter of Substitution.

(To be endorsed on the power of attorney.)

I hereby appoint Geo. W. Jones as my substitute and in my stead to do and perform every act and thing which I might or could do by virtue of the within power of attorney. *(Signed)* R. J. BELFORD.

Power of Attorney to Collect Debts, Rents, Etc.

Know all men by these presents: That I, Samuel Adams, of Boston, Mass., do by these presents make, constitute and appoint Chas. E. Foster my true and lawful attorney, for me, and in my name, place and stead, to demand, ask, sue for, collect and receive all sums of money, accounts, debts, dues, rents and demands of every description, kind and nature whatsoever, which are due, owing or payable from any person or persons whomsoever, and to give good and sufficient receipts, acquittances and discharges therefor; giving and granting unto my said attorney full authority and power to do and perform every act and thing whatsoever necessary and requisite to be done in the premises, as I might or could do if personally present.

In testimony whereof, I have hereunto set my hand and seal, this —— day of ——, 19—

SAMUEL ADAMS. [L.S.]

Signed and sealed in presence of
JEROME BEASEY.

Letter of Revocation.

Know all men by these presents: That I, R. S. Miller, of Covington, Tenn., in and by my letter of attorney, bearing date the —— day of ——, did make, constitute and appoint J. H. Pitt my attorney, as by said letter more fully appears.

That I, the said R. S. Miller, do by these presents annul, countermand, revoke and make void said letter of attorney and all authority and power thereby given said attorney, J. H. Pitt.

In witness, etc.

R. S. MILLER. [L.S.]

Power of Attorney to Sell Stock.

Know all men by these presents: That I, J. E. Hartman, of Centralia, Ill., do by these presents make, constitute and appoint J. A. L. Romig my true and lawful attorney, for me and in my stead to sell and transfer unto any persons whomsoever, and for such price as my said attorney shall think fit, all and any of the following stocks *(describing them.)*

And also for me, and in my name, to make and pass all necessary acts of assignment, and to give and receive receipts and releases for the consideration money arising from the sale thereof.

And also for me, and in my name, to give receipts for all interest and dividends now due or that shall hereafter become due on said capital stock, until the sale and transfer thereof.

In witness, etc.

Power to Vote as Proxy at an Election.

Know all men by these presents: That I, Homer Huston, of Paxton, Ill., do hereby appoint T. M. Elliott to vote as my proxy at any election of directors or other officers of the *(name the company or corporation)* according to the number of votes I should be entitled to if I were then personally present.

HOMER HUSTON. [L.S.]

Power to Take Charge of and Carry on Business.

Know all men by these presents: That I, Julius Schonfeld, of Jefferson, Texas, do by these presents appoint, constitute and make R. V. Jennings my true and lawful attorney, for me and in my place and stead, to take charge of my business of general merchandising, at Marshall, Texas; to purchase and sell, for cash or on credit, all such articles, goods, merchandise and wares as he shall deem proper, necessary and useful to said business; to sign, accept and endorse all notes, drafts and bills; to state accounts; to sue and prosecute, compromise, collect and settle all claims or demands due or to become due, now existing or hereafter to exist in my favor; to adjust and pay all claims or demands which now exist or may hereafter arise against me, either connected with said business or otherwise.

In witness whereof, I have hereunto set my hand and seal, this —— day of ——, 19—

JULIUS SCHONFELD. [L.S.]

Affidavits.

AN affidavit is a sworn declaration, taken before a competent official, which differs from a deposition in the fact that no cross-examination is possible. When an affidavit is amended by order of court, it must be re-sworn. It should be positive in the description of amounts, places, persons, etc.; even if an amount is uncertain, some sum must be named. It must also specify the day and place whereon it was sworn. The date is given in what is called the *jurat*, and the place in the *venue* of the affidavit. Where a person is unable to read or write, or is blind, the *jurat* must show that the affidavit was read over to the affiant, and his mark or signature must be properly witnessed, and the *jurat* must be also signed in all cases by the officer before whom the affidavit is made. The *jurat* is that part of an affidavit which tells how, when, by whom and before whom the oath was taken. The *venue* simply states the place where, thus:

State of ——, }
County of ——, } *ss.*

An omission of the *venue* is fatal, as it is the only evidence that the person administering the oath had power to swear witnesses.

Where an affidavit is required by law, the maker of a false one can be punished for perjury, although in courts of law or equity affidavits are not considered as testimony.

General Form of Affidavit.

STATE OF MISSOURI, FRANKLIN COUNTY, TOWN OF WASHINGTON, *ss.*

Bernard Mense, being duly sworn, deposes and says *(or* alleges and says): That:—*(Here set out in full and accurate language the matters to be alleged.)*

[SEAL.] BERNARD MENSE.

Sworn *(or affirmed)* before me, this twenty-ninth day of August, A. D. 19— JOHN WELLENKAMP,
Justice of the Peace.

(If the affiant is unable to read, the subscription should be as follows:)

Subscribed and sworn to before me, this —— day of ——, A.D. 19— the same having been by me *(or* in my presence) read to this affiant, he being illiterate *(or* blind), and understanding the same.

(Officer's signature and title.)

Affidavit to Accounts.

STATE OF ILLINOIS, PULASKI COUNTY, *ss.*

Before me, the undersigned, one of the justices of the peace in and for said county, personally came Theodore Wehrfritz, of Mound City, and, being duly sworn according to law, deposes and says: That the above account, as stated, is just and true.

That the above sum of seventy-nine dollars is now justly due and owing to this deponent by the above named Robert Robinson.

That he, the said Theodore Wehrfritz, has never received the same or any part thereof, either directly or indirectly, nor any person for him, by his direction or order, knowledge or consent.

THEODORE WEHRFRITZ.

Sworn and subscribed before me, this thirteenth day of August, A.D. 19— WILLIAM WESTERMANN,
Justice of the Peace.

Affidavit to Petition.

STATE OF ILLINOIS, CLINTON COUNTY, *ss.*

Theodore Volmer, being duly sworn, says: That the facts set forth in the foregoing petition are true to the best of his knowledge and belief.

THEODORE VOLMER.

Sworn, etc. *(as in preceding forms).*

Affidavit to Signature of Absent or Deceased Witness.

STATE OF KANSAS, CRAWFORD COUNTY, *ss.*

Be it remembered, That on the fourth day of September, A.D. 19— before me, the undersigned, James Atkinson, one of the justices of the peace in said county, personally appeared William Hawley, who, being duly sworn, deposes and says: That Alexander Stuart, one of the subscribing witnesses to the within *(will or deed)* is *(dead or absent from the State, as the case may be)*.

That he has frequently seen said Alexander Stuart write, and that he is well acquainted with the handwriting of said Alexander Stuart.

That to the best of his knowledge and belief *(or* he verily believes) the name of Alexander Stuart, signed to the same as one of the subscribing witnesses, is the proper and individual handwriting of said Alexander Stuart.

WILLIAM HAWLEY.

Subscribed and sworn to before me, this fourth day of September, A.D. 19—

JAMES ATKINSON,
Justice of the Peace.

Apprentices.

AN APPRENTICE is one bound out to service in due form of law, to learn some art, trade or business. The contract continues for no longer time than the minority of the apprentice, and the instrument should be signed by the apprentice and his father, or, in case of death or incapacity of the latter, by the mother or legally constituted guardian.

The master stands toward the apprentice in the relation of a parent, and cannot dismiss the latter, except by decree of the proper tribunal, assigned by the laws of the particular State. An apprentice, on his part, is under obligation to obey all the lawful commands of the master, to advance, as far as he may, his interests, to endeavor to learn his art, trade or business, and perform all the covenants entered into.

The death of the master terminates the apprenticeship, unless the indenture run to the executors or administrators. An apprentice will be discharged by the proper authority for acts of the master injurious to his mind or morals.

Indenture of an Apprentice.

This indenture of apprenticeship between John Garrett, father of Philip Garrett, on the one part, and William Nead, of the other part, witnesseth: That the said Philip Garrett, aged 15 years on the 20th day of August, A.D. 19— is hereby bound as an apprentice under the said William Nead, from the date hereof until the 20th day of August, 19— to learn the trade and art of a printer; and is faithfully to serve the said William Nead and correctly to conduct himself during the term of his apprenticeship.

And the said William Nead hereby covenants that he will teach the said Philip Garrett the said trade and art, and will furnish him, during said apprenticeship, with board, lodging, washing, clothing, medicine, and other necessaries suitable for an apprentice in sickness and in health; and will send him to a suitable public school at least three months during each of the first two years of the said term; and at the expiration of the said apprenticeship will furnish him with two new suits of common wearing apparel and one hundred dollars in money.

In testimony whereof, the parties hereto have set their hands and seals this twentieth day of August, A.D. 19—

Executed in presence of
PETER DAY,
Notary Public.

JOHN GARRETT. [L.S.]
WILLIAM NEAD. [L.S.]

Consent of the Minor.

I hereby consent to the foregoing indenture, and agree to conform to the terms thereof in all things on my part to be performed.

Dated the 20th day of August, in the year 19—

PHILIP GARRETT.

Release of an Apprentice.

Know all men by these presents: That Philip Garrett, son of John Garrett, did by his agreement, bearing date the —— day of ——, bind himself as an apprentice unto William Nead, of ——, for a term of —— from the date thereof, as by said indenture more fully appears.

That, complaint having been made to the undersigned Justice of the Peace upon oath of Philip Garrett, apprentice of William Nead, to whom said Garrett is bound, that *(here state the cause for release)*. That by reason thereof, said William Nead does hereby release and forever discharge said Philip Garrett and John Garrett, his father, of and from said agreement and all service and all other agreements, covenants, matters and things therein contained, on their or either of their parts to be observed and performed, whatsoever, from the beginning of the world unto the date hereof.

In witness whereof, I have hereunto set my hand, this —— day of ——, A.D. ——.

WILLIAM NEAD.

Arbitration.

WHEN it becomes necessary or expedient in matters of dispute to have an equitable settlement without the interposition of the courts, what are termed arbitrators are selected by the parties in interest. In ordinary cases the question is usually referred to a single person who has the confidence of both parties, and is conversant with the law and the rules of evidence. Arbitrators are not bound by legal rules in the admission or exclusion of evidence, unless it is so stipulated in the agreement. An award must be conformable to the terms of the submission, and only the precise questions submitted to them should be answered. A submission to arbitration, voluntarily entered into by the parties, without the aid of the statutes or rules of court, may be revoked by either of the parties at any time before the publication of the award, though this would render the revoking parties liable in damages, which would include all the expenses incurred by the other party and all he could prove he had lost in any way by the revocation.

Form of Submission to Arbitration.

Know all men, That a controversy exists between the undersigned, Lewis Anderson and James Ray, concerning the boundary and division lines of the following tract of land, situated in *(here describe the land, and state the portion in controversy).*

That said Lewis Anderson and James Ray do hereby submit said controversy to the abitrament of Nelson West and John Farnsworth.

That said award shall be made in writing under the hands of said arbitrators, ready to be delivered to said parties, or such of them as may desire the same, on or before the second day of February next.

That said award shall in all things by us and each of us be well and faithfully kept, observed and performed.

Witness our hands, etc.

In presence of
WALTER REX,
Notary Public.

LEWIS ANDERSON.
JAMES RAY.

Form of Arbitration Bond.

Know all men by these presents: That Lewis Anderson and James Ray have, this —— day of ——, A. D. ——, submitted their matters in controversy, concerning the boundary and division lines of a certain tract of land *(describe it),* to Nelson West and John Farnsworth, to arbitrate, award, order, judge and determine of and concerning the same.

That we, the undersigned, bind ourselves, in the sum of —— dollars, that said Lewis Anderson and James Ray shall submit to the decision and award of said arbitrators, provided said award be made in writing on or before the second day of February, A.D. ——.

(Signed) EUGENE SMALL.
JUDSON WILLIS.

Form of Notice to Arbitrators.

GENTLEMEN—You have been chosen arbitrators on behalf of the undersigned, to arbitrate and award between them, in divers matters and things, set forth in their submission, which will be produced for your inspection when you meet at ——, in ——, on the —— day of ——, at — o'clock — M., to hear the allegations and proofs.

Dated, etc

LEWIS ANDERSON.
JAMES RAY.

General Form of Arbitrators' Award.

To all to whom these presents shall come, or may concern, know ye: That the matter in controversy existing between Lewis Anderson, of ——, and James Ray, of ——, as by their submission in writing, bearing date the —— day of ——, more fully appears, was submitted to Nelson West and John Farnsworth, as arbitrators.

That said arbitrators, being sworn according to law, and having heard the proofs and allegations of the parties, and examined the matter in controversy by them submitted, do make this, their award, in writing:

(Write out in full the award.)

In witness whereof, we have hereunto subscribed our names, this —— day of ——, A.D. ——.

NELSON WEST,
JOHN FARNSWORTH,
Arbitrators.

Assignments.

ANY transfer of property made in writing is properly called an assignment, thus distinguishing the act from a transfer made by delivery. In effect, it is passing to another person all of one's title or interest in any sort of real or personal property, rights, actions or estates. However, some things are not assignable ; an officer's pay or commission, a judge's salary, fishing claims, Government bounties, or claims arising out of frauds or torts. Personal trusts cannot be assigned, as a guardianship or the right of a master in his apprentice.

Unlike many other legal devices, the holder of an assignment is not bound to show that a valuable consideration was given. The owner of a cause of action may give it away if he pleases, and in the absence of positive evidence to the contrary the court will presume that the assignment was for a sufficient consideration. Proof will only be called for when it appears that the assignment was a mere sham or fraudulent. No formality is required by law in an assignment. Any instrument between the contracting parties which goes to show their intention to pass the property from one to another will be sufficient. It may be proved, for instance, by the payee of a note, that he endorsed (or delivered without endorsement) the note to the assignee, and this is sufficient evidence of assignment

In every assignment of an instrument, even not negotiable, the assignee impliedly warrants the validity of the instrument and the obligation of the third party to pay it. He warrants that there is no legal defence against its collection arising out of his connection with the parties ; that all parties were legally able to contract, and that the amount is unpaid.

An assignment carries with it all the collateral securities and guaranties of the original debt, even though they are not mentioned in the instrument.

It is usual to use as operative words in an assignment the phrase, "assign, transfer and set over ;" but "give, grant, bargain and sell," or any other words indicating an intention on the part of the parties to transfer the property, are sufficient in law.

Where property is assigned for the benefit of creditors, its actual transfer to the assignee must be made immediately. When an assignment is made under the common law, the assignor may prefer certain creditors; but in a State where this sort of an assignment is governed by statute, no preference can be shown. An assignment for the benefit of creditors covers all of the assignor's property, wherever or whatever it may be, that is not exempt from execution.

When insured property is sold, the insurance policy should be assigned. This can only be

done with the consent of the insurer, and that consent must be at once obtained.

Correct schedules of the property assigned should accompany and be attached to every assignment.

Assignment of a Note.

I hereby, for value received, assign and transfer the within written (*or* above written), together with all my rights under the same, to John Dobson. WILLIAM ATWOOD.

Assignment with Power of Attorney.

In consideration of the sum of one thousand dollars (the receipt of which is hereby acknowledged), I do hereby assign, transfer and set over to John G. Stewart (of St. Louis, Mo.), all my right, title and interest in and to *(here describe what)*.

(And I do hereby constitute said John G. Stewart my attorney, in my name or otherwise, but at his own costs and charges, to take all legal measures which may be proper or necessary for the complete recovery and enjoyment of the premises.)

Witness my hand (and seal) this 28th day of August, 19—
(Witnesses.) WILLIAM SNYDER. [L.S.]

Assignment with Guaranty of Assignor.

For value received, I do hereby assign, transfer and set over to John G. Stewart the within obligation, and all moneys due and to become due thereon.

In case the same cannot be recovered of the within named Edwin Byron, I agree and promise to pay to said John G. Stewart the amount thereof, together with all necessary and reasonable charges thereupon accruing.

Witness my hand, etc. WILLIAM SNYDER.
(Witnesses.)

Shorter Form.

For value received, I hereby assign, transfer and set over to John G. Stewart the within obligation, hereby guaranteeing payment thereof.
(Witnesses.) WILLIAM SNYDER.

Assignment Without Recourse.

For value received, I hereby assign, transfer and set over to John G. Stewart the within obligation, and all moneys due (and to become due) thereon. All failure of recovery, liabilities, losses, wholly at the risk of said John G. Stewart, without recourse in any event upon me.
(Witnesses.) WILLIAM SNYDER.

Assignment of Wages.

Know all men by these presents: That I, William Snyder (of St. Joseph, Mo.), in consideration of one hundred dollars, the receipt of which I hereby acknowledge, do hereby assign, transfer and set over to John G. Stewart (of St. Louis, Mo.) all claims and demands which I now have, and all which, at any time between the date hereof and the 30th day of December next, I may or shall have, against Edwin Byron, for all sums of money due or to become due to me for services as ——.

That I do hereby appoint and constitute said John G. Stewart and his assigns my attorney, irrevocable, to do and perform all acts, matters and things in the premises, in like manner and to all intents and purposes as I could if personally present.

In witness whereof, etc.

Assignment of Money Due on Account.

Know all men by these presents: That William Snyder, in consideration of the sum of one hundred dollars to him in hand paid, does hereby assign, transfer and set over all his title and interest in and rights under an account for *(state what)* in the sum of one hundred and fifty dollars, hereunto annexed, and all other sum and sums of money remaining due and payable upon said account, unto John G. Stewart, with full power to ask, demand and receive the same (at his own costs and expenses) to his own use, and to give discharges and receipts for the same, or any part thereof.

That there is due said William Snyder, on said account, at the date of these presents, the sum of one hundred and fifty dollars, and that he has not received or discharged the same.

In witness, etc.

Bills of Sale.

A BILL OF SALE is a formal written conveyance of personal property. If the property is delivered when sold, or if part of the purchase-money is paid, a written instrument is not necessary to make the conveyance, but it is convenient evidence of the transfer of title. But, to protect the interests of the purchaser against the creditors of the seller, the bill is not sufficient of itself; there should also be a delivery of the property. If an actual and continued change of possession does not accompany the sale, it is void as against the creditors of the seller and subsequent purchasers and mortgagees in good faith, unless the buyer can show that his purchase was made in good faith, without intent

to defraud, and that there was some good reason for leaving the property in the hands of the seller.

Short Form of Bill of Sale.

I, Henry Anderson, of Chester, Pa., in consideration of two hundred and fifty dollars, paid by A. D. Criste, of Munster, Pa., hereby sell and convey to said A. D. Criste one bay horse *(give sex, size, color, age, etc.)*, warranted against adverse claims.

Witness my hand, this 4th day of Sept., A.D. 19—

(Witness.) *(Signed)* HENRY ANDERSON. [L.S.]

Common Form—With Warranty.

Know all men by these presents: That in consideration of one thousand dollars, the receipt of which is hereby acknowledged, I do hereby grant, sell, transfer and deliver unto A. A. McHatton, his heirs, executors, administrators and assigns, the following goods and chattels, viz.: *(here describe the property)*.

To have and to hold all and singular the said goods and chattels forever. And the said grantor hereby covenants with said grantee that he is the lawful owner of said goods and chattels; that they are free from all encumbrances; that he has good right to sell the same, as aforesaid; and that he will warrant and defend the same against the lawful claims and demands of all persons whomsoever.

In witness whereof, the said grantor has hereunto set his hand, this 12th day of December, A.D. 19—

(Witness.) N. R. JENNER.

Sale of Personal Property.

Know all men by these presents: That I, Peter Dolan, of the city of Cleveland, county of Cuyahoga, State of Ohio, farmer, in consideration of four hundred dollars, to me in hand paid by Conrad Ullner, the receipt whereof I hereby acknowledge, have bargained, sold, granted and conveyed unto the said Conrad Ullner the following property, to-wit: two horses; to have and to hold the same; unto the said party of the second part, his executors, administrators and assigns forever.

In witness whereof, I have hereunto set my hand and seal, this 20th day of March, 19—

PETER DOLAN.

Bonds.

A WRITTEN instrument, admitting an obligation on the part of the maker to pay a certain sum of money to another specified person at a fixed time, for a valuable consideration, is called a bond. The obligor is the one giving the bond; the beneficiary is called the obligee. This definition applies to all bonds, but generally these instruments are given to guarantee the performance or non-performance of certain acts by the obligor, which being done, or left undone, as the case may be, the bond becomes void, but if the conditions are broken, it remains in full force. As a rule, the bond is made out for a sum twice the amount of any debt which is apt to be incurred by the obligor under its conditions, the statement being set forth that the sum named is the penalty, as liquidated or settled damages, in the event of the failure of the obligor to carry out the conditions.

An act of Providence, whereby the accomplishment of a bond is rendered impossible, relieves the obligor of all liability.

A bond may be sued upon twenty years after right of action begins.

A bond simply for the payment of money only differs from a promissory note in having a seal.

Short Form of Bond.

Know all men by these presents: That we, John Smith, as principal, and William Meeser and A. J. Driscoll, as sureties, all of Bladensburg, in the county of Prince George, State of Maryland, are holden and stand firmly bound unto David Wright, of said county, in the sum of nine hundred dollars to be paid to the said David Wright, to the payment whereof we jointly and severally bind ourselves and our respective heirs firmly by these presents. Sealed with our seals.

Dated at Bladensburg, this tenth day of June, 19—

(The condition attached is the same as in the succeeding forms.)

Executed and delivered in presence of WALTER WREN.

JOHN SMITH. [L.S.]
WILLIAM MEESER. [L.S.]
A. J. DRISCOLL. [L.S.]

Bond Secured by Mortgage.

Know all men by these presents: That I, Arthur Dean, of Towanda, in Bradford county, and State of Pennsylvania, am held and firmly bound unto Samuel Crafts, of Wyoming, in the same county and State, in the sum of two thousand dollars, to be paid to the said Samuel Crafts, his

heirs, executors, administrators or assigns, and to this payment I hereby bind myself, my heirs, executors and administrators, firmly by these presents.

Sealed with my seal, this 12th day of November, A.D. 19—

The condition of the above obligation is:

That if I, the said Arthur Dean, or my heirs, executors or administrators, shall pay or cause to be paid unto the said Samuel Crafts the sum of one thousand dollars on the —— day of ——, with interest at the rate of —— per cent per annum, payable six months from the date hereof, and every —— months afterwards, until the said sum is paid, then the above obligation shall be void and of no effect; and otherwise it shall remain in full force.

And I further agree and covenant, that if any payment of interest be withheld or delayed for —— days after such payment shall fall due, the said principal sum and all arrearage of interest thereon shall be and become due immediately on the expiration of —— days, at the option of said Samuel Crafts, his executors, administrators or assigns.

Executed and delivered in presence of JOHN SIMMONS. } ARTHUR DEAN. [L.S.]

General Form of Bond.

Know all men by these presents: That I, John Grubb, of the town of Mound City, in the county of Pulaski, and State of Illinois, am held and firmly bound unto J. A. Williams, of Cairo, in the sum of one thousand dollars, to be paid to the said J. A. Williams, his executors or assigns; for which payment, well and truly to be made, I bind myself, my heirs, executors and administrators, firmly by these presents.

Sealed with my seal. Dated the 28th day of July, 19—

The condition of the above obligation is such:

That if the above-bounden John Grubb, his heirs, executors or administrators, shall well and truly pay, or cause to be paid, unto the above-named J. A. Williams, his executors, administrators or assigns, the just and full sum of one thousand dollars, in five equal annual payments, from the date hereof, with annual interest, then the above obligation to be void; otherwise to remain in full force and virtue.

Sealed and delivered in presence of JNO. G. STEWART, W. F. GEORGE. } JOHN GRUBB. [L.S.]

A Bond to Execute a Deed.

Know all men by these presents: That I, John T. Nixon, of the city of St. Louis, in the State of Missouri, am held and firmly bound unto George Kline, of the same place, in the sum of nine hundred dollars, to be paid to the said George Kline, his executors, administrators or assigns; for which payment, well and truly to be made, I bind myself, my heirs, executors and administrators, firmly by these presents.

Sealed with my seal. Dated the 30th day of July, 19—

The condition of the above obligation is such:

That if the above-bounden John T. Nixon shall well and truly make, execute and deliver to the said George Kline a deed of release and quit-claim of said John T. Nixon's interest in *(designating the property)* and shall suffer and permit the said George Kline, his heirs and assigns, to peaceably occupy and possess said interest, then this obligation is to be void; otherwise to remain in full force.

Sealed and delivered in presence of JOS. PETERSON. } JOHN T. NIXON. [L.S.]

A Bond to Execute an Assignment.

Know all men by these presents: That I, Chas. Curtman, of the town of Washington, in the county of Franklin, State of Missouri, am held and firmly bound unto William T. Smith, of the town of Pacific, in the sum of two thousand dollars, to be paid to the said William T. Smith, his executors, administrators or assigns; for which payment, well and truly to be made, I bind myself, my heirs, executors and administrators, firmly by these presents.

Sealed with my seal. Dated the 14th day of August, 19—

The condition of the above obligation is such:

That if the above-bounden Chas. Curtman, his executors, administrators or assigns, on or before the —— day of —— next, shall, upon the reasonable request, and at the proper cost and charges of the said William T. Smith, his heirs or assigns, make, execute and deliver, or cause so to be, to the said William T. Smith, his heirs or assigns, or to such person or persons as he or they shall nominate and appoint, and to such uses as he or they shall direct, a good and sufficient assignment of all such estate and interest as he, the said Chas. Curtman, now has in the lands and tenements of John Thompson at Washington, Mo., then this obligation to be void; otherwise to remain in full force.

Sealed and delivered in presence of SOL. WINSTON. } CHAS. CURTMAN. [L.S.]

Corporations.

SEVERAL persons joining together for the accomplishment of any business or social purpose can, if they wish, legally organize themselves into a corporation, a form of partnership which combines the resources of all, and yet gives a limited pecuniary liability, amounting only to the amount of stock owned by each stockholder. In the States, the legislature of each Commonwealth enjoys the power of regulating the corporations, and in the Territories this power is, of course, vested in the General Government. The actual cost of organization amounts to something less than $10, most of which is in fees to the Secretary of State. When the stock has been subscribed a meeting is called, where each shareholder casts a vote for every share which he owns or holds a proxy for, for each person who is to be elected director, or he may give one director as many votes as the number of shares he is voting, multiplied by the number of directors to be elected, amounts to, or distribute his votes as he chooses. Thus, if he owns ten shares of stock and there are six directors to be elected, he has sixty votes, which he can give, either ten for each director, or twenty for each of three, or sixty for one, or in any other way that he sees fit, so that his whole vote will not be more than sixty votes. These directors meet as soon after the election as possible and choose a president, vice-president, secretary and treasurer, whereupon the corporation is ready for business.

FORMS FOR INCORPORATING.

The law in all the States on the subject of incorporating companies is very similar, and the following forms of the Milwaukee Water Gas Company will furnish a good example of how this important public act is accomplished:

STATE OF WISCONSIN, }
CITY OF MILWAUKEE. }

To ——— ———, *Secretary of State:*

We, the undersigned, John Smith, John Jones, Charles Ford, James Bell, John O'Neil, propose to form a corporation under an act of the General Assembly of the State of Wisconsin, entitled "An act concerning corporations," approved May 24th, 19— and all acts amendatory thereof, and that, for the purpose of such organization, we hereby state as follows, to-wit:

The name of such corporation is Milwaukee Water Gas Company.

The object for which it is formed is to carry on the business of manufacturing water gas, or hydrogen, and to sell the product so manufactured.

The capital stock shall be five hundred thousand ($500,000) dollars, divided into five thousand shares of one hundred dollars each.

JOHN SMITH.
JOHN JONES.
CHARLES FORD.
JAMES BELL.
JOHN O'NEIL

(*Endorsed on the back by the notary.*)

STATE OF WISCONSIN, }
CITY OF MILWAUKEE. }

I, a notary public, in and for the said city of Milwaukee, and State aforesaid, do hereby certify that on this 30th of November, A.D 19— personally appeared before me John Smith, John Jones, Charles Ford, James Bell, John O'Neil, to me personally known to be the same persons who executed the foregoing statement, and severally acknowledged that they executed the same for the purposes therein set forth.

In witness whereof, I have hereunto set my hand and seal, the day and year above written.

———— ————,
Notary Public.

Also, there must be a further endorsement describing the nature of the corporation thus: Statement of incorporation of the Milwaukee Water Gas Co. Location, City of Milwaukee, State of Wisconsin. Capital stock, $500,000. Object, manufacture of water gas.

State License for Incorporating.

STATE OF WISCONSIN, } *Secretary of State.*
DEPARTMENT OF STATE. }

To all to whom these presents shall come—Greeting:

WHEREAS, It being proposed by the persons hereinafter named to form a corporation under an act of the General Assembly of the State of Wisconsin, entitled "An act concerning corporations," approved May 24th, 19— the object and purposes of which corporation are set forth in a statement duly signed and acknowledged according to law, and filed this day in the office of the Secretary of State.

Now, therefore, I, ——, Secretary of State of the State of Wisconsin, by virtue of the powers and duties vested in me by law, do hereby authorize, empower and license John Smith, John Jones, Charles Ford, James Bell and John O'Neil, the persons whose names are signed to the before mentioned statement, as commissioners to open books for subscription to the capital stock of the Milwaukee Water Gas Co., such being the name of the proposed corporation as contained in the said statement, at such times and places as the said commissioners may determine.

{ GREAT SEAL. }

In testimony whereof, I hereto set my hand and cause to be affixed the great seal of State. Done at the city of Madison, this 6th day of December, in the year of our Lord one thousand nine hundred and four, and of the Independence of the United States the one hundred and twenty-eighth.

—— ——,
Secretary of State.

To —— ——,
SECRETARY OF STATE:

The commissioners duly authorized to open books of subscription to the capital stock of the Milwaukee Water Gas Company, pursuant to license heretofore issued, bearing date of the sixth day of December, A. D. 19— do hereby report that they opened books of subscription to the capital stock of the said company, and that the said stock was fully subscribed; that the following is a true copy of such subscription, viz.: We, the undersigned, hereby severally subscribe for the number of shares set opposite our respective names to the capital stock of the Milwaukee Water Gas Company, and we severally agree to pay the said company on each share the sum of one hundred dollars.

	SHARES	AMOUNT.
John Smith	1,000	$100,000
John Jones	1,000	100,000
Chas. Ford	1,000	100,000
James Bell	1,000	100,000
John O'Neill	1,000	100,000
	5,000	$500,000

That said subscribers met at the time and place specified and proceeded to elect directors, and that the following persons were duly elected for the term of one year: John Smith, John Jones, Chas. Ford, James Bell, John O'Neil.

(Signed) JOHN SMITH.
JOHN JONES.
CHAS. FORD.
JAMES BELL.
JOHN O'NEIL.

When this document, properly endorsed, is sent to the Secretary of State, he at once issues a charter to the corporation, which reads as follows:

STATE OF WISCONSIN, } *Secretary of State.*
DEPT. OF STATE. }

To all to whom these presents shall come—Greeting:

WHEREAS, A statement duly signed and acknowledged has been filed in the office of the Secretary of State on the 30th day of November, 19— for the organization of the Milwaukee Water Gas Company, under and in accordance with the provisions of "An act concerning corporations," approved May 24, 19— and in force July 1, 19— and all acts amendatory thereof, a copy of which statement is hereto attached; and

WHEREAS, A license having been issued to John Smith, John Jones, Charles Ford, James Bell, John O'Neil, as commissioners, to open books for subscription to the capital stock of said company; and

WHEREAS, The said commissioners having, on the 20th day of December, A.D. 19— filed in the office of the Secretary of State a report of their proceedings under the said license, a copy of which report is hereto attached:

Now, therefore, I, ——, Secretary of State of the State of Wisconsin, by virtue of the powers and duties vested in me by law, do hereby certify that the said Milwaukee Water Gas Company is a legally organized corporation under the laws of this State.

{ GREAT SEAL. }

In testimony whereof, I hereby set my hand and cause to be affixed the great seal of State. Done at the city of Madison this 10th day of January, in the year of our Lord one thousand nine hundred and four, and of the Independence of the United States the one hundred and twenty-eighth.

—— ——,
Secretary of State.

Deeds.

How Real Estate is Transferred. A full Collection of Forms and Models of Conveyances.

A DEED is a writing by which lands, tenements or hereditaments are conveyed, sealed and delivered. It must be written or printed on parchment or paper; the parties must be competent to contract; there must be a proper object to grant; a sufficient consideration; an agreement properly declared; if desired, it must have been read to the party executing it; it must be signed and sealed; attested by witnesses, in the absence of any statute regulation to the contrary; properly acknowledged before a competent officer, and recorded within the time and in the office prescribed by the State wherein executed.

The maker of a deed is the *grantor;* the party to whom it is delivered, the *grantee.* If the grantor have a wife, she must, in the absence of a statute to the contrary, sign and acknowledge the deed; otherwise, after the husband's death, she may claim the use of one-third, during her life.

By a *general-warranty* deed the grantor covenants to insure the lands against all persons whatsoever; by a *special-warranty* deed, he warrants only against himself and those claiming under him. In deeds made by executors, administrators or guardians, there is generally no warranty. A *quit-claim deed* releases all the interest which the grantor has in the land, whatever it may be.

A *deed of trust* is given to a person called a trustee, to hold in fee simple, or otherwise, for the use of some other person who is entitled to the proceeds, profits or use.

A deed may be avoided, by alterations made in it after its execution; by the disagreement of the parties whose concurrence is necessary; or by the judgment of a competent tribunal.

Interlineations or erasures in a deed, made before signing, should be mentioned in a note, and witnessed in proper form. After the acknowledgment of a deed, the parties have no right to make the slightest alteration. An alteration of a deed after execution, if made in favor of the grantee, vitiates the deed. If altered before delivery, such alteration destroys the deed as to the party altering it.

The statutory provisions of the several States and Territories relating to deeds will be found under the head of "Special Laws."

Chancellor Kent's Deed.

This form is given by Chancellor Kent as sufficient to convey an absolute fee in any part of the United States.

I, F. H. Hill, in consideration of three thousand dollars, to me paid by John F. Waite, do bargain and sell to John F. Waite (and his heirs) the lot of land (bounded *or* described), etc.

Witness my hand and seal, *etc.*

Short Deed in California.

I, W. B. Baird, grant to D. D. Parsons all that real property situated in El Dorado county, in the State of California, bounded *(or* described) as follows:

Witness my hand this —— day of ——.

W. B. Baird.

Short Form in Indiana.

Enos Baldwin conveys and warrants to William Green *(description of the premises)* for the sum of four thousand dollars.

Witness my hand and seal this —— day of ——.

ENOS BALDWIN. [L.S.]

Short Form Used in Virginia and Texas.

M. F. Crenshaw doth bargain, sell and grant unto W. H. Cavanagh all *(here follows the description of the real estate conveyed)*.

Witness the following signature and seal.

M. F. CRENSHAW. [L.S.]

Short Form Warranty Deed with Full Covenants.

This conveyance, made this 10th day of May, by C. S. Smith, of Beloit, Wis., to Wm. Evans, of Lansing, Mich., witnesseth:

That in consideration of *(state what)*, the said Smith doth with the said Evans bargain, sell and grant, all, etc. *(here describe the property, and add whatever covenants, conditions, restrictions, limitations, etc., agreed upon)*.

And the said Smith covenants, That he has the right to convey said land to the grantee; that the same is free from all encumbrances; that the grantee shall have quiet possession of said land; that he will execute such further assurances of said lands as shall be requisite; and that he will warrant generally (*or* specially) the property hereby conveyed.

Witness the following signature and seal, *etc.*

General Form of Warranty Deed.

Know all men by these presents: That I, J. A. Yarbro, of Tipton county, in the State of Tennessee, have this 15th day of October, for and in consideration of the sum of three thousand dollars, to me in hand paid, granted, bargained and sold, and by these presents do grant, bargain, sell and convey unto J. B. Coals, of the same place, the following described tract or parcel of land, situate in the county of Shelby, in the State of Tennessee, that is to say *(here follows the description)*.

To have and to hold the premises hereby conveyed, with all the rights, privileges and appurtenances thereto belonging, or in anywise appertaining, unto the said Coals, his heirs and assigns, forever.

And I, the said Yarbro, hereby covenant to and with the said Coals, his heirs and assigns, for myself, my heirs, executors and administrators, to warrant and defend the title to the premises hereby conveyed against the claim of every person whomsoever. * *

In Witness Whereof, I have hereunto suhscribed my name and affixed my seal, this —— day of ——. J. A. YARBRO. [L. S.]

Quit-Claim Deed.

Know all men by these presents: That we, W. H. Cooley, of Council Bluffs, Ia., and Mary E., wife of the said Cooley, in consideration of the sum of ——, to us in hand paid by Charles Chapman, of Hastings, Neb., the receipt whereof we do hereby acknowledge, have bargained, sold and quit-claimed, and by these presents do bargain, sell and quit-claim unto the said Chapman, and to his heirs and assigns forever, all our and each of our right, title, interest, estate, claim and demand, both at law and in equity, and as well in possession as in expectancy of, in and to all that certain piece or parcel of land situate, etc. *(give description)*, with all and singular the hereditaments and appurtenances thereunto belonging.

In witness whereof, we have hereunto set our hands and seals, the day and year first above written.

Signed, sealed and delivered, *etc.*

W. H. COOLEY. [L.S.]
MARY E. COOLEY. [L.S.]

Short Form of Trust Deed.

This conveyance, made this —— day of ——, witnesseth:

That Thomas Pritchard, of Mills county, in the State of Iowa, conveys (and warrants) to N. W. Coleman, of Decatur county, in the State of Iowa, for the sum of —— dollars, all the following described real estate, situated in the county of Fremont and State of Iowa, to wit: *(here follows the description)*.

In trust, nevertheless, for the following purposes, to-wit: *(here set forth the objects and purposes to be effected)*.

In witness whereof, said parties have hereunto set their hands, the day and year first above written. *(Signed)* THOMAS PRITCHARD.
N. W. COLEMAN.

Abstract of Title.

ABSTRACTS OF TITLE are brief accounts of all the deeds upon which titles rest, and judgments and instruments affecting such titles — synopses of the distinctive portions of the various instruments which constitute the muniments of title.

The evidences of title are usually conveyances, wills, orders or decrees of courts, judgments, judicial sales, sales by officers appointed by law, acts of the Legislature and of Congress.

CONVEYANCES. The abstract of conveyances should show:

1. Date.

2. Character (*whether an absolute or conditional conveyance; as, in fee, mortgage, or a lease*).

3. Names and residence of parties, and of executors, administrators, guardians, trustees, corporations, officers, or the like.

4. All recitals which materially affect the title.

5. The *testatum* clause. This part of the conveyance embraces :

1. Name of grantor. 2. Name of grantee and words of limitation ; as to " C. D., his heirs and assigns," or, to " C. D. and his assigns," or, to " C. D. and E. F., and the heirs of C. D." 3. The consideration. 4. The description of the premises or parcels. This is generally done by giving the premises at large in the abstract of the first conveyance, and in subsequent conveyances to note each variation. 5. The *habendum* — carefully and accurately stated. 6. The declaration of uses, trusts, limitations, or special agreements, if any. 7. Powers. If a settlement is made in pursuance of articles, or an appointment by virtue of a power, an inspection should be made of the articles of power. A deed executed by attorney should be produced with evidence that the power of attorney was recorded, and that the principal was alive when the deed was executed. 8. Covenants which may affect the vendee, and especially exceptions against encumbrances. 9. By what parties the deed is executed, the fact of signing, sealing, attestation and acknowledgment and recording, as required by statute.

If any of the deeds in the chain of title are quit-claim, the reason therefor should be ascertained.

WILLS. In abstracting wills it is necessary to consider :

1. The date of the testator's death.

2. The court in which the probate is made. The date of letters testamentary, and any change in the executors or administrators, by death, removal, or otherwise.

3. Any charge imposed by the payment of debts, legacies, etc.

4. The persons to whom the lands are devised.

5. Words of limitation, modification, conditions, charges on the devisee, etc.

6. Facts which operate a partial revocation of the will ; as the birth of a child, or the subsequent alteration of the estate inconsistent with the terms of the will.

Codicils should be given in the order of their dates.

ORDERS OR DECREES. Orders or decrees material to the title should be abstracted.

JUDGMENTS. A party claiming title to real estate under an execution must show :

1. A valid judgment.

2. A levy and sale as required by law.

3. A deed. The sheriff's deed must, in general, recite the substance of the execution, the names of the parties, the action, the amount, and the date of the rendition of the judgment by virtue of which the estate was sold, and be executed and acknowledged as required by law.

Judicial sales made by officers, executors, administrators, guardians of minors, lunatics, etc.—

1. Must be examined for the appointment and authority of the person making the sale, and whether his authority continued in force till the sale.

2. The service of summons, notice, or other process, upon all defendants, or persons interested.

3. The appointment of guardians *ad litem* for minors when necessary.

4. The order of sale and its confirmation.

5. The deed.

Other sales include those by assignees or commissioners of insolvents, or assignees of bankrupts and tax sales. In the latter case, the proper records should be examined with the utmost care, in order to detect any omission or defect in compliance with all the requisitions of the statute ; in the former case, the leading points are the authority of the assignee, etc., the order of sale and its confirmation, and the deed

ACTS OF THE LEGISLATURE may be considered in the same manner as private conveyances. The abstract should show :

1. The date of the act.
2. The title of the act.
3. The recitals of the act.
4. The enacting clause in its own terms.
5. A strict compliance with the terms of the act.

TITLES BY DESCENT. In the absence of deeds pedigree should be ascertained, authenticated and incorporated.

ENCUMBRANCES. Encumbrances may be as follows :

1. Judgments in the county where the land lies.
2. Judgments in the United States courts.
3. Executions from other counties.
4. Mortgages.
5. Liens of the creditors of deceased persons.
6. Dower.
7. Decrees in chancery.
8. Action pending.
9. Taxes.
10. Mechanics' liens.
11. Lien of executor, administrator, guardian, or agent, who pays taxes upon the estate.
12. Leases.
13. Equity of a vendee in possession.
14. Lien of a vendor for purchase-money.
15. Caveats in case of a contested will.
16. Rents assigned in lieu of dower.
17. The levy of a distress warrant upon the property of certain debtors of the United States.

Guaranty.

A GUARANTY is an assurance made by a second party that his principal will perform some specific act. For instance, "A" gives "B" a note, and "C" by endorsing the instrument guarantees to "B" that "A" will pay it at maturity. "C" is the guarantor. His liability is special, and if "B" renews the note when it becomes due, then he is no longer liable. A guaranty for collection is a very different thing from a guaranty of payment. The first warrants that the money is collectible; the latter, that it will be paid at maturity. In the first case the party guaranteed must be able to prove that due diligence was employed in attempting to collect the money; in the second, no such proof is necessary. The only form necessary in guaranteeing a note is writing one's name across the back of it, a process commonly called endorsing.

Guaranty of a Note.

For value received, I guarantee the due payment of a promissory note, dated October 8, 19— whereby John Paxson promises to pay George Andrews eighty dollars in three months.

ST. LOUIS, October 10, 19— PETER FABER.

General Guaranty.

I hereby guarantee payment to any person who shall accept and retain this instrument as a guaranty, for all goods which he may from time to time supply to Eugene Parsons, not exceeding at any time the sum of five hundred dollars, this to be a continuing guaranty till specially revoked. Notice to be given me within ten days after its acceptance.

ST. LOUIS, September 8, 19— DARBY CONGER.

Extension of Time.

In consideration that George Andrews gives to John Paxson additional time to the extent of one month for payment of the indebtedness due him from said John Paxson guaranteed by me, I hereby continue my guaranty for due payment thereof.

January 8, 19— PETER FABER.

Guaranty of Fidelity.

In consideration of the performance of the agreements and convenants specified in the within agreement by M. M., with my son, A. A., I do hereby bind myself to said M. M. for the true and faithful observation and performance of all the matters and things by said A. A. agreed and covenanted therein, and that he shall well and truly serve said M. M.

Witness my hand this —— day of ——, A.D. ——. P. A.

Landlord and Tenant.

A LEASE is a contract for the possession and enjoyment of real estate on one hand, and for the payment of rent or other income on the other. A landlord is one who holds lands and houses which he lets out to others. A tenant is one who has temporary use of real estate belonging to another, the duration and terms of his occupancy being defined in the lease. In this instrument no particular form of words is necessary; but it is important that all the conditions be plainly set forth, so that no misunderstanding can ensue.

Verbal promises amount to nothing; the law only considers what the lease states, so that the importance of clearness and comprehensiveness in this document is apparent.

Unless expressly prohibited by the lease, the lessor can sublet any part of the property acquired by the lease, or the whole of it.

A married woman cannot lease her property, under the common law; but under the statute, in many of the States, this prohibition is removed, as will be found by consulting the section devoted to the rights of married women. A husband cannot make a lease which will bind his wife's property after his death; even the common law terminates his control with his life. A guardian cannot give a lease extending beyond the ward's majority which the ward cannot annul, if he wishes. But if the ward does not annul the lease, the lessee is bound by it.

When no time is specified in a lease, it is understood to run for one year. A tenancy at will is terminable by notice given from one month to six months, in advance, according to the peculiar statute of the State in which the property exists. In the Eastern States a written notice of three months is the general custom; in the Middle and Southern States, six months, and in the Western States, one month.

The phrase "a term of years" is construed to mean at least two years when the figure is not given.

Leases on mortgaged property, whereon the mortgage was given prior to the lease, terminate when the mortgage is foreclosed.

Where a tenant assigns his lease, even with the landlord's consent, he will remain liable for the rent unless his lease is surrendered or cancelled.

There are a great many special features of the law of landlord and tenant in relation to agricultural tenancy, which the reader will do well to read carefully.

Generally an outgoing tenant cannot sell or take away the manure. A tenant whose estate has terminated by an uncertain event which he could neither foresee nor control is entitled to the annual crop which he sowed

while his estate continued, by the law of emblements. He may also, in certain cases, take the emblements or annual profits of the land after his tenancy has ended, and, unless restricted by some stipulation to the contrary, may remove such fixtures as he has erected during his occupation for convenience, profit or comfort. For, in general, what a tenant has added he may remove, if he can do so without injury to the premises, unless he has actually built it in so as to make it an integral part of what was there originally.

The immovable fixtures are the following: Agricultural erections. Fold-yard walls, cart house, barns fixed in the ground, beast house, carpenter shop, fuel house, pigeon house, pineries substantially fixed, wagon house, box borders not belonging to a gardener by trade, flowers, trees, hedges. Ale-house bar, dressers, partitions. Locks and keys. Benches affixed to the house. Statue erected as an ornament to grounds, sun-dial. Chimney piece not ornamental. Closets affixed to the house. Conduits. Conservatory, substantially affixed. Doors. Fruit trees, if a tenant be not a nurseryman by trade. Glass windows. Hearths. Millstones. Looms substantially affixed to the floor of a factory. Thrashing-machines fixed by bolts and screws to posts let into the ground.

Short Form of Lease.

John Parks leases to George Drake *(description of premises)*, for a term of ——, upon the payment of ——.

Dated the 1st day of May, 19– JOHN PARKS.

Common Form of Lease.

THIS INSTRUMENT, Made the 1st day of May, 19— *Witnesseth*, That Dominic Holden, of the city of St. Louis, State of Missouri, hath rented from William Hicks, of St. Louis, aforesaid, the dwelling and lot 82 Chouteau Avenue, situated in said town of St. Louis, for five years from the above date, at the yearly rental three hundred dollars, payable monthly, on the first day of each month, in advance, at the residence of the said William Hicks.

At the expiration of said above mentioned term, the said Holden agrees to give the said Hicks peaceable possession of said dwelling, in as good condition as when taken, ordinary wear and casualties excepted.

In witness whereof, we place our hands and seals the day and year aforesaid.

Signed, sealed and delivered in presence of JOHN DOGHERTY, *Notary Public.*

DOMINIC HOLDEN. [L.S.]
WILLIAM HICKS. [L.S.]

Lease of Farm and Buildings.

THIS INDENTURE, Made this ninth day of June, one thousand nine hundred and four, between Raymond Johnston, of the township of Lake, county of Ripley, and State of Missouri, of the first part, and Anson Lee, of the said township and county, of the second part,

Witnesseth, That the said Raymond Johnston, for and in consideration of the yearly rents and covenants hereinafter mentioned, and reserved on the part and behalf of the said Raymond Johnston, his heirs, executors and administrators, to be paid, kept and performed, hath demised, set and to farm let, and by these presents doth demise, set and to farm let, unto the said Anson Lee, his heirs and assigns, all that certain piece, parcel or tract of land situate, lying and being in the township of Lake aforesaid, known as lot No. *(description of farm here)*, now in the possession of Joel Hancoe, containing one thousand acres, together with all and singular the buildings and improvements, to have and to hold the same unto the said Anson Lee, his heirs, executors and assigns, from the first day of July next, for and during the term of seven years thence, next ensuing, and fully to be complete and ended, yielding and paying for the same, unto the said Raymond Johnston, his heirs and assigns, the yearly rent, or sum of two thousand dollars, on the first day of July in each and every year, during the term aforesaid, and at the expiration of said term, or sooner if determined upon, he, the said Anson Lee, his heirs or assigns, shall and will quietly and peaceably surrender and yield up the said demised premises, with the appurtenances, unto the said Raymond Johnston, his heirs and assigns, in as good order and repair as the same now are, reasonable wear, tear and casualties, which may happen by fire, or otherwise, only excepted.

In witness whereof, we have hereto set our hands and seals.

Signed, sealed and delivered in the presence of JOSEPH JARLEY.

RAYMOND JOHNSON. [L.S.]
ANSON LEE. [L.S.]

Lease of a Mill.

THIS AGREEMENT, Made this first day of January, between George Bain, of St. Louis, Mo., in St. Louis county, and State of Missouri, of the first part, and James Meek, of Marissa, in St. Clair County, and State of Illinois, of the second part, witnesseth:

That the said party of the first part, for and in consideration of the rents, covenants and agreements hereinafter mentioned, reserved and contained, on the part and behalf of the party of the second part, his executors, administrators and assigns, to be paid, kept and performed, doth lease the mill property of the party of the first part, being one of the mills known and designated as the Atlantic Mills, in the city of St. Louis, together with all the machinery now in the same belonging to the said party of the first part, and all stoves, boilers, fixtures, heaters and machinery, and every article now in the said mill which appertains to the same, and is necessary to its successful operation; and also all the dwellings and storehouses used in connection with said mill, which now belong to said party of the first part.

And the said party of the first part further agrees to pay all taxes and insurances on said premises, and to furnish water-power, water-wheels, main-shafting and gearing sufficient at all times to keep in constant and full operation said mill, and all the running works of the same, and all machinery driven by water-power now in said mill.

And the said party of the first part further agrees to secure to the said party of the second part the quiet and peaceable possession of all and every part of said premises, machinery and tools, and all grounds appertaining to said mill, and all passage-ways to and from the same which are now used and may be necessary for the accommodation of the same, for five years from the first day of April next.

It is mutually understood and agreed between the parties hereto, that in case said mill should be necessarily stopped from casualty, or in case there shall be a want of or failure of water-power, the rent above mentioned to be paid shall cease, and not be chargeable during the continuation of such stoppage, want or failure.

In witness whereof, etc.

Landlord's Agreement.

This is to certify that I have this first day of May, 19— let and rented unto Dominic Holden my house and lot known as number 82 Chouteau

Avenue, in the city of St. Louis, Missouri, with the appurtenances and sole and uninterrupted use thereof for five years, to commence on the first day of June next, at the yearly rental of three hundred dollars, payable monthly in advance on the first day of each and every month.

WILLIAM HICKS.

Tenant's Agreement.

This certifies that I have hired and taken from William Hicks his house and lot, number 82 Chouteau Avenue, in the city of St. Louis, Missouri, with appurtenances thereto belonging, for five years, to commence on the first day of June, 19— at a yearly rental of three hundred dollars, to be paid monthly in advance.

DOMINIC HOLDEN.

Notice to Quit.

To Charles Egan :

SIR : Please observe that the term of one year for which the house and land at No. 380 Walnut Street, and now occupied by you, were rented to you, expired on the first day of June, 19— and as I desire to repossess said premises, you are hereby requested and required to vacate the same.

Respectfully yours,

ST. LOUIS, June 8, 19— AMOS NORTON.

Tenant's Notice of Leaving.

Mr. Amos Norton :

Take notice that I shall, on the first day of May next, deliver up to you the premises I now occupy as your tenant, known as No. 380 Walnut Street, in the city of St. Louis. CHARLES EGAN.

ST. LOUIS, April 1, 19—

Rights of Married Women.

THE common law of the United States has some curious provisions regarding the rights of married women, though in all the States there are statutory provisions essentially modifying this law. As it now stands the husband is responsible for necessaries supplied to the wife even should he not fail to supply them himself, and is held liable if he turn her from his house, or otherwise separates himself from her without good cause. He is not held liable if the wife deserts him, or if he turns her away for good cause. If she leaves him through good cause, then he is liable. If a man lives with a woman as his wife, and so represents her, even though this representation is made to one who knows she is not, he is liable the same way as if she were his wife.

In many of the States ante-marriage contracts are recognized, and they will secure to married women even greater privileges than are intended to be secured by statute, or greater powers and rights may be secured by transferring the property owned by them to trustees. Such instrument should clearly set forth what the trust is, and should be carefully drawn.

When estates are to be settled where the widow is entitled to a dower interest, some definite calculation is necessary to learn how long she will probably live and the present value of her interest in the estate. For this purpose the following table is generally used. When the sum is ascertained the estate can be promptly settled.

Expectation of Life.

Age.	Expectation in years.	Age.	Expectation in years.	Age.	Expectation in years.	Age.	Expectation in years.	Age.	Expectation in years.
0	28.15	20	34.22	40	26.04	60	15.45	80	5.85
1	36.78	21	33.84	41	25.61	61	14.86	81	5.50
2	38.74	22	33.46	42	25.19	62	14.26	82	5.16
3	40.01	23	33.08	43	24.77	63	13.66	83	4.87
4	40.73	24	32.70	44	24.35	64	13.05	84	4.66
5	40.88	25	32.33	45	23.92	65	12.43	85	4.57
6	40.69	26	31.93	46	23.37	66	11.96	86	4.21
7	40.47	27	31.50	47	22.83	67	11.48	87	3.90
8	40.14	28	31.08	48	22.27	68	11.01	88	3.67
9	39.72	29	30.66	49	21.72	69	10.50	89	3.56
10	39.23	30	30.25	50	21.17	70	10.06	90	3.43
11	38.64	31	29.83	51	20.61	71	9.60	91	3.32
12	38.02	32	29.43	52	20.05	72	9.14	92	3.12
13	37.41	33	29.02	53	19.49	73	8.69	93	2.40
14	36.79	34	28.62	54	18.92	74	8.25	94	1.98
15	36.17	35	28.22	55	18.35	75	7.83	95	1.62
16	35.76	36	27.78	56	17.78	76	7.40		
17	35.37	37	27.34	57	17.20	77	6.99		
18	34.98	38	26.91	58	16.63	78	6.59		
19	34.59	39	26.47	59	16.04	79	6.21		

Real ⁘ Estate ⁘ Mortgages.

A CONVEYANCE of property, either real or personal, made in order to secure payment of a debt, is called a mortgage. When the debt is paid the mortgage becomes void and of no value. The word, like many others of our legal terms, comes from the French. "Mort," dead, and "gage," pledge; a "dead-pledge," so called because the property is dead to the mortgageor unless he fulfils the conditions necessary to redeem it. In real estate mortgages the person giving the mortgage retains possession of the property, receives all the rents and other profits, and pays all taxes and other expenses. The instrument must be acknowledged, like a deed, before a proper public officer, and recorded in the office of the county clerk or recorder, or whatever officer's duty it is to record such instruments. All mortgages must be in writing. They must contain a redemption clause and must be signed and sealed. The time when the debt becomes due, to secure which the mortgage is given, must be plainly set forth, and the property conveyed must be clearly described, located and scheduled.

How the Mortgage Generally Terminates.

Some mortgages contain a clause permitting the sale of the property without decree of court when a default is made in the payment either of the principal sum or the interest.

A foreclosure is a statement that the property is forfeited and must be sold.

When a mortgage is assigned to another person, it must be for a valuable consideration; and the note or notes which it was given to secure must be given at the same time.

If the mortgaged property, when foreclosed and brought to sale, brings more money than is needed to satisfy the debt, interest and costs, the surplus must be paid to the mortgageor.

GOLDEN EAGLE.

Satisfaction of mortgages upon real or personal property may be either—

1. By an entry upon the margin of the record thereof, signed by the mortgagee or his attorney, assignee or personal representative, acknowledging the satisfaction of the mortgage, in the presence of the recording officer; *or*—

2. By a receipt endorsed upon the mortgage, signed by the mortgagee, his agent or attorney, which receipt may be entered upon the margin of the record; *or*—

3. It may be discharged upon the record thereof whenever there is presented to the proper officer an instrument acknowledging the satisfaction of such mortgage, executed by the mortgagee, his duly authorized attorney in fact, assignee or personal representative, and acknowledged in the same manner as other instruments affecting real estate.

Mortgages of personal property will be found set forth at length under the head of Chattel Mortgages.

Promissory Note Secured by Mortgage.

$1,000. LANSING, MICH., Dec. 1st, 19—

One year after date I promise to pay to S. H. Moore one thousand dollars at the First National Bank of Lansing, Mich., with interest at the rate of ten per cent per annum, for value received.

This note is secured by a mortgage of even date herewith, on a certain tract or parcel of land situate *(describe the premises)*.

(Signed) R. S MARSH.

Mortgage to Secure Payment of Money, with Power to Sell on Default.

THIS INDENTURE, Made this 20th day of Jan'y, A.D. 19— between John Stanton, of Norwich, Conn., of the first part, and Lyman Randall, of the same place, of the second part, witnesseth:

That the said party of the first part, for and in consideration of the sum of six thousand dollars, does grant, bargain, sell and convey unto the said party of the second part, and to his heirs and assigns, all *(give a complete description of the premises mortgaged)*, together with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining.

This conveyance is intended as a mortgage, to secure the payment of the sum of —— dollars, in —— from the day of the date of these presents, with —— interest, according to the conditions of a certain bond, dated this day, executed by the said John Stanton to the said party of the second part; and these presents shall be void if such payment be made.

But in case default shall be made in the payment of the principal or interest, as above provided, then the party of the second part, his executors, administrators and assigns, are hereby empowered to sell the premises above described, with all and every of the appurtenances, or any part thereof, in the manner prescribed by law; and out of the money arising from such sale, to retain the said principal and interest, together with the costs and charges of making such sale; and the overplus, if any there be, shall be paid by the party making such sale, on demand, to the party of the first part, his heirs or assigns, etc.

In witness whercof, said party of the first part has hereunto set his hand and seal the day and year first above written.

Executed and delivered in presence of U. S. GARDNER. } JOHN STANTON. [L.S.]

Assignment of Mortgage.

Know all men by these presents: That I, C. D., of ——, in —— county, State of ——, the mortgagee named in a certain mortgage given by A. B., of ——, in —— county, State of ——, to said C. D., to secure the payment of —— dollars and interest, dated the —— day of ——, recorded in volume ——, on page ——, of the registry of deeds for the county of ——, in consideration of the sum of —— dollars, to me paid by E. F., of ——, in —— county, State of ——, the receipt of which is hereby acknowledged, do hereby sell, assign, transfer, set over and convey unto said E. F., his heirs and assigns, said mortgage and the real estate thereby conveyed, together with the promissory note, debt and claim thereby secured, and the covenants therein contained.

To have and to hold the same to him, the said E. F., and his heirs and assigns, to his and their use and behoof, forever; subject, nevertheless, to the conditions therein contained (and to redemption according to law).

In witness whereof, I have hereunto set my hand (and seal), this —— day of ——.

Executed and delivered in presence of —— ——. } *[Signature.]* *[Seal.]*

Release or Discharge of Mortgage.

This debt, secured by the mortgage dated the twenty-fifth day of January, in the year of our Lord one thousand nine hundred and four, and recorded with mortgage deeds volume two, page two hundred and six, has been paid to me by Martin Klotz, and in consideration thereof I do discharge the mortgage, and release the mortgaged premises to said Martin Klotz and his heirs.

Witness my hand and seal, December 5th, 19—.

BENJAMIN EATON. [L.S.]

Executed and delivered in presence of GEORGE SMITH. }

CITY OF ST. LOUIS, } ss.
STATE OF MISSOURI, } DECEMBER 5th, A.D. 19—

The said Benjamin Eaton acknowledged the foregoing instrument to be his free act and will, *Before me,*

GORDON SMITH,
Clerk of Circuit Court.

Shortest Form of Mortgage.

I, Joseph Smith, in consideration of five hundred dollars, to me paid by Finley Burke, do mortgage unto Finley Burke, and his heirs, the following tract of land *(describe it)*.

To secure the payment of *(state what amounts, places, times, etc.)*

JOSEPH SMITH. [L.S.]

Chattel Mortgages.

CHATTEL mortgages are mortgages on personal property. Most of the rules applicable to mortgages on real estate apply also to those on personal property, though in some States there are laws regulating personal mortgages. Any instrument will answer the purpose of a chattel mortgage which would answer as a bill of sale, with a clause attached providing for the avoidance of the mortgage when the debt is paid. As with real estate, so with a chattel mortgage, great care should be taken.

A chattel mortgage will not cover property subsequently acquired by the mortgageor. Mortgages of personal property should contain a clause providing for the equity of redemption. A mortgagee may sell or transfer his mortgage to another party for a consideration, but such property cannot be seized or sold until the expiration of the period for which the mortgage was given. Mortgages given with intent to defraud creditors are void.

Form of Chattel Mortgage.

Know all men by these presents: That I, John Johnson, of the city of Chicago, in the county of Cook, and State of Illinois, am justly indebted unto James Lewis, of the same place, in the sum of —— dollars, on account, to be paid on the —— day of ——, with interest from this date.

Now, therefore, in consideration of such indebtedness, and in order to secure the payment of the same, as aforesaid, I do hereby sell, assign, transfer and set over unto the said James Lewis, his executors, administrators and assigns, the goods and chattels mentioned in the schedule hereto annexed, and now at the residence No. 1410 Jackson Street, in the city of Chicago aforesaid.

Provided, however, that if the said debt and interest be paid, as above specified, this sale and transfer shall be void: and this conveyance is also subject to the following conditions:

The property hereby sold and transferred is to remain in my possession until default be made in the payment of the debt and interest aforesaid, or some part thereof; but in case of a sale or disposal, or attempt to sell or dispose of the same, or a removal of or attempt to remove the same from said residence aforesaid, or an unreasonable depreciation in value (*or* if from any other cause the security shall become inadequate), the said James Lewis may take the said property, or any part thereof, into his own possession.

Upon taking said property, or any part thereof, into his possession, either in case of default, or as above provided, the said James Lewis shall sell the same at public or private sale; and after satisfying the aforesaid debt and the interest thereon, and all necessary and reasonable costs, charges and expenses incurred by him, out of the proceeds of such sale, he shall return the surplus to me or my representative.

In witness whereof, I have hereunto set my hand and seal, this —— day of ——.

Executed in presence of }
Wm. F. George. } John Johnson. [L.S.]

Release and Satisfaction of Mortgage.

Know all men by these presents: That the debt secured by mortgage upon the following described —— property, situated in ——, in —— county, in the State of ——, to wit: *(describing it)*, wherein John Johnson is grantor, and James Lewis is grantee, and dated ——, a —— of which is —— in volume ——, page ——, in the office of the (register *or* recorder) of deeds of —— county, ——, has been fully satisfied, in consideration of which said mortgage is hereby released.

James Lewis.

Witness: ——.

Mechanic's Lien.

THE purpose of all lien laws is to retain the possession of personal property in the hands of the owners until it has been properly paid for. Without possession no lien is admitted at common law. It is a created right, for the benefit of mechanics, tavern-keepers, liverymen, pasturers and carriers. Builders and persons furnishing material are given by statute a lien on both land and building, if their claim is made within the time named in the different statutes. These periods will be found, under their appropriate heads, in another chapter. No possession is necessary under this lien, and the right of redemption is lost by the sale of the property under the lien. The surplus, of course, goes to the owner. Liens are foreclosed by order of court, upon petition duly made. Liens will lie against vessels and wharves as well as other buildings.

When a mechanic desires to draw up a lien for the recovery of money due him for labor or material, the form given below will be found convenient. It is a statement addressed to the county clerk setting forth his bargain, the failure to receive his pay, and the fear that he will lose the money unless the lien be now made. This paper must be sworn to and filed in the county clerk's office, and if it is not paid in a reasonable time the property will be sold for the debt. It does not make any difference if it is the contractor or the owner of the building who is in default. The mechanic has nothing to do with either of them—he holds the property itself for his money; and even if the owner has paid the contractor, who should have paid the laborer, the property will be sold unless the laborer is paid.

Sub-Contractor's or Workman's Notice.

To —— ——:

You are hereby notified that I have been employed by —— to *(here state whether to labor or furnish material, and substantially the nature of the contract)* upon your *(here state the building, and where situated, in general terms);* and that I shall hold the *(building, or as the case may be)* and your interest in the ground liable for the amount that *(is or may become)* due me on account thereof.

(Signature.)

This notice, with a copy of the contract, if it can be obtained, shall be served within 40 days after payments should have been made. The owner may retain money due the contractor to pay such claims, and if there is not enough to pay them in full, he shall pay them *pro rata.* If such payment shall not be made within ten days after the same may become due, suit may be brought to enforce it.

Wills.

A WILL is an instrument of writing declaring what a person desires to have done with his property after his demise. Any one of lawful age and sound mind can make a valid will, although in some States during the lifetime of their husbands married women cannot do so. A will only becomes of force upon the death of the maker, and can be changed or modified at his pleasure until that event occurs. The last will annuls all previous ones, unless it be a codicil or amendment to a previous will. A

great deal of latitude is allowed in the construction of a will. For instance, if the testator marries after making a will, or has children subsequent to its date, it is supposed that he intended to change the disposition of his property, and the law accordingly will change it for him. Courts do not always require written wills; sometimes what are called nuncupative wills are admitted to probate. These depend upon the testimony of witnesses, and are uncertain and dangerous. Many of the States will not admit nuncupative wills unless made within ten days before death, or by persons in the army or navy.

A wife cannot be deprived of her right of dower, which is one-third of the proceeds of the real estate and appurtenances of her husband. She may be devised property in lieu of dower, which she can so take or not, as she may choose; but if the words "in lieu of dower" are not used, she may take the bequest and her dower also.

A corporation cannot accept bequests unless that power is expressly granted in its charter.

No one can serve as executor of a will who is under age, a lunatic, a drunkard or a convict. An executor may decline the trust if he chooses, which declension must be made in the presence of two witnesses. There is no difference in the duties of an executor and administrator; the names have this origin: the executor is appointed by the person making the will, the administrator is appointed by the court.

When a married woman makes a will, her husband must be appointed administrator in preference to any one else.

No witness to a will can inherit any property under it. They are not required to know what the will contains, but simply to witness the signing of the document.

Executors and Administrators.

AS soon after the death of the testator as may be possible, the will must be produced in court, and filed there with affidavits, showing its custody and the death of the testator. The judge orders publication to be made, advertising the day when the will is to be offered for probate, and notices must be sent to the heirs-at-law. At the appointed time, all of the persons interested, including the executor or executors, assemble in court. The witnesses swear to the signature of the will, and to the state of the testator's mind at the time the will was signed. Letters of administration are then granted to the executor, and a certified copy of the will and of the letters should be recorded in every county where the deceased owned real estate. The person administering must give a bond in double the amount of the estate for the faithful discharge of his duties. When a person owning property dies intestate, that is, leaving no will, it becomes the duty of the next of kin, or the widow, to petition the Probate Court for letters of administration

As soon as the letters are granted, the administrator or executor addresses himself to the settlement of the estate. This is done by advertising for all persons owing the estate to settle the same, and for creditors of the estate to present their claims. At the same time a careful inventory of the property of the deceased is made, and the same appraised. This appraisement and inventory is filed in the Probate Court. The first money coming in is applied to the payment of the funeral expenses and the medical and nurses' bills; next in order come debts to the Government, liens or mortgages, and, last of all, general debts of all kinds. If there is not enough property to pay the debts, the Probate Court must be at once notified of this insolvency, and the estate must then be settled according to the insolvent laws.

The administrator is responsible for all the property of the deceased, valued and listed according to the inventory and appraisement, and he must keep very careful accounts of all his transactions for the estate. He must make semi-annual reports of the condition of the property, and when everything is ready for settlement, he presents a report, called his final settlement, to the court, and, upon presentation of the receipts in full of the heirs and creditors, he is discharged from his office and his bond cancelled and destroyed.

Short Form for a Will.

I, James Dickson, of the city of Chicago, in the county of Cook, and State of Illinois, being of sound mind and memory and understanding, do make my last will and testament in manner and form following :

First. I give and bequeath to my daughters Mary and Jane two thousand dollars each after they have attained the age of twenty years.

Second. I give and bequeath to my wife Susan all my household furniture, and all the rest of my personal property, after paying from the same the legacies already named, to be hers forever: but if there should not be at my decease sufficient personal property to pay the aforesaid legacies, then so much of my real estate shall be sold as will raise sufficient money to pay the same.

Third. I also give, devise and bequeath to my wife Susan all the rest and residue of my real estate as long as she shall remain unmarried, and my widow: but on her decease or marriage, the remainder thereof I give and devise to my said children and their heirs, respectively, to be divided in equal shares between them.

I appoint my wife Susan sole executrix of this my last will and testament.

In testimony whereof, I hereunto set my hand and seal, and publish and decree this to be my last will and testament, in presence of the witnesses named below, this eighth day of March, in the year of our Lord one thousand nine hundred and four.

JAMES DICKSON. [L.S.]

Signed, sealed, declared and published by the said James Dickson as and for his last will and testament, in presence of us, who, at his request and in his presence, and in presence of each other, have subscribed our names as witnesses hereto.

JOHN SMITH, residing at Chicago in Cook County.
PETER JONES, " " " " " "

Another Form of Will.

Know all men by these presents: That I, Joseph Atkinson, of Media, in the county of Chester, and State of Pennsylvania, merchant, considering the uncertainty of this life, and being of sound mind and memory, do make, and declare, and publish, this my last will and testament.

First. I give and bequeath unto my beloved wife Mary the use, improvement and income of my dwelling-house, warehouses, lands, and their appurtenances, situate in Nelson township, Chester county, State of Pennsylvania, to have and to hold the same to her for and during her natural life.

Second. I give and bequeath to my son Robert two thousand dollars, to be paid to him by my executor, hereinafter named, within six months after my decease; and I also give, devise and bequeath to my said son Robert the reversion or remainder of my dwelling-house, warehouses, lands and their appurtenances, situate in Nelson township, Chester county, State of Pennsylvania, and all profit, income and advantage that may result therefrom, from and after the decease of my beloved wife Mary.

Third. I give, devise and bequeath to my beloved wife Mary all the residue of my estate, real, personal or mixed, of which I shall be seized or possessed, or to which I shall be entitled at the time of my decease; to have and to hold the same to her and her executors and administrators and assigns forever.

Fourth. I do nominate and appoint my brother James Atkinson to be the executor of this, my last will and testament.

In testimony whereof, I have to this, my last will and testament, contained on two sheets of paper, and to each sheet thereof, subscribed my name and set my seal; and to this, the last sheet thereof, I have here subscribed my name and affixed my seal, this eighteenth day of May, in the year of our Lord one thousand nine hundred and four.

JAMES ATKINSON. [L.S.]

Signed, sealed, declared and published by the said James Atkinson, as and for his last will and testament, in presence of us, who, at his request and in his presence, and in presence of each other, have subscribed our names as witnesses hereto.

THOMAS MAY, residing at Media, Pa.
JOHN NOLAN, " " " "
HENRY MANN, " " " "

Codicil to a Will.

WHEREAS, I, Richard Roe, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have made my last will and testament, in writing, bearing date the fourteenth day of February, in the year of our Lord one thousand nine hundred and four, in and by which I have given to the Pennsylvania Institution for Deaf Mutes, in the city of Philadelphia, the sum of one thousand dollars.

Now, therefore, I do, by this my writing, which I hereby declare to be a codicil to my said last will and testament, and to be taken as a part thereof, order and declare that my will is that only the sum of five hundred dollars shall be paid to the said Pennsylvania Institution for Deaf Mutes as the full amount bequeathed to the said institution, and that the residue of the said legacy be given to the person who shall be acting as treasurer at the time of my decease of the Baptist Publication Society, located in the city of Philadelphia, to be expended by the society in such manner as the officers of the said society may deem best for the interests of said society; and, lastly, it is my desire that this codicil be annexed to and made a part of my last will and testament as aforesaid, to all intents and purposes.

In testimony whereof, etc. (as in the form of a will).

Duties of Administrators in Settling Estates.

WHEN a person dies, leaving no valid will behind him, his estate is distributed among his heirs by what is known as *operation of law*. This is regulated by the statute of the State in which the deceased resided at the time of his death. The distribution must be made by an *administrator* duly appointed by law. The administrator is appointed by the court having jurisdiction in such cases, on being satisfied that the person proposed is legally qualified. The appointment must be made with the consent of the person appointed. It is the generally accepted rule that any one is legally competent to be an administrator who is competent to make a contract. Certain classes of persons are disqualified by statute, as in the State of New York, for instance, drunkards, gamblers, spendthrifts, etc. The relatives of the deceased are considered as entitled to the appointment to administer the estate, and the order of precedence is regulated by statute. The husband is to be granted administration on the wife's personal estate, and administration on the husband's estate is to be granted to the widow and the next of kin in the following order if they or any of them will accept:

1. To the widow.
2. To the children.
3. To the father.
4. To the brothers.
5. To the sisters.
6. To the grandchildren.
7. To any other of the next of kin who would be entitled to a share in the distribution of the estate.

The guardians of minors who are entitled may administer for them. In case none of the relatives or guardians will accept, the administration will be given to the creditors of the deceased. The creditor who applies first, if legally competent, is to be preferred. If no creditor applies, any person who is legally qualified may be appointed. In the city of New York the public administrator may administer the estate after the next of kin. In the State of New York the surrogate may select, among the next of kin, any one in equal degree, and appoint him sole administrator to the exclusion of the others. In case there are several persons of the same degree of kindred to the intestate entitled to administration, they are preferred in the following order:

1. Males to females.
2. Relatives of the whole blood to those of the half blood.
3. Unmarried to married women; and should there be several persons equally entitled, the surrogate may grant letters to one or more of them, as his judgment may suggest.

If letters of administration should be unduly granted they may be revoked.

Administration may likewise be granted on certain conditions, for a certain limited time, or for a special purpose.

The powers and duties of an administrator differ from those of an executor only inasmuch as he must distribute and dispose of the estate according to the direction of the law, as he has no will to follow.

First. The administrator must give bond, with sureties, for the faithful execution of his trust.

Second. He must make an inventory of the goods and chattels of the intestate, in accordance with the requirements of the law.

Third. Two copies of this inventory shall be made, one of which will be lodged with the judge of the court, and the other will be kept by the administrator. The latter will be obliged to account for the property mentioned in the inventory.

Fourth. Having completed the inventory, the administrator must then collect the outstanding debts of the intestate, and also pay the debts of the same. The order of payment is regulated by local statutes.

Having liquidated all the debts of the intestate, the administrator will divide the remainder of the assets among the surviving relatives of the deceased. In so doing, he will act under the direction of the court.

Partnership.

A PARTNERSHIP is an agreement between two or more persons to share in the profit and loss arising from the use and application of their capital, labor and skill, in some lawful business, whether the capital be supplied by one, and the labor and skill by another, or each contribute both labor or skill and capital. It is not constituted merely by an interest of different parties in the same thing; the test is, whether there is a participation in profits and a joint liability to loss.

A *general partnership* is one formed for trade or business generally, without limitations; a *special partnership* is one in which the joint interest extends only to a particular concern, as, for example, in the erection of a house; a *limited partnership* is one in which one or more of the partners put in a certain amount of capital, which is liable for the contracts of the firm, but beyond that amount the party or parties advancing are not liable. The regulations concerning the last-named species of partnership, in any particular State where it is recognized, are to be found in the statutes of such State; and a strict compliance with the statutes is necessary, in order to avoid incurring the responsibilities attaching to the position of general partner.

A person who lends his name as a partner, or who suffers his name to continue in the firm after he has actually ceased to be a partner thereof, is still responsible to third persons as a partner.

A partner may buy and sell partnership effects; make contracts in reference to the business of the firm; pay and receive money; draw, and indorse, and accept bills and notes; and all acts of such a nature, even though they be upon his own private account, will bind the other partners, if connected with matters apparently having

reference to the business of the firm, and transacted with other parties ignorant of the fact that such dealings are for the particular partner's private account. So, also, the representation or misrepresentation of any fact made in any partnership transaction by one partner, or the commission of any fraud in such transaction, will bind the entire firm, even though the other partners may have no connection with, or knowledge of the same.

If a partner sign his individual name to negotiable paper, all the partners are bound thereby, if such paper appear upon its face to be on partnership account. So, if the negotiable paper of a firm be given by one partner on his private account, and in the course of its circulation pass into the hands of a *bona fide* holder for value, without notice or knowledge of the fact attending its creation, the partnership is bound thereby.

One partner cannot bind the firm by deed, though he may by deed execute an ordinary release of a debt due the partnership, thereby precluding the firm from a recovery of the same.

If no time be fixed in the articles of copartnership for the commencement of such partnership, it is presumed to commence from the date and execution of such articles. If no precise period is therein mentioned for its continuance, a partner may withdraw at any time, and dissolve such partnership at his pleasure; and even if a definite period be agreed upon, a partner may, by giving notice, dissolve the partnership as to all capacity of the firm to bind him by contracts thereafter made; such partner subjecting himself thereby to a claim for damages, by reason of his breach of the covenant.

The death of either partner, also, dissolves the partnership, unless there be an express stipulation that, in such an event, the representatives of such deceased partner may continue the business in connection with the survivors, for the benefit of the widow and children.

A partnership is dissolved by operation of law; by a voluntary and *bona fide* assignment by any partner of his interest therein; by the bankruptcy or death of any of the partners; or by a war between the countries of which the partners are subjects.

Immediately after a dissolution, a notice of the same should be published in the public papers, and a special notice sent to every person who has had dealings with the firm. If these precautions be not taken, each partner will still continue liable for the acts of the others to all persons who have had no notice of such dissolution.

Partnership Agreement.

This Agreement, made this first day of April, 19— between Charles Jean and David Sellers, both of St. Louis, Missouri, witnesseth:

The said parties agree to associate themselves as copartners for two years from this date, in the business of buying and selling cotton, under the name and style of Jean & Sellers.

For the purpose of conducting the above-named business, Charles Jean has at the date of this writing invested ten thousand dollars as capital stock, and David Sellers has paid in the like sum of ten thousand dollars, both of which amounts are to be expended and used in common, for the mutual advantage of the parties hereto in the management of their business.

That the details of the business may be thoroughly understood by each, it is agreed that during the aforesaid period accurate and full book accounts shall be kept, wherein each partner shall enter and record, or cause to be entered and recorded, full mention of all moneys received and expended, as well as every article purchased and sold belonging to, or in any wise appertaining to such partnership; the profits, gains, expenditures and losses being equally divided between them.

It is further agreed that once a year, or oftener should either partner desire, a full, just and accurate exhibit shall be made to each other, or to their executors, administrators or representatives, of the losses, profits and increase made by reason of such copartnership. And after such an exhibit is made, the surplus profit, if such there be, resulting from the business, shall be divided between the subscribing partners, share and share alike.

Should either partner desire, or should the death of either of the parties, or other reasons, make it necessary, they will each to the other, or, in case of death of either, the surviving partner to the executors or administrators of the party deceased, make a full, accurate and final account of the condition of the partnership as aforesaid and will fairly and accurately adjust the same.

It is also agreed that in case of a misunderstanding arising with the parties hereto, which cannot be settled between themselves, such difference of opinion shall be settled by arbitration, upon the following conditions, to-wit: Each party to choose one arbitrator, which two thus chosen shall select a third; the three thus chosen to determine the merits of the case and arrange the basis of a settlement.

In witness whereof, the undersigned hereto set their hands the day and year first above written.

Signed in presence of
FRANK SMITH,
HENRY STILES.

CHARLES JEAN.
DAVID SELLERS.

Notice of Dissolution.

The partnership heretofore existing under the name of Jean & Sellers is this —— day of ——, A.D. ——, dissolved by mutual consent.

CHARLES JEAN.
DAVID SELLERS.

How to Secure a Patent.

A Complete Synopsis of the Rules and Regulations Governing the United States Patent Office.

ANY PERSON who has invented or discovered a new and useful art, machine, manufacture or composition of matter, or any new and useful improvement thereof, may obtain a patent, provided the invention or discovery has not been known or used by others in this country, and not patented or described in any printed publication in this or any foreign country, and not in public use or on sale for more than two years prior to his application, unless the same is proved to have been abandoned. A patent may also be obtained by any person who, by his own industry, genius, efforts and expense, has invented and produced any new and original design for a manufacture, bust, statue, alto-relievo or bas-relief; any new and original design for the printing of woolen, silk, cotton or other fabrics; any new and original impression, ornament, pattern, print or picture to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture; or any new, useful and original shape or configuration of any article of manufacture, the same not having been known or used by others before his invention or production thereof, nor patented or described in any printed publication.

In case of the death of the inventor, the application may be made by his executor or administrator. In such case the oath will be made by the executor or administrator.

In case of an assignment of the whole interest in the invention, or of the whole interest in the patent to be granted, the patent will, upon request of the applicant or assignee, issue to the assignee; and if the assignee hold an undivided part interest, the patent will, upon like request, issue jointly to the inventor and the assignee; but the assignment in either case must first have been entered of record, and of a day not later than the date of the payment of the final fee. The application and oath must be made by the actual inventor, if alive, even if the patent is to issue to an assignee. If the inventor be dead, it may be made by the executor or administrator, or by the assignee of the entire interest.

THE APPLICATION.

All applications for letters patent must be made to the Commissioner of Patents. A complete application comprises the petition, specification, oath and drawings, and the model or specimen when required.

An application for a patent will not be placed upon the files for examination until all its parts, except the model or specimen, are received.

THE SPECIFICATION

Is a written description of the invention or discovery, and of the manner and process of making, constructing, compounding and using the same, and is required to be in such full, clear, concise and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound and use the same. It must conclude with a specific and distinct claim or claims of the part, improvement or combination which the applicant regards as his invention or discovery.

In framing the specification the applicant should follow the appended arrangement, such portions as refer to drawings being omitted when the invention does not admit of representation by drawings.

1. Preamble giving the name and residence of the applicant, and the title of the invention.

2. General statement of the object and nature of the invention.

3. Brief description of the drawings, showing what each view represents.

4. Detailed description, explaining fully the alleged invention, and the manner of constructing, practicing, operating and using it.

5. Claim, or claims.

6. Signature of inventor.

7. Signatures of two witnesses.

In original applications the applicant must distinctly state, under oath, whether the invention has been patented to himself, or to others, with his consent or knowledge, in any country.

THE OATH.

The applicant, if the inventor, must make oath that he believes himself to be the first and original discoverer or inventor of the art, machine, manufacture, composition or improvement for which he desires a patent, and that to his best knowledge and belief the same was never before known or used. He must also state his place of residence, and the State or country of which he is a citizen.

When applications are made by an administrator or executor, the form of oath varies accordingly.

DRAWINGS.

The applicant for a patent is required by law to furnish a drawing of his invention, where the nature of the case admits of it.

1. Drawings must be made upon pure white paper of a thickness corresponding to three-sheet Bristol board, and the surface of the paper must be calendered and smooth. India ink only must be used, to secure perfectly black and solid lines.

2. The size of sheet on which a drawing is made must be exactly ten by fifteen inches. One inch from its edges a single marginal line is to be drawn, leaving the "sight" precisely eight by thirteen inches. Within this margin all work and signatures must be included.

3. All drawings must be made with the pen only.

4. Drawings should be made with the fewest lines possible consistent with clearness.

5. Letters and figures of reference must be carefully formed. They must never appear upon shaded surfaces, and, when it is difficult to avoid this, a blank space must be left in the shading where the letter occurs, so that it may appear perfectly distinct and separate from the work. If the same part of an invention appear in more than one view of the drawing, it must always be represented by the same character, and the same character must never be used to designate different parts.

6. The inventor's signature must be placed at the lower right-hand corner of the sheet,

and the signatures of witnesses at the lower left-hand corner; all within marginal line.

7. Drawings should be rolled, not folded, for transmission to the office.

MODELS

Must clearly exhibit every feature of a machine which forms the subject of a claim for letters patent, but should include no other matter than that covered by the actual invention or improvement, unless necessary to the exhibition of the invention in a working model.

Very often a working model is desirable in order to fully and readily understand the operation

EXAMINATION.

Applications are classified and taken up for examination in regular order, those in the same class being examined and disposed of, as far as practicable, in the order in which they are presented.

AMENDMENTS, ETC.

The applicant has a right to amend before or after the first rejection; and he may amend as often as the examiner presents any new references or reasons for rejection.

When an original or reissue application is rejected on reference to an expired or unexpired domestic patent, which substantially shows or describes but does not claim the rejected invention, or to a foreign patent, or to a printed publication, and the applicant shall make oath to facts showing a completion of the invention before the filing of the application for the domestic patent, or before the date of the foreign patent, or before the date at which the printed publication was made, and shall also make oath that he does not know and does not believe that the invention has been in public use or on sale in this country for more than two years prior to his application, and that he has never abandoned the invention, then the patent or publication cited will not bar the grant of a patent to the applicant, *except upon interference*.

When an application is rejected on reference to an expired or unexpired domestic patent which shows or describes, but does not claim, the rejected invention, or to a foreign patent, or to a printed publication, or to facts within the personal knowledge of an employe of the office, set forth in an affidavit of such employe, or on the ground of public use or sale, or upon the mode or capability of operation attributed to a reference, or because the alleged invention is held to be inoperative, or frivolous, or injurious to public health or morals, affidavits or depositions supporting or traversing these references or objections may be received; but they will be received in no other cases, without special permission of the Commissioner.

In case an applicant neglects to prosecute his application for two years after the date when the last official notice of any action by the office was mailed to him, it will be held that the application has been abandoned.

DESIGNS.

Patents for designs are granted for three and one-half years, or for seven years, or for fourteen years, as the applicant may, in his application, elect.

When the design can be sufficiently represented by drawings or photographs, a model will not be required.

Whenever a photograph or an engraving is employed to illustrate the design, it must be mounted upon Bristol board, 10 by 15 inches in size, and properly signed and witnessed. The applicant will be required to furnish ten extra copies of such photograph or engraving (not mounted), of a size not exceeding 7½ inches by 11.

REISSUES.

When the original patent is invalid or inoperative by reason of a defective or insufficient specification, or by reason of the patentee claiming as his invention or discovery more than he had a right to claim as new, a reissue will be granted to the original patentee, his legal representatives, or the assignees of the entire interest, provided the error has arisen from accident, mistake or inadvertence, and without any fraudulent or deceptive intention.

APPEALS.

An applicant for a patent or a reissue, any of the claims of whose application have been twice rejected, may appeal from the decision of the primary examiner to the Board of Examiners-in-Chief, having once paid a fee of $10. The appeal must be made in writing, signed by the applicant or his attorney, and must set forth the points of the decision upon which the appeal is taken.

FORM, DATE AND DURATION OF PATENTS.

Every patent will bear date as of a day not later than six months from the time at which the application was passed and allowed, and notice mailed to the applicant, if within that period the final fee be paid.

A patent will not be antedated.

Every patent will contain a short title of the invention or discovery, and a grant to the patentee, his heirs and assigns, for the term of seventeen years, of the exclusive right to make, use and vend the invention or discovery throughout the United States and Territories thereof.

EXTENSIONS.

Patents granted since March 2, 1861, cannot be extended, except by act of Congress.

CAVEATS.

On payment of a fee of $10, any citizen of the United States who has made a new invention or discovery, and desires further time to mature the same, may file in the Patent Office a caveat setting forth the distinguishing characteristics of the invention and praying protection of his right until he shall have matured his invention. Such caveat shall be filed in the confidential archives of the Patent Office, and shall be operative for the term of one year from the filing thereof.

ASSIGNMENTS.

Every patent, or any interest therein, shall be assignable in law by an instrument in writing. The patentee or his assigns may also grant and convey, in like manner, an exclusive right under his patent for the whole or any specified part of the United States.

Schedule of Fees.

On filing each application for a Patent	$15
On issuing each Original Patent (17 years)	20
On application for Re-issue	30
On application for Extension	50
On granting every extension of Patent (7 years)	50
On each Caveat	10
On appeal to Examiners-in-Chief	10
On appeal to Commissioner of Patents	20
On filing a Disclaimer	10
On application for Design (3½ years)	10
On application for Design (7 years)	15
On application for Design (14 years)	30
On each Trade-Mark (30 years)	25
On each Label (28 years)	6

CORRESPONDENCE WITH THE PATENT OFFICE.

Personal attendance of applicants at the Patent Office is unnecessary, as all business is required to be transacted in writing.

Correspondence should be addressed to "The Commissioner of Patents."

Express charges, freight, postage, and all similar charges, must be fully prepaid to ensure reception.

A letter concerning an application should state the name of the applicant, the title of the invention, the serial number of the application and the date of filing the same.

A letter concerning a patent should state the name of the patentee, the title of the invention, and the number and date of the patent.

All correspondence of the Patent Office will be answered without unnecessary delay. Telegrams must ordinarily be received before three P.M. to insure an answer the same day.

AGENTS AND ATTORNEYS.

Any intelligent person of good moral character, upon filing a proper power of attorney, may appear as the agent or attorney in fact of an applicant.

The power of attorney must be filed in all cases before an attorney, original or associate, will be allowed to inspect papers or take action of any kind.

The Collection of Debts.

THE best way to avoid all trouble with debts, either by owing them or by having them due to you, is to avoid debts altogether. Do not run in debt, and do not give credit unless it is absolutely unavoidable. By following these rules an untold amount of trouble may be saved and greatly increased prosperity secured.

But in modern civilized life it is not possible, as business is done, to prevent debts from being incurred, for so much is transacted upon longer or shorter terms of credit, that it is necessary to give credit and to have money falling due. In order to avoid trouble and loss, adhere strictly to the rule of having the payment due at a certain time and be prompt in collecting. Much more depends upon prompt collection as a means of avoiding trouble and loss than any other single thing. It is a mistaken idea that any favor is really done the debtor by not applying to him at the agreed time, for it is often the case that the failure to pay you will simply result in his still continuing to proceed upon a false basis, and end, perhaps, in a failure, which the good habit of paying his debts when due would have enabled him to prevent.

It is a measure of common prudence to take some statement in writing from any person to whom money is loaned, which shall show the amount, when loaned, by and from whom due, and when it is to be repaid. This is done either by taking a due bill or a common promissory note, and whenever accounts are settled or a balance struck and agreed upon, it is well to have something in writing, which should always be signed by the party to whom the payment is made or from whom the payment is due, if any amount is left unpaid.

In all cases where money is loaned on interest, a note should be taken, and, unless the lender is personally acquainted with the business affairs and standing of the borrower, if the amount is considerable or the terms of credit more than a few months, security should be taken. In arranging for security two things are to be considered—

1. The title of the party to the property which he proposes to give as security. This covers the two points of ownership and all prior claims or encumbrances, if any. If the security consists of personal property, it will be necessary to see whether there are executions against the owner in the hands of the proper officers and whether chattel mortgages have been given, as well as that the property is in the possession of the person who proposes to

pledge it as security. If this is to be done by means of a chattel mortgage, then it will be necessary to see that the mortgage is properly acknowledged and recorded, and in every other case the possession of the property should be transferred to the one who takes it as security.

In the case of real estate there should be an Abstract of Title showing the title to the property to be in the person who claims to own it, and that it is clear of all judgments, mortgages and mechanic's liens. The better way is to have the abstract brought down to cover the mortgage or trust deed, which is given as security, after it has been recorded and before the money is actually advanced, to guard against all possibility of anything happening between the time of the execution of the mortgage or trust deed and when it can be recorded.

2. The security given depends directly upon the value of the property transferred, and this should be sufficient in amount to cover all probable contingencies. The rule is not to loan more than half or two-thirds of the value of the property given as security. "Fast bind, fast find," is a good maxim, especially in regard to loaning money; and where ample security is held, the lender can sleep in peace. It is often necessary that fire insurance should be obtained to protect the lender, in which case the policy should be made in the name of the owner and borrower, and have inserted in it a "mortgage clause," as it is called, provided that the loss, if any, shall be paid to the lender as his interest may appear.

REQUEST FOR PAYMENT.

Those who have much experience in any kind of business requiring credit to be given, soon learn, in the dear school of experience, what is necessary to protect their own interests. It is those who have but little to do in this way, or who are about engaging in a new line, that are most likely to suffer from want of knowledge.

Of course, before any suit is brought to recover money which is due, a request or demand for payment should be made, if possible, and there is any hope the money will be paid without suit. Politeness and point should be contained in the request, which may take either the form of an interview or a note, and as payment may result, this ought always to be framed as if payment were expected. If a letter is used, its form will depend upon what has previously taken place, because it is seldom the case that a claim has no previous history, and the kind of demand to be made depends upon what has been done, so that it will range from a polite intimation that the money is due and would be thankfully received, to a short letter informing the debtor that to avoid the trouble and costs of a suit, immediate payment must be made.

COLLECTION AGENCIES.

The tendency of all kinds of business to run into specialties, and for people to follow particular lines of business, to which they give their attention, has led to the formation of what are known as collection agencies, which devote their entire time and skill to the collection of debts.

These are of two kinds, namely: those which are connected with some particular trade or branch of business, and which seek to enforce the payment of debts by means of notifying all those persons who would naturally be called upon to give credit to the debtor, and also those which are organized without any particular connection with any branch of the business, but which have correspondents (chiefly lawyers) throughout the country, and who charge a fixed percentage for collection in ordinary cases. Where these agencies can be used they are often the best means to employ for many different reasons.

COLLECTION BY LAW.

When all reasonable hope of obtaining payment peaceably is gone, consider whether it is worth while to follow the matter any further; and this will depend on two things:

Is it worth the necessary trouble and expense?

Can a judgment be collected?

Sometimes a suit must be brought for the sake of the principle involved and to prevent advantage being taken of you; but if it is merely a business transaction and the only question is

whether it will pay, then find out as well as you can what the result will be before you spend any money on the suit; and learn whether the debtor has property which is not exempt and out of which the officer can make the amount of a judgment.

If you are compelled to proceed with your suit, you can place the account in the hands of some Justice of the Peace whose jurisdiction extends over the place where the debtor can be served with summons, unless the amount is too large, for Justices of the Peace are generally authorized and required to collect accounts placed in their hands; the amount of which a Justice of the Peace has jurisdiction is fixed by the laws of the different States.

JURISDICTION OF JUSTICES OF THE PEACE.

Justices of the Peace generally have jurisdiction throughout the County or Township in which they are elected, and the limit of the amount is as follows:

Alabama.....	$ 100	Kentucky	$ 50	North Carolina.	$ 200
Arizona.....	300	Louisiana	100	Ohio	100
Arkansas	300	Maine	20	Oregon.....	500
California	300	Maryland.....	100	Pennsylvania...	300
Colorado	300	Massachusetts ..	300	Rhode Island...	300
Connecticut	100	Michigan	100	South Carolina.	100
Dakota, N. 200–S.	100	Minnesota	100	Tennessee	500
Delaware.....	200	Mississippi	150	Texas	200
Dist. of Columb.	100	Missouri.....	250	Utah	300
Florida	100	Montana.....	300	Vermont	200
Georgia	100	Nebraska.. ..	200	Virginia	100
Idaho.....	300	Nevada...	300	Washington	300
Illinois	200	New Hampshire	13⅓	West Virginia..	300
a Indiana.....	200	New Jersey.....	200	*c* Wisconsin .. .	200
b Iowa.....	100	New Mexico. ..	100	Wyoming	300
Kansas	300	New York.	200		

a By confession, $300. *b* By consent, $300. *c* By confession, $300.

SUMMONS AND SERVICE.

The Justice, on request, will issue a summons about as follows:

This summons will be given to a constable who can only serve it upon the debtor within the Town or County, as the case may be where the Justice resides, and in some cases the debtor must be served in the Town where he lives; but all necessary information can be obtained by asking the Justice about it, who will know, and will correctly tell you about the law which applies to himself.

The constable who serves the summons will proceed to do it by reading or delivering a copy, or both at once upon payment of his legal fees. If the debtor is a corporation then the service must be made by delivering a copy of the summons to the proper officer, the President, if he can be found, and in case of his absence the officer must state that he can not be found and service can be had upon some other officer or agent of the corporation.

If the defendant conceals himself to avoid service or can not be found, the officer will write upon the summons what has been done under it, and return it with his written endorsement upon it, stating the facts to the Justice from whom it issued. The Justice will also enter in his docket the names of the parties, the number of the case, the date of the summons, and the name of the officer to whom it was delivered for service; and when the summons is returned he enters a statement of that fact together with the officer's endorsement upon it in his docket.

The summons will state the time and place for trial which is generally not less than five nor more than fifteen days from its date; when and where the defendant is bound to appear if he has been notified according to the law, and generally three days' service before the trial is sufficient.

Form of Summons.

STATE OF ..... } *ss.*
County of..... }

The People of the State of.....to any constable of said county—

GREETING:

You are hereby commanded to summon A B to appear before me, at....., on the..... day of. ....., at.....o'clock — M., to answer the complaint of C D for a failure to pay him a certain demand, not exceeding,.....dollars: and hereof make due return as the law directs. Given under my hand, this..... ..day of....., 19....

JOHN DOE, *J. P.*

DEFENDANT'S LIABILITY.

It is not safe for any person who has been legally served with summons to neglect the case, even if he owes nothing, and has been sued and served with summons by mistake, for if he does not appear and make his defense a judgment may be rendered against him which he will have to pay. An immediate investigation should always be made when the summons is served, and the time and place of the trial should be written down.

Upon the back of the summons the Justice will indorse the amount of the demand and all the costs already incurred before he gives it to the constable. Payment of this amount to the constable will discharge the debt and prevent any further liability.

COSTS OF SUIT.

The Justice is entitled to charge about twenty-five cents for issuing the summons, and also a docket fee, and the constable is entitled to about fifty cents for serving and returning the same, besides his mileage, which is usually five cents per mile each way.

APPEARANCE.

If the plaintiff appears and is ready for trial a judgment will be entered against the defendant, if the claim is proved and he fails to appear, and the execution will issue upon the judgment. If the defendant should be present and the plaintiff fail to appear, then the suit will be dismissed at plaintiff's cost upon motion of defendant for want of prosecution. This, however, will not bar the claim by a new suit being brought.

CHANGE OF VENUE.

Before the trial is begun the defendant is ordinarily entitled to take a change of venue to the nearest Justice who is not connected with either of the parties to the suit nor interested in its result. This is to prevent the plaintiff from obtaining any advantage by being able to select the Justice to try the case, and to give the defendant the benefit of an impartial trial.

The defendant is required to make an affidavit that he believes he can not obtain an impartial trial before the first Justice, in order to have a change of venue.

CONTINUANCE.

If both parties appear at the time and place named in the summons, but either one of them is not ready to go on with the trial because of the absence of any of his witnesses, or for any other valid reason, then, upon good cause being shown by affidavit, the Justice will grant a continuance of the case to enable the party to prepare for the trial.

The party applying for a continuance must show that he has used due diligence to be ready, and that he has subpœnaed the witness or witnesses whose presence he desires; he must also show what he expects to be able to prove by him, and, if he knows, the reason that he did not attend. It may be that one of the parties may not be able to attend by reason of sickness or unavoidable absence, and then an affidavit must be made on his behalf by some one who appears for him and applies for the continuance.

The party against whom the continuance is asked may usually proceed with the trial by admitting that the absent witness would testify as the party claims, but that does not admit that the matters stated are true. The party may disprove the truth of the statements the same as if the witness had been present and testified to them. If the continuance is granted, then a time and place are set for the trial, when the parties must again appear.

ATTENDANCE OF WITNESSES.

It is very important that the witnesses by whom the facts in dispute can be established or disproved should appear and testify. Without this it is impossible to try the case so as to do justice between the parties. Therefore, the law compels witnesses who are properly notified to appear and testify to the truth so far as they know the facts in relation to the matters involved. For this purpose it is necessary that a paper called a subpœna should be issued by the Jus-

tice, and served upon the witness long enough before the trial to enable him to appear. The subpœna is substantially in the following form:

Form of Subpœna.

STATE OF..... } ss.
County of..... .... }

The People of the State of..... to A.....B.....

You are hereby commanded to appear before me at .....on the.....day of.....at....o'clock....M., then and there to testify to the truth in a matter in suit, wherein C D is plaintiff, and E F, defendant; and this you are not to omit, under the penalty of the law.

Given under my hand, this.....day of.....19..

JOHN DOE, *J. P.*

This can be served by the party or the constable, and at the same time witness fees, usually fifty cents and mileage, should be tendered to the witness. Then, if he refuses to appear, upon proof of those facts being made, an attachment, or warrant, for the arrest of the witness will be issued by the Justice. This will be given to the officer, who will arrest the witness and bring him before the Court, where he will be compelled to testify, and will also be punished for contempt of Court, for failing to obey the subpœna, unless he gives some good excuse.

TRIAL OF THE SUIT.

The case may be tried before the Justice without a jury, or a jury may be demanded by either party, who deposits with the Justice the amount of the jury fees. The jury consists of not less than six nor more than twelve men, and if one party calls for a jury of six, the other party may call for six more, making twelve in all.

If the case is to be tried by a jury the Justice will issue what is called a venire or summons for jurymen and give it to the proper officer, which will be in the following form:

Any free male citizen can serve on a jury, who lives within the jurisdiction of the Justice and is between the ages of twenty-one and sixty years and can read, write and understand the English language, and is not connected with, nor prejudiced for or against either party.

Many persons are by law exempt from jury service, by reason of their employment or official station, but this is a personal privilege and may be waived, so that unless it is claimed by themselves they can serve.

The jury, when impaneled, will be sworn to try the cause according to the law and the evidence, and then the evidence will be produced before the Justice or jury as the case may be.

In all cases the witnesses are sworn by the Justice to tell the truth, the whole truth and nothing but the truth upon the matters in issue between the parties, and each party is entitled to cross-examine the witness produced by the other side, and to argue the case before the judgment is given.

VERDICT AND JUDGMENT.

If the trial is by jury, they will return a verdict in writing substantially in the following form:

"We, the jury, find the issues for the plaintiff and assess his damages at (stating the amount)"; or "We, the jury, find the defendant guilty and

Form of Venire before a Justice.

STATE OF..... ..... } ss.
County of..... }

The People of the State of.....to any constable of said county—

GREETING:

We command you to summon.....lawful men of your county to appear before me at.....,on the.....day of.....19.....,at.. ..o'clock,—M., who are not of kin to.... .....,plaintiff, or to..... defendant, to make a jury between said parties, in a certain cause pending before me; and have you then and there the names of the jury and this writ.

Given under my hand, this .....day of..... ..19..

JOHN DOE, *J. P.*

assess the plaintiff's damages at (stating the amount)." But if the jury find for the defendant, then their verdict would be:

"We, the jury, find the issues for the defendant"; or "find the defendant not guilty," according to the form of action; and the verdict is also signed by all of the jurymen. If the party who is beaten desires to do so he can poll the jury, as it is called, which consists in asking the jurymen, one at a time, "Was this, and is this your verdict?" To which the juryman is required to answer, and if any of the jury upon being called, state that it is not their verdict, then they must retire and agree or else they disagree, and the result is a mis-trial, leaving the case to be tried again.

If the case is tried by the Justice, then he enters his finding in writing in his docket, in about the same form as the verdict, and then upon the verdict or finding, he enters judgment or, in other words, writes in his docket that he considers that the plaintiff should recover the amount of the verdict or finding with costs from the defendant; or that the defendant should recover his costs of the plaintiff, for the victorious party is entitled to recover the costs of the case from the one who is beaten.

APPEALS.

Either party has a right to appeal his case, usually to the Circuit Court, and have it tried over again, if he is not satisfied with the result of the trial, upon giving bond for double the amount of the judgment and costs in the form provided by law, which is about as follows:

As soon as the bond is filed and approved, which must be given usually within twenty days from the trial, it operates as a supersedeas, as it is called, and prevents anything further being done in the case until judgment is obtained in the Court above, or the appeal is dismissed.

Sometimes one of the parties will pretend to be dissatisfied with the judgment and pray an appeal in order to prevent the other from doing so, and having allowed the time in which an appeal can be taken to expire will then dismiss it and make the judgment final.

The only way to prevent this is for the party who desires to have an appeal to ask for it and file his bond himself, in which case he can control the matter.

EXECUTION.

The writ which issues from the Justice upon the judgment is called an execution, and runs either against the goods and chattels, or the body, of the one against whom judgment was entered. Whether execution can be obtained in any case authorizing the arrest of the defendant and his imprisonment until the judgment is paid or he is legally discharged will depend upon the law of the State and the circumstances of the case, as this is now an unusual remedy, since imprisonment for debt has been generally abolished.

If the plaintiff avers that the benefit of the judgment will be lost, unless execution issue immediately, he may swear to this fact before the Justice, who will then issue execution at once; but unless this is done the execution will not issue

Form of Appeal Bond.

Know all men by these presents, that we, A B and C D, are held and firmly bound unto E F, in the penal sum of (here insert double the amount of judgment and costs) dollars, lawful money of the United States, for the payment of which, well and truly to be made, we bind ourselves, our heirs and administrators, jointly, severally and firmly by these presents.

Witness our hands and seals, this.... .....day of.....,19..

The condition of the above obligation is such, that whereas the said E F did, on the.....day of.....A. D. 19.., before.... . Justice of the Peace for the County of..... recover a judgment against the above bounden A B, for the sum of.....dollars (or for costs, as the case may be); from which judgment the said A B has taken an appeal to the.. ...court of the County of .. ... aforesaid; now, if the said A B shall prosecute his appeal with effect, and pay whatever judgment may be rendered against him by said Court upon the trial of said appeal or by consent, or, in case the appeal is dismissed, will pay the judgment rendered against him by said Justice, and all costs occasioned by said appeal (or, if the judgment appealed from is in favor of the appellant, omit the words "the judgment rendered against him by said Justice, and ") then the above obligation to be void; otherwise to remain in full force and effect.

A B, [SEAL.]
C D, [SEAL.]

Approved by me, this .....day of..... ..., 19..

JOHN DOE, *J. P.*

until the expiration of the time for an appeal, which is usually twenty days.

The execution is directed to the proper officer, and is in the following form:

Execution against Property.

STATE OF..... .... } ss.
.....*County.* }

The People of the State of .....,to any constable of said county—

GREETING:

We command you that of the goods and chattels of A B, in your county, you make the sum of .... dollars and .. ... cents judgment, and .. ... dollars and ..... cents costs, which C D lately recovered before me in a certain plea, against the said A B; and thereof make return to me within seventy days from this date. Given under my hand this ..... day of ...., 19..

JOHN DOE, *J. P.*

Execution against Body.

STATE OF ..... } ss.
..... *County* }

The People of the State of ..... , to any constable of said county—

GREETING:

We command you, that of the goods and chattels of A B, in your county, you make the sum of ..... dollars and ..... cents judgment, and ..... dollars and ..... cents costs, which C D lately recovered before me against the said A B, and for want of such goods and chattels that you take the body of the said A B, and him convey and deliver unto [the keeper of the jail of said county, who is hereby commanded to receive and keep the said A B in safe custody until the said sum and all legal expenses be paid and satisfied, or until he is discharged by due course of law; and hereof make return to me within seventy days from this date.

Given under my hand this.. ... day of .....,19..

JOHN DOE, *J. P.*

This is placed in the hands of the constable, and it commands him to levy upon and sell enough of the personal property of the debtor to satisfy the judgment and make return within the time limited, to the Justice, showing what has been done.

Although the execution has been delivered to the officer, it is still under the control of the plaintiff and the officer is bound to obey any lawful direction he may give; but in case of interference by him he may lose the benefit of the execution, and also his remedy against the officer.

The constable must take care that he obtains sufficient property to satisfy the judgment if the debtor has it, and it is not exempt by law; and on the other hand, he must be equally careful not to levy upon property which belongs to others or which is exempt from execution by law. Sometimes the plaintiff desires property to be levied upon, which the officer is not willing to seize, and in such case an indemnifying bond is generally required and given, the condition of which is that the plaintiff will pay all costs and damages which the officer may incur by taking such property.

If the constable holds the execution beyond the time when he is directed by it to return it to the Justice, he ordinarily makes himself and his bondsmen personally liable for the amount of the judgment.

ATTACHMENT.

Where the debtor is a non-resident or conceals himself to evade service of the summons, or stands in defiance of the officer, or has contracted the debt by means of a false statement in writing signed by himself, or has fraudulently concealed or disposed of his property within two years last past, or is about to do so or to remove his property or effect from the State for the purpose of hindering, delaying or defrauding his creditors, but has property within the juris-

diction of the Justice which is subject to levy, in order to prevent the benefit of the judgment being lost the law provides that a writ of attachment against the property may issue in the first instance, upon a proper affidavit having been made and filed with the Justice by the plaintiff, which must particularly set forth the facts and is about as follows:

As soon as the writ is issued it is placed in the hands of the constable, who will levy upon sufficient property to pay the claim and all costs. If the debtor shall be found the writ will be served on him in the same way as an ordinary summons and will answer the same purpose, but if the debtor is no found then the constable will indorse upon the writ what property he has

Affidavit for Attachment.

STATE OF..... } ss.
County of..... }

A B, being duly sworn, says: That (here state if affiant is agent or attorney of the creditor, and if the suit is by firm, the name of the partners,) has a just demand against (name of debtor), on account of (here make short statement of the nature of the demand), and the affiant believes (the name of the creditor) is entitled to recover of said (name of debtor), after allowing all just credits and set-offs,.....dollars and.....cents, which is now due, and that he has good reason to believe and does believe that (name of debtor) (here state some one or more of the causes which authorize an attachment), the said (name of debtor) (here state the residence of the debtor if known, or if not, that the affiant has made diligent inquiry and can not ascertain his place of residence).

A bond is usually required from the plaintiff before an attachment will issue, about as follows:

seized under it, and that he has been unable to find the debtor, and he will hold possession of

Condition of Bond for Attachment.

The condition of the above obligation is such that, whereas the above bounden.....hath, on the day of the date hereof, prayed an attachment at the suit of.....against the personal estate of the above named... .... for the sum of..... .., and the same being about to be sued out, returnable on the.....day of....., before (said Justice). Now, if the said.....shall prosecute his suit with effect, or in case of failure therein, shall well and truly pay and satisfy the said.....all such costs in such suit, and such damages as the said.....may sustain, by reason of wrongfully suing out the said attachm :nt, then the above obligation to be void; else to remain in full force and virtue.

Witness our hands and seals, this.....day of....., 19..

The affidavit and bond having been duly filed, then the writ of attachment will issue usually in the following form:

the property so attached until the case is tried. Notice by publication or posting is usually given to the debtor, and in case the plaintiff proves

Form of Writ of Attachment.

STATE OF..... } ss.
County of..... }

The People of the State of....to any constable of said county—GREETING:

Whereas, A B (or agent or attorney of A B, as the case may be) hath complained that E F is justly indebted to the said A B in the amount of.....dollars; and that the said E F (here state the cause as in the affidavit) and the said A B, having given bond and security according to law: We, therefore, command you that you attach so much of the personal estate of the said E F to be found in your county, as shall be of value sufficient to satisfy the said debt and costs; and such personal estate so attached in your hands to secure, or so to provide that the same may be liable to further proceedings thereon, according to law, before the undersigned Justice of the Peace. And that you summon the said E F to appear before me, at my office, on the.....day of....., next, and that you also summon, as garnishees, all persons, whom the plaintiff or his agent shall direct to appear before me at the same time and place, then and there to answer what may be objected against him or them, when and where you shall make known how you have executed this writ: and have you then and there this writ:

Given under my hand and seal, this.....day of.....19..

C D, *Justice of the Peace.* [SEAL.]

his claim when the suit comes on for trial then a special execution directed only against the property attached is issued, and unless the debtor has been served, no general or personal judgment can be rendered against him, but it only goes against the property which has been attached.

If the debtor desires it, whether he has been served or not, he can appear at the time and place of trial and contest the justice of the claim or the right of attachment, or both, and the two issues so presented will be tried and determined as in ordinary suits, and judgment will be entered upon the verdict or finding in each case.

GARNISHMENT.

One of the most usual ways of obtaining the benefit of attachment is by serving the writ on some one who owes money to the principal debtor and who is named as a garnishee, and upon such service, the garnishee, who is usually entitled to witness fees and mileage, is bound to appear at the time and place of trial and be examined upon oath as to any property in his possession which belongs to the debtor, or any claims due to him from the garnishee, and, upon proper proceedings being had, a judgment will be entered, which will bind the garnishee to deliver such property or pay such claims for the benefit of the plaintiff.

In case a final judgment has been obtained and the execution returned unsatisfied, then, by making a proper affidavit, a garnishee summons may be issued and served in the same manner as the writ of attachment upon any person or persons who are owing money to the judgment debtor, or who have in their hands goods or effects belonging to him.

LIEN OF WRIT.

A writ of execution becomes a valid claim and binds the property of the person against whom it is issued from the time it is delivered to the constable or other proper officer, so that a sale or purchase from that time is subject to be set aside and the property applied in payment of the execution.

This is of great importance in dealing with persons against whom writs of execution have been issued and placed in the hands of an officer, because no valid sale can be made of such property and the purchaser gets no title. A writ of attachment, however, only becomes a lien from its levy, so that no one is likely to purchase property against which there is an attachment.

ARREST BEFORE SUIT.

Although imprisonment for debt has been abolished, yet, in certain cases, in most of the States and Territories, persons, against whom there are claims existing, are liable to be arrested and held until satisfaction of the claim, either because the claim grows out of some wrong that has been done to the plaintiff or because the debtor refuses to turn over his property in satisfaction of an execution. The writ for arrest is called a capias, and is very seldom used, and, in most cases, it would be unsafe to employ this remedy without legal advice. In all cases an affidavit and bond are required before the Justice will issue the capias, which will be about in the following form:

Form of Capias.

STATE OF..... } ss.
County of.. ..... }

The People of the State of..... .....*to any constable of said county*—

GREETING:

You are hereby commanded to take the body of..... .....and bring him forthwith before me, unless special bail be entered; and if such bail be entered, you will then command him to appear before me at.....on the..... .day of..... ....., at .....o'clock....M., to answer the complaint of A B for failure to pay him a certain demand, not exceeding $.....; and hereof make due return as the law directs. Given under my hand this..... .....day of.... .....19..

JOHN DOE, *J. P.*

When the capias or order for the arrest is placed in the hands of the officer it is a warrant for that purpose and he is bound to arrest the defendant if he can be found and bring him forthwith before the Justice who issued the writ, unless some responsible person can be found who will become surety for the appearance of the defendant for the trial. This is called "going bail" and is usually in the form of a short undertaking signed by the one who becomes surety or "goes bail."

In all cases the Justice indorses upon the back of the capias the amount of bail, which will be required in order to liberate the defendant from arrest pending the trial. The bail is only held for the appearance of the defendant at the time and place of trial and that he shall surrender himself in execution in case he does not pay the judgment against him, and if he fails to appear or surrender them the person who became surety will be bound to pay the amount of the claim, with costs.

Execution against the body may also be issued after judgment as above, but this is also unusual.

PRIVILEGE FROM ARREST.

Many officials and many persons are privileged from arrest, particularly voters in going to and returning from elections, attorneys and witnesses attending Courts on business, and judges and other officers of the Court and in many cases militia men while going and returning from general drills or musters.

LEVY AND SALE UNDER EXECUTION.

Although, as we have seen that the execution becomes a lien from the time of its delivery to the officer, in order to ripen into a title and hold the property, it is necessary that a levy should be made upon the property which is to be sold to pay the judgment and costs. This requires that an actual seizure of the property be made, and that the officer should take such possession of it as will be notice of his claim and will exclude the owner and all other persons from its use and enjoyment.

The constable is required to advertise the sale generally for ten days, and then he must sell at public auction, offering the property in such lots or parcels as will probably bring the greatest amount. During the time it is in his care, he must see that it is safely kept for the benefit of all parties; and in case an unnecessary sacrifice must result he must postpone the sale from time to time.

It is his duty to seize enough property to cover the amount of the judgment with interest and costs, remembering that the property is to be sold at a forced sale and that it will probably not bring full value; but at the same time he must be careful not to make an excessive levy as he would then be liable to the debtor in damages.

The levy must be made according to the nature of the things taken, and they must be reduced to possession so far as can reasonably be done, but it is plain that a pile of saw logs or building materials can not be handled in the same way that would be required if the property were portable and easily stored.

Notice of the levy must also be posted showing that the property has been seized and for what causes.

After the sale the constable should indorse upon his execution what he has done with the property upon its sale and the amount realized and the application of the proceeds, and whenever enough is obtained to pay the judgment with interest and costs, then the sale should be stopped and the balance of the property be returned to the debtor.

The execution with its indorsement of sale remains with the files in the hands of the Justice and is a permanent record of what was done in the case.

LIEN ON REAL ESTATE.

When the plaintiff fails to obtain satisfaction of his judgment out of the personal property of the debtor, he can, in most States, obtain a transcript of the judgment or copy of the docket

entries together with the original papers in the case from the Justice, and file the same with the clerk of the Circuit Court.

The judgment will then become a lien upon the real estate of the debtor in that county in exactly the same manner as if a judgment rendered in the Circuit Court, and execution will issue and the land may be sold in the manner provided by law for the satisfaction of judgments in a Court of Record.

CREDITOR'S BILL.

Where the judgment can not be collected by ordinary process of law, but the debtor has assets which can be reached by a bill in chancery or proceeding in equity, then, if the amount is sufficient, this may be done, and property held in the name of others for the benefit of the debtor; patent rights and other valuable interests belonging to him, but which can not be sold on execution, may be subjected to the payment of the debt. This is done by putting the debtor and those who are claimed to hold rights or property for him upon oath as to the extent and value of the debtor's interest, and by the appointment of a receiver, who is entitled to take possession of the property in question ; and, through the medium of the Court he obtains all the rights the debtor had, in order to secure a sale thereof and the collection of money sufficient to satisfy the judgment with all costs. This, however, is a somewhat complicated and expensive proceeding and is not usually resorted to.

DOES IT PAY.

The usual expense of a suit in a Justice's Court is from two to five dollars, to which must be added all expense incurred upon execution or through the other means taken to enforce collection of a debt, besides lawyer's fees, if one is employed ; and in case of an appeal to a higher Court, it will be proportionately greater.

These costs are made up of many small items, as the Justice is entitled by law to a small fee for every paper that he issues or files, for every continuance granted or witness sworn, etc., so that altogether it will amount to about the figures stated ; but these costs must be borne by the party who is beaten, and if a judgment is obtained and collected the plaintiff receives them back.

CONCLUSION.

It is plain that in matters of importance where suit is to be brought in the upper Court, or difficult points of law are involved, it is necessary, in the first place, to employ a lawyer to attend to the matter. If this is done, always take care to secure a competent, honest man, for nothing in this world is dearer than a cheap lawyer.

SYNOPSIS OF THE NATIONAL BANKRUPTCY LAW.

THE National Bankruptcy Law provides for both voluntary and involuntary bankruptcy. An act of bankruptcy by a person consists of his having conveyed, transferred, concealed or removed, or permitted to be concealed or removed, any part of his property, with intent to hinder, delay, or defraud his creditors, or having transferred while insolvent any portion of his property to one or more of his creditors with intent to prefer such creditors over his other creditors, or having suffered or permitted while insolvent any creditor to obtain a preference through legal proceedings, and not having at least 5 days before a sale or final disposition of any property affected by such preference vacated or discharged such preference, or having made a general assignment for the benefit of his creditors, or admitted in writing his inability to pay his debts and his willingness to be adjudged a bankrupt on that ground. A petition for involuntary bankruptcy may be filed by 3 creditors whose claims aggregate $500 or over, or if there are less than 12 creditors, by one creditor whose claim is that amount. A petition may be filed against the person who is insolvent and who has committed an act of bankruptcy within 4 months after the commission of such act; but such time shall not expire until 4 months after the date of the recording or registering of the transfer or assignment when the act consists in having made a transfer of any of his property with intent to hinder, delay, or defraud his creditors, or for the purpose of giving a preference, or in having made a general assignment for the benefit of his creditors, if by law such recording or registering is required or permitted, or, if it is not, from the date when the beneficiary takes notorious, exclusive, or continuous possession of the property, unless the petitioning creditors have received actual notice of such transfer or assignment.

Any person who owes debts, except a corporation, is entitled to the benefits of the act as a voluntary bankrupt, and any natural person except a wage-earner or a person engaged chiefly in farming or the tillage of the soil, any unincorporated company, and any corporation engaged principally in manufacturing, trading, printing, publishing, or mercantile pursuits, owing debts to the amount of $1,000 or over, may be adjudged an involuntary bankrupt upon default or an impartial trial. A partnership may be adjudged a bankrupt during the continuance of the partnership business or after its dissolution and before the final settlement thereof. Trustees in bankruptcy shall give bonds with 2 sureties, not to exceed $5,000, and are vested with the title to the bankrupt's property, including that transferred in fraud of creditors, as of the date of the adjudication. Suits by or against the trustee must be brought within 2 years after the closing of the estate. Debts of the bankrupt shall be paid in the following order: 1. Taxes; 2. expenses of preserving the estate; 3. filing fees; 4. costs of administration; 5. wages earned within 3 months, but no more than $300 to each claimant; 6. debts entitled by law to preference. The act will not affect the allowance to bankrupts of the exemption prescribed by the State laws in force at the time of filing the petition in the State where they have had their domicile for 6 months, or the greater portion thereof, immediately preceding the filing of the petition.

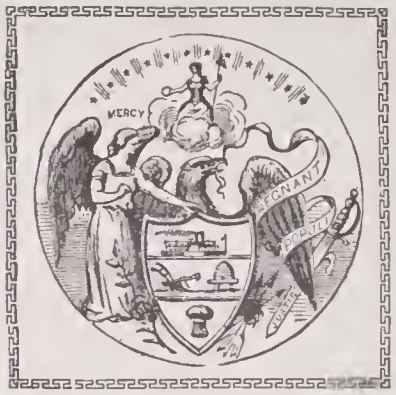
The bankrupt must file within 10 days after adjudication, if an involuntary bankrupt, or with the petition, if a voluntary bankrupt, a detailed schedule under oath of his property, its amount, kind, location and value, a list of his creditors, amounts due them, considerations therefor, security, etc., and any claim for exemptions he may be entitled to. The bankrupt must, at the order of the Court, submit to an examination concerning his business, bankruptcy, creditors, and property, and other matters which may affect the administration of the estate. Terms of composition may be offered by a bankrupt to his creditors after, but not before, he has been examined in Court or by his creditors and has filed the required schedule. Compositions may be confirmed after acceptance by creditors representing a majority of allowed claims, at the discretion of the Court, where the bankrupt has not committed an illegal act or failed to perform any of his duties and has acted in good faith, and the confirmation is binding on all the creditors. Compositions may be set aside on the ground of fraud within 6 months after confirmation.

Applications for discharge may be filed after 1 month and within the next 12 months subsequent to the adjudication, or in case the bankrupt is unavoidably prevented from filing it within that time, within the next 6 months. Applications for discharge are to be heard by the Court, and all parties in interest must be given opportunity to be heard in opposition. The discharge will be granted unless the bankrupt has: 1. Committed an act punishable by imprisonment, as provided in the act; or 2, with fraudulent intent to conceal his true financial condition, and in contemplation of bankruptcy has destroyed, concealed, or failed to keep books or records from which such condition might be ascertained. Discharges may be revoked on the ground of fraud within 1 year. A discharge operates to release the bankrupt from all of his provable debts except: 1. Taxes; 2. judgments in actions for frauds, etc.; 3. such as have not been duly scheduled in time for proof and allowance, unless creditor had actual knowledge of the proceedings in bankruptcy; 4. or such as were created by his fraud, embezzlement, misappropriation or defalcation while acting as an officer or in any fiduciary capacity, but the liability of a co-debtor, guarantor, or surety is nor affected by the discharge.

The act took effect July 1, 1898, but no petition for involuntary bankruptcy shall be filed within 4 months from that date. Proceedings begun under State laws before July 1, 1898, are not affected. The Supreme Court of the United States shall make rules as to procedure and to carry the law into effect. The District Courts of the United States are the Courts of bankruptcy.

ALABAMA

ALASKA



ARKANSAS

CALIFORNIA

ARIZONA

COLORADO

CONNECTICUT

DELAWARE

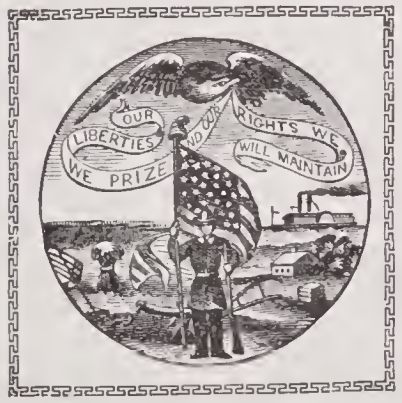
FLORIDA

GEORGIA

ILLINOIS

IDAHO

INDIANA



IOWA

KANSAS

KENTUCKY

LOUISIANA

SEALS OF THE STATES AND TERRITORIES

SPECIAL LAWS OF THE STATES AND TERRITORIES.

ALABAMA.

ACCOUNTS.— Itemized and verified by one who would be a competent witness before an officer who is authorized to take affidavits, are self-proving uuless the debtor denies by affidavit the correctness of the account.

ACKNOWLEDGMENTS.— Acknowledgments and proofs of conveyances taken withiu the State by Judges of the Supreme and Circuit Courts and their clerks, Chancellors, Registers in Chaucery, Judges of Probate, Justices of the Peace, and Notaries Public. Without the State, and within the United States, by Judges aud Clerks of any Federal Court, Judges of any Court of Record in any State, Notaries Public, or Commissioners of Alabama; beyond the limits of the United States, by Judges of any Court of Record, Mayor or chief magistrate of any city, town, borough, or county, Notaries Public, or by any diplomatic, consular, or commercial agent of the United States.

FORM OF ACKNOWLEDGMENT.

State of..... } ss.
County of..... }

I (*name and style of officer*) hereby certify that whose name is signed to the foregoing conveyance, and who is known to me, acknowledged before me on this day, that being informed of the contents of the foregoing conveyance, he executed the same voluntarily on the day the same bears date.

Given under my hand this day of 19

A. B. C., Judge, &c.

(*or as the case may be.*)

Acknowledgments take the place of witnesses.

AFFIDAVITS.— Within the State, taken before any Judge, Justice of the Peace, Chancellor, President of the Senate, Speaker of the House of Representatives, or Notary Public. Without the State, taken before a Commissioner of Alabama, Judge or Clerk of Federal Court, Judge of any Court of Record, or a Notary Public, who shall certify under their hands and seals of office, if any.

APPEALS.— From Justice Court to Circuit or City Court taken within five days, appellant must give bond in double amount of judgment rendered. From Circuit, City, Probate, or Chancery Court, and from final judgment or decree, within one year, and to Supreme Court. Bonds for costs, or if supersedeas desired, bond in double amount, if moneyed judgment or decree, and in other cases fixed by court.

ASSIGNMENT.— 1. Does there exist in the State a separate, distinct assignment, insolvency, or bankrupt law? No; but assignments may be made as a common law.

2. Does the law in this State permit the debtor to make a preferential assignment? No.

3. Can a judgment by default or confession be given in favor of relatives or friends, thus defeating the efforts of general or outside creditors? It may be given by default but not by confession, but it must be *bona fide* and upon good and valuable consideration.

4. Can conveyance or transfer of property be made immediately anterior to assignment, and still be held valid? No, except *bona fide* upon a present consideration. Cannot be made to pay a pre-existing debt.

5. Can a debtor in this State obtain a discharge from his obligations without the unanimous consent of creditors, and under what circumstances? See answer to 6th questiou.

6. Does the acceptance of a dividend from an estate under assignment in this State discharge the debtor? Not unless creditors voluntarily release in writing.

BONDS.— Required in the courts of judicial proceedings may be made by licensed guaranty company if accepted by the proper legal officer in his discretion.

CLAIMS AGAINST ESTATES OF DECEDENTS.— Claims against the estates of decedents uiust be presented to personal representative, or filed in office of Judge of Probate, in which letters were granted, within 12 months after the same have accrued, or within 12 months after the grant of letters. Where an estate is declared insolvent, claims must be filed within 6 months after such declaration or after same accrues. All claims must be verified by the oath of the claimant or some other person having knowledge of the correctness of the claim, and that the amount claimed is justly due, or to become due, after allowing all proper credits. Persoual representative uiay require suit to be brought on disputed claims within 6 months. Claims paid in the following order:— (1) Funeral expenses; (2) fees and charges of administration; (3) expenses of last sickness; (4) taxes assessed previous to death; (5) debts due to employees as such for services rendered the year of the death of the decedent; (6) other debts of the deceased. An executor who is a creditor must file his claim also.

COLLECTION.— In general. A claim, debt, or demand for less than $100 may be collected in a Justice's Court, except for torts, when jurisdiction is limited to $50; appeals may be taken to Circuit Court. Arrest or imprisonment for debt is not allowed. Attachment is allowed against uon-residents, and against debtors in cases of fraud, whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Costs of suit are generally recovered by party gaining the same. Non-resident creditors must give security for costs. It is at least 20 days between the service of summons on the debtor and obtaining of judgment in the Circuit Court, and 3 days in Justices' Courts. Execution may issue in the Circuit Court immediately after adjournment of Court, and in Justices' Courts in 5 days unless such execution is stayed. Such stay is allowed in Justices' Courts. The judgment of a Justice of the Peace, when a transcript thereof is filed in the office of the Clerk of the Circuit Court of the county where rendered, is a lien upon the debtor's real estate in such county. The judgment is a lieu upon personal property only after levying of au execution.

COMMERCIAL PAPER.— Promissory notes and bonds payable in money at a bank or private banking-house, or at a certain place of payment therein designated, and bills of exchange, are governed by the commercial law. All other instruments payable in money at a bank, or other designated place are governed by the commercial law as to days of grace, protest, and notice. No days of grace are allowed on any contract other than those enumerated as above. If any paper entitled to grace by the allowance thereof, or subject to protest, becomes due on a holiday, it must be taken as due on the next succeeding business day. No set-off to commercial paper in the hands of innocent holders for value. No person within this state must be charged as acceptor of a bill of exchange unless his acceptance is in writing. An unconditional promise in writing, to accept a bill before it is drawn amounts to actual acceptance. Damage on bills of exchange pro-

tested for non-acceptance or non-payment 5 per cent. on sum drawn for.

CONDITIONAL SALES.— All contracts for the conditional sale of personal property, vendor retaining title until the payment of purchase money, and all contracts for the lease, rent, or hire of personal property, by the terms of which the property is delivered to another on condition that it shall belong to him whenever the amount paid shall be a certain sum or the value of the property, the title to remain in the other party until such sum or value shall have been paid, are, as to such condition, void against purchasers for valuable consideration, mortgagees, and judgment creditors without notice thereof, unless they are in writing and recorded in the office of a Judge or Probate of the county in which party obtaining possession resides or in which the property is delivered or remains. They must be recorded within 30 days after execution. In case of removal to another county they must be recorded in that county within 3 months after such removal. This law does not apply to Jefferson and Montgomery Counties.

CONSIGNMENTS.— The failure of a consignee to account for the consigned goods is an embezzlement, for which he may be indicted. The consignor's civil remedies are the ordinary actions at law. The statute of limitations will run against them from the time of demand made, or discovery of the consignee's misappropriation.

CONTRACTS.— Contracts and joint promises are joint and several.

CONVEYANCES.— All persons of the age of 21 years, and not under a legal incapacity, may alien their land by deed or will. Must be recorded within 30 days, to be good against judgment creditors and mortgagees and purchasers without notice. If recorded within twelve months, a conveyance acknowledged or proven, admitted in evidence without proof of execution, and certified copy received in evidence. No separate examination of married woman necessary except in alienation of homestead. Married woman can sell or mortgage her statutory separate estate for her own debts, but she cannot directly or indirectly become surety for her husband. In conveyance or mortgage by married woman of her separate estate, husband and wife must join, and instrument be attested by one witness, or acknowledged by husband and wife. In order to be admitted to probate, so as to obtain the benefit of registration, all conveyances must be acknowledged, or be attested by two witnesses and probated by one of them.

CORPORATIONS.— Persons desiring to form themselves into a private corporation for the purpose of carrying on any manufacturing, mining, immigration, or industrial business, must file in the Probate Court of the county in which such company propose to have their principal place of business, a written declaration, signed by them, setting forth their names and places of residence, the name of the proposed corporation and its principal place of business, the nature of the business which it proposes to do, the amount of capital stock, the number of shares into which it is divided, showing the par value of each share, and any other matters which they decide to set forth. Upon the filing of such declaration, the Probate Judge will issue a commission constituting them a board of corporators, and giving them authority to open books of subscription to the capital stock, and when 50 per cent. of the stock has been subscribed, the corporators shall call a meeting of the subscribers, and at such meeting a board of directors shall be elected, which board shall elect a President and other executive officers. Upon such organization, and the payment of 20 per cent. of the capital subscribed, and payment of the remainder in money or property being secured to be payed as may be provided in the written declaration, the board of corporators shall in writing, over their signatures, certify the same to the Probate Judge; then the Probate Judge will issue a certificate that such corporation is fully organized. Such corporation has power to have succession for 20 years except as to banks, insurance companies, etc., the time for which is 30 years; and mining, quarrying, and manufacturing companies, railroad companies, street-railroad companies, navigation companies, the time for which is expressed in declaration, if not perpetually, with privilege of renewal as provided by the statutes, to sue and be sued by its corporate name, to have a seal, to render the shares of the stockholders transferable, to make contracts, and to acquire and transfer property, both real and personal. No stockholder is liable individually for corporate debts, except for unpaid stock owned by him. It is the duty of every private corporation to require the transfer of its stock to be made or registered on the books of the corporation; and persons holding stock not so transferred or registered, or holding any stock under hypothecation, mortgage, or other lien must have the transfer, hypothecation, mortgage or other lien made or registered on the books of the corporation or, upon failing to do so within 15 days, all such transfers, hypothecations, mortgages, or other liens shall be void as to bona fide creditors or subsequent purchasers without notice. No foreign corporation shall do any business in this State without having at least one known place of business and an authorized agent or agents therein, and without filing with the Secretary of State a certified copy of its articles of incorporation or association. Such corporation may be sued in any county where it does business by service of process upon an agent anywhere in the State; also, every foreign corporation shall, before engaging in any business in this State, file in office of Secretary of State at Montgomery an instrument, signed officially, designating at least one known place of business in this State, and an authorized agent residing thereat, under penalty of $1,000 and disability to enforce contracts. All changes in places of business or of agents, as designated in the instrument so filed, will necessitate filing of new instrument setting forth the true facts. Any agent acting for any foreign corporation who has failed to comply with the law in above respects, subject to penalty of $500. Insurance companies must file the instruments required with the Auditor of the State. All insurance companies doing business as such in the State of Alabama, whether chartered by the State or admitted from other States, shall have an actual capital fully paid up in cash, of not less than $100,000, no portion of which shall be represented by stock, notes, or loans on the stock of said company or companies as collateral. All insurance companies doing business in the State, both foreign and domestic, shall be required to make annual sworn statements to the Auditor of their assets, condition, business of the previous year in premiums, losses, and expenses, in the State and as a whole. All corporations are required to pay the following fees before being allowed to carry on business in the state; viz., where the proposed capital stock does not exceed $50,000, a fee of $25; where it exceeds $50,000 but does not exceed $100,000 a fee of $50; where it exceeds $100,000 but does not exceed $250,000 a fee of $75; where it exceeds $250,000 but does not exceed $500,000 a fee of $100; where it exceeds $500,000 but does not exceed $1,000,000 a fee of $200; where it exceeds $1,000,000 a fee of $250. Mutual societies and corporations having no capital stock have to pay a fee of $25. Benevolent societies and organizations operating upon the lodge system are exempt. The fees referred to are to be paid only once. These provisions do not apply to corporations engaged in business in the State at the time of their enactment (February 18, 1893).

DAYS OF GRACE.— Grace is allowed on sight and demand paper. Grace is allowed on time paper. Saturday is not a half holiday. Notes maturing on Saturday are payable on the same day. Notes maturing on Sundays and holidays are payable the day after.

EVIDENCE.— In chancery, by deposition, in common law courts, oral testimony of witnesses, but in civil causes depositions may be taken in the following cases, and under the following rules: when witness is woman, or from infirmity, age, or sickness, cannot attend court, or resides more than a hundred miles (in Justice Courts, non-residents of county living more than ten miles) from place of trial, or resides out of, or is absent from, or is about to leave the State, and will not be present at trial, or when claim or defense, or material part thereof, depends exclusively on evidence of witness, and in case of certain persons excused on account of office, business, or

profession. Party, his agent or attorney must make affidavit of the existence of some one of the above grounds, and that witness is material, and give notice of residence of witness, and name and residence of commissioner. Ten days' notice of the filing of interrogatories to party or attorney, if either in county, must be given; if neither in county, then interrogatories must lie on file 10 days before commission issues. Commissioner's certificate must show the following: that he reduced the auswers of witnesses to writing, or caused it to be done by witness, or some impartial person, as near as may be in the language of the witness, having first sworn him to speak the truth, the whole truth, and nothing but the truth; also the time and place of taking the deposition, and that he has persoual knowledge of the identity of witness, or the same was made known to him, that he is not of counsel, or kin to either party, nor interested in the result of the suit. Commissioner must return deposition with commission and interrogatories enveloped and sealed to Clerk of Court issuing the same, with the title of cause and name of witness indorsed on envelope. Written instrument signed by defendant, the foundation of suit, self-proving unless denied by sworn plea. In all suits upon accounts, an itemized statement of the account, verified by the affidavit of a competent witness, taken before and certified by an officer having authority under the laws of this State to make and certify affidavits, is competent evidence of the correctness of the account, if the plaintiff, at the time of bringing his suit, indorses on the summons and complaint, or other original process, the fact that the account is verified by affidavit, unless the defendant, within the time allowed him for pleading, files in the cause an affidavit denying, on information and belief, the correctness of the account.

INFANTS.— If over 18 years of age infants may be relieved by order of court from the disabilities of non-age upon the filing of a petition and complying with other legal requirements. Such order gives to infant the right to sue and be sued, to contract, to buy, sell, and convey real estate, and do all acts as if an adult, unless the court restrict such rights. The order must be recorded in each county where the infant resides or does business.

INTEREST.— Legal rate 8 per cent. Agreed rate 8 per cent. Penalty for usurious contracts, loss of interest, and some cases, costs.

INTESTATE LAWS.— Where husband leaves no lineal descendants, and his estate is not insolvent, the widow is endowed with half his lands; when estate is insolvent, of one-third; when there are lineal descendants, of one-third, whether the estate is insolvent or uot. Realty descends, subject to dower and debts: 1. To children and descendants, the latter taking ancestor's share. 2. Father and mother in equal parts. 3. Wheu only one parent, one-half to brothers or sisters or descendants. 4. If but one surviving parent aud no brothers or sisters, or descendants of brothers or sisters, all goes to surviving parent. 5. If no children, nor parents, to brothers and sisters, and descendants of such as are dead, in equal parts. 6. If none to take under divisiou 5, then all to husband or wife. 7. If none to take under 5 or 6, then to next of kin of equal degree, in equal parts. 8. Then escheat to State. Personalty distributed same as realty, except that, if no children, the widow is entitled to all of personal estate; if but one child, to one-half; if more than one and not more than four, to a child's part; if more than four, to one-fifth. If intestate leave a husband, he is entitled to one-half of personalty and use of realty during life.

JUSTICES' COURTS.—Justices of the Peace have original jurisdiction in their respective counties, of all actions founded on any contract where the sum claimed does not exceed $100, of all actions founded on any wrong or injury where the sum claimed does not exceed $100, and of all actions for the recovery of personal property where the value does not exceed $100. The right of appeal from a judgment of a Justice is secured by law, but the case must be tried *de novo*. Justices have no jurisdiction whatever in cases of libel, slander, assault and battery when a weapon is used, and ejectment.

LEASES AND HOW TERMINATED.— If lease is for specified term, landlord cannot terminate it until end of term, except for violation by tenant of oue or more of its covenants. Lease of land for more than a year must be in writing. If tenant does not quit at end of term, or is permitted to occupy by sufferauce after term ends, without a new contract, landlord may on 6 days' notice institute proceeding to evict. If successful, the constable puts him in possession uuder a writ of restitution. Holding-over tenants, after possession is demanded, are liable for double rent.

MORTGAGES OF REAL ESTATE.— Any conveyance of real property must be recorded in the office of the Judge of the Probate Court in the county in which the property is situated, and the recording of such conveyance operates as a notice of the contents of such conveyance. Acknowledgments and proof of couveyances may be taken by any of the followiug named officers iu the State: Judges of the Supreme and Circuit Courts and their clerks, Chancellors, Registers in Chancery, Judges of Probate Courts, Justices of the Peace, and Notaries Public; and the following named officers out of the State: Judges and Clerks of any Federal Court, Judges of any Court of Record, Notaries Public and commissiouers appointed by the Governor of the State. No mortgage of a homestead is valid unless the wife's separate acknowledgmeut be made before the officer that she sign of her own free will and accord without fear, constraint, or threats on the part of her husband. Wife's separate estate caunot be mortgaged to secure payments of husband's debts.

PARTNERSHIP.— Limited partnerships for the transaction of any mercantile, mechanical, or manufacturing busiuess may be formed by the partners signing a certificate containiug the name of such partuership, the nature of the business to be transacted, the uames of the general aud special partners, distinguishing them and their respective places of residence, the amouut of capital contributed by each partuer, and the time when such partnership is to be commenced and terminated, which certificate must be filed with the Probate Judge of the county in which such business is to be transacted. The terms of the partnership must be published for 6 weeks iu two papers, otherwise the partnership shall be deemed general.

REPLEVIN.— No such action in this State. (See SALES.)

SALES.— A sale of business is fraudulent and open to disaffirmance by the seller when the purchaser was at the time thereof iusolvent or in failing circumstances and had the design not to pay for them, or had no reasonable expectation of being able to pay for them, and either represented that he was solvent or intended to pay for them, or had reasonable expectation of being able to pay, or failed to disclose his financial condition or the fact that he did not inteud to pay or expect to be able to pay for the goods, and creditor may sue in detinue for same.

STATUTE OF FRAUDS.— In the following cases every agreement is void, unless reduced to writing and signed by the party to be charged: Every agreement which is not to be performed within 1 year from the making thereof; every special promise to answer for the debt, default, or miscarriage of another, and every contract for the sale of lands or tenements or any interest therein, except leases for a term not longer than one year, unless the purchase money or a portion thereof be paid, and the purchaser be put in possession of the laud; every special promise by an executor or an administrator to answer damages out of his own estate; every agreement, promise, or undertaking, made upon consideration of marriage except mutual promises to marry; and every mortgage of personal property.

STATUTE OF LIMITATION.— Claims against estates of deceased persons, 18 months. Injuries and wages, 1 year. Accounts and book debts, 3 years. Notes and bills, 6 years; under seal, 10 years. Judgments, 20 years. Specialties, *i. e.*, iustruments of writing under seal, as bonds, contracts, deeds, mortgages, etc., which are not merely written but signed, sealed, and delivered by the party bound by them, 10 years.

ALASKA.

ACKNOWLEDGMENTS.— Any deed executed in auy State, Territory, or District of the United States may be executed according to the laws of such State, Territory, or District, and the execution may be acknowledged before any Judge of a Court of Record, Justice of the Peace, or Notary Public, or other officer authorized by the laws of such State, Territory, or District, to take the acknowledgment of deeds therein, or before any commissioner appointed for such purpose; but unless the acknowledgment be taken before such commissioner, or before a Notary Public certified under his notarial seal, or before a Clerk of a Court of Record certified under the seal of the court, such deed shall have attached thereto a certificate of the Clerk or other certifying officer of a Court of Record of the county or district within which such acknowledgmeut was taken, under the seal of his office, that the person whose name is subscribed to the certificate of acknowledgmeut was at the date thereof such officer as he is therein represented to be, and that he believes the signature of such person subscribed thereto to be genuine, and that the deed is executed and acknowledged according to the laws of such State, Territory, or District.

ARREST.— The defendant may be arrested in any action for the recovery of money or damages arising out of contract when he is about to remove from the Territory; in an action for a fine or penalty, or for money received or misapplied by a public officer, attorney, or agent; in an action to recover personal property unjustly detained, when same has been concealed or disposed of so that it cannot be found by the Sheriff; in cases of fraud in contracting the debt, and when the defendant has removed or is about to remove or dispose of his property to defraud creditors. No female can be arrested except for injury to person, character, or property. Before obtaining a warrant of arrest on civil process the plaintiff must make affidavit that the defendant has been guilty of some of the acts above mentioued justifying arrest, and give a bond in a sum not less than $300, and equal to the amount for which he demands judgment. Defendant may give bail to the amount mentioned in the writ either in cash or sureties. Sureties must be residents of the District and worth amount of bail in property not exempt from execution. If defendant is not bailed paymeut of his maintenance may be demanded of plaintiff and must be paid in advance.

ATTACHMENTS.— Attachment may issue: 1. In au action upon contract expressed or implied by the direct payment of money, where the contract is made, or is payable in the Territory, and is not secured by mortgage liens or pledge upon real or personal property; or if so secured, where such security has been rendered nugatory by act of the defendant; 2. In an action upon a contract expressed or implied against a non-resident. The writ is issued upon an affidavit showing the grounds for an attachment, and upon plaintiff giving bonds for at least $100 and equal to the amount for which he demands judgment, conditioned that plaintiff will pay all costs and damages sustained by reason of the attachment if the same has been wrougfully suited out.

CHATTEL MORTGAGES.— Chattel Mortgages must be filed with the Clerk of the District or Commissioner's Court. They expire by limitation in one year unless within 30 days before the expiration of the year an affidavit setting forth the interest which the mortgagee has is filed with the Clerk of the District showing the amount due thereon. Chattel mortgages may be foreclosed in the same manner as real estate mortgages, or a clause may be inserted authorizing the Marshal to exercise the power of sale therein upon default. In the latter case the Marshal can sell.

COMMENCEMENT OF SUIT.— Justices' Courts are always open. The return day named in the summons issued out of said courts must not be less than six, nor more than twenty days from the date thereof. An action is commenced by filing a complaint with the Clerk of the court. Summons is served by personally delivering a copy thereof to the debtor, or by leaving a copy at the usual place of abode of defendant, with some person of the family above the age of fifteen years. In the District Court the defendant must answer within thirty days after service of summous. In case of non-resident debtors, who have property in the Territory, the court may order service by publicatiou of the summons. Personal service of a copy of the summons and complaint out of the District shall be equivalent to publication and deposit in the post office.

COMMERCIAL PAPER.— Negotiable instruments payable on a holiday become due the next business day. The time in which an act is to be done is computed by excluding the first day and including the last, unless the last day fall upou Sunday or other non-judicial day, in which case the last day shall also be excluded. Three days of grace are allowed unless specially provided against. Acceptances must be in writing. The party liable for the contents of a foreign bill of exchange, drawn or endorsed in this Territory, protested for non-acceptance or non-payment, shall, in due notice and demand, pay the same on current rate of exchauge at the time of demand together with damages at the rate of 10 per cent. of the contents, and interest on said contents from date of protest. The provisions of inland bills of exchange are similar except the damages are 5 per cent. Checks, notes, bills of exchange, etc., may be made or drawn by telegraph.

COMMERCIAL TRAVELERS.— No license required.

CONTRACTS OF MARRIED WOMEN.— The property and pecuniary rights of every married woman at the time of her marriage, or afterwards acquired by gift, devise, or inheritance, or by her own labor, are not subject to the debts or coutracts of her husband, and she may manage, sell, convey, or devise the same by will to the same extent, and in the same manner that her husband can property belonging to him. For civil injuries damages may be recovered from a married woman alone, and her husband is not responsible therefor. Contracts may be made by a wife, and liabilities incurred, and the same enforced by or against her to the same extent and the same manner as if she were unmarried. All laws which impose or recognize civil disabilities upon a wife which do not exist as to the husband are repealed. Wife may record list of her property and such list is *prima facie* evidence of her separate ownership, and property not so registered is deemed *prima facie* the property of her husband. Neither husband or wife is liable for the debts or liabilities of the other incurred before marriage. Husband and wife may make conveyance and transfers and create liens between themselves, and either may constitute the other his or her attorney in fact. A woman becomes of age at twenty-one or upon being married according to law.

CORPORATIONS.— Municipal corporations and cemetery associations are the only domestic corporations allowed by law, but every corporation or joint-stock company organized under the laws of the United States, or of any state or territory, can, upon complying with certaiu requirements, do business in Alaska.

COURTS.— The District Court is a court of general and original jurisdiction in civil, criminal, equity, admiralty, and bankruptcy cases. It is divided into three divisions, with a Judge, Clerk, Marshal, and Attorney to each division. It also has appellate jurisdiction over the Commissioner's Courts in certain cases. From a final judgment of the District Court an appeal may be taken to the United States Circuit Court of Appeals and to the Supreme Court of the United States in cases and by the method prescribed by the United States Statutes. United States Commissioners are appointed by the Judges of the District Court whose jurisdiction extends throughout the District. In addition to their having all the powers of the United States Commissioners, they are ex-officio Justices of the Peace, Recorders, and Probate Judges. They have jurisdiction in civil actions where the amount claimed or value of the property in dispute does not exceed $1,000, except in actions where the title to property is involved, actions of an equitable nature, actions in admiralty, and some others. An appeal lies from the Commissioners to the District Court when the amount in dispute is not less than $50.

ESTATES OF DECEASED PERSONS.— Administration is granted as follows:— 1, To the widow or next of kin, or both, in the

discretion of the court; 2, to one or more of the principal creditors, or, 3, to any other person competeut and qualified whom the court may select. If deceased were a married woman administration shall iu any case be granted to the husband, if qualified, and he apply therefor. Non-residents of the District, minors, judicial officers, persons of unsound mind, or who have been convicted of a felony or of a uisdemeanor, involving moral turpitude, are not qualified to act as executors or administrators. Persons having claims against the estate must preseut them within six months of the date of uotice of appointmeut of administrator. Claims not presented within said six months are not barred, but cannot be paid until the claims presented within that period are paid. Claiuis are paid in the following order: 1. Funeral charge. 2. Taxes due the United States. 3. Expenses of last sickuess. 4. All other taxes. 5. Debts preferred by the laws of the United States. 6. Debts which at the death of the deceased were a lien upou his property, in the order of the priority of the liens. 7. Debts due for wages earned within ninety days immediately preceding death of decedent. 8. All other claims. The real property of an intestate descends as follows: 1. In equal shares to his or her children and to the issue of any deceased child by right of representatiou; and if there be no child of the intestate living at the time of his or her death, such real property shall descend to all his or her other lineal descendauts; and if all such descendants are in the same degree of kindred to the intestate, they shall take such real property equally; or otherwise, they shall take according to the right of representation. 2. If the intestate shall leave no lineal descendants, such real property shall desceud to his wife, or if the intestate be a married woman and leave no lineal descendants, then such real property shall descend to her husband, and if the intestate leave no wife nor husband, then such real property shall descend to his or her father. 3. If the intestate shall leave no lineal descendants, neither husband or wife, nor father, such real property shall descend in equal shares to the brothers and sisters of the intestate, aud to the issue of any deceased brother or sister by right of representation; but if the intestate shall leave a mother also, she shall take an equal share with such brothers and sisters. 4. If the intestate shall leave no lineal descendants, neither husband nor wife, nor father, brother, nor sister, living at his or her death, such real property shall descend to his or her mother, to the exclusion of the issue of the deceased brothers or sisters of the intestate. 5. If the intestate shall leave no lineal descendants, neither husband nor wife, nor father, mother, brother, nor sister, such real property shall descend to his or her next of kin in equal degree, excepting that when there are two or more collateral kiudred in equal degree, but claiming through different ancestors, those who claim through the nearest ancestor shall be preferred to those claiming through a more remote ancestor. 6. If the intestate shall leave one or more children, and the issue of one or more deceased children, and any of such surviving children shall die under age without having been married, all such real property that came to such deceased child by inheritance from such intestate shall descend in equal shares to the other children of such intestate, and to the issue of any other children of such intestate who shall have died, by right of representation. But if all the other children of such iutestate shall be also dead, and any of them shall have left issue, such real property so inherited by such deceased child shall descend to all the issue of such other children of the intestate in equal shares, if they are in the same degree of kindred to such deceased child; otherwise, they shall take by right of representation. 7. If the intestate shall leave no lineal descendants or kindred, such real property shall escheat to the United States. The widow of every deceased person is entitled to dower, or the use during her natnral life of one-third part value of all the lands whereof her husband died seized of an estate of inheritance. When any man and his wife are seized in her right of any estate of inheritance in lands, the husband, on the death of his wife, holds the lands for his life as tenant thereof by courtesy, although such husband and wife may not have had issue born alive.

EXECUTIONS.— May issue at any time within 5 years after entry of judgments and afterwards by leave of court.

EXEMPTIONS.— Books, pictures, and musical instruments to the value of $75; necessary wearing apparel to the value of $100, and $50 additional for each member of the family; tools, implemeuts, team (team is construed to mean not more than one yoke of oxeu or span of horses or mules, or two reindeer, or 6 dogs), harnesses, or library necessary for trade or profession to the value of $500, and sufficient food to support team for 60 days; 10 sheep with fleece or cloth manufactures therefrom; 2 cows, 5 swine, household goods aud utensils to the value of $300, also sufficient food to support such animals 3 months and a family for 6 months; seat of family in place of public worship. The earnings of a judgment debtor are exempt for work performed within 60 days previous to an execution or attachment.

GARNISHMENT.— Debts owing defendant or personal property in hands of third party may be garnisheed.

HOMESTEAD.— There is a homestead exemptiou of $2,500 if occupied by the family of the debtor, which, if cousistiug of farmland cannot exceed 160 acres, or, if consisting of town property not over one-quarter of an acre.

INSOLVENCY.— The United States Bankruptcy Laws uow govern all proceedings formerly brought under the insolvent laws of Oregou.

INTEREST.— Legal rate, 8 per cent. Agreed rate, 12 per cent. Penalty for usurious contract is the recovery of only the amount due without interest or cost.

JUDGMENTS.— A judgment is a lien on real estate from the time it is docketed, and lien expires if 10 years elapse without execution haviug been issued.

JURISDICTION OF COURTS.— The District Court consists of three divisions, one judge holdiug court at Juueau and Skaguay, one at Saint Michaels, and one at Eagle City and Valdez. The District Court is a court of general and original jurisdiction in civil, criminal, equity, aud admiralty cases. The Commissioner's Court has jurisdictiou of the United States commissioners, may graut writ of habeas corpus returnable before the District Court, has jurisdiction in civil cases for the amount claimed if value of the property in dispute does not exceed one thousand dollars, except where the title of real property is involved.

LIMITATION OF ACTIONS.— Civil action must be commenced within the following periods after the cause of action accrued: Withiu ten years, action for the recovery of real property, or the possession thereof; upon a judgment or decree of any court of the United States, or of any State or Territory within the United States; upon a sealed instrument. Within six years, action upon a contract or liability, expressed or implied, except judgment or sealed instrument; upou a liability created by statute, other than a penalty or forfeiture; for waste or trespass upon real property; for taking, detaining, or injuring personal property, including an action for the specific recovery thereon. Within three years, action against a marshal, coroner, constable upon a liability incurred by the doing of an act in his official capacity or in virtue of his office, or by the omission of an official duty, including the non-payment of money collected upon execution, but uot an action for an escape; action upon a statute for penalty of forfeiture, where the action is given to the party aggrieved, or to such party and the United States, except the statute prescribed a different limitation. Within two years: action for libel, slander, assault, battery, seduction, false imprisonment, or for any injury to the person or rights of another not arising on contract; upou a statute for a forfeiture or penalty to the United States. Within one year: action against the marshal or other officer for the escape of a person arrested or imprisoned on civil process; upon a statute for the penalty given in whole or in part to the person who will prosecute, but if not commeuced iu one year by private party may be within two years by the United States. Cause of action upon open, mutual, and current account is deemed to have accrued from the date of the last item. The time

that runs, when a person against whom a cause of action exists is out of the District or concealed within, is no part of the time limited. Persons insane, within the age of twenty-one, or imprisoned for less than life when the cause of action accrued may commence suit within 2 years after disability ceases. A case is taken out of the statute by a promise or acknowledgment in writing signed by the party charged or by payment of principal or interest. If cause of action arose outside of the District between non-residents of the District and is barred where the cause of action arose, no action may be maintained in the District.

MARRIED WOMEN.— Separate property of married women is not liable for any debts of husband, but may be charged with expenses of family and education of the children.

MECHANICS' LIENS.— Mechanics, artisans, machinists, contractors, lumber-merchants, laborers, and others performing labor or furnishing materials used in the construction, alteration, or the repair of any structure, have a lien on same for such work and material on the structure and so much of the land upon which the same is situate as may be required for the convenient use of the same if the same belonged to the owner of the structure at the time of the construction, or if a leasehold, then the estate of the lessee if the owner of the building has no estate in the land, then the structure may be removed. The lien thus created on the land is preferred to all subsequent mortgages, liens, and incumbrances on the same, and all prior when such lien is for alteration and repair. Original contractors must file liens within 60 days after completion of structure, others within 30 days after ceasing work or ceasing to furnish material, and all liens expire by limitation in 6 months unless suit is instituted. The act also provides liens for persons filling and grading lots or streets in front thereof in cities and towns on such lots for such labor. Liens are foreclosed by suits in equity as liens on real estate. Mechanics and material men also have a lien on boats for construction or repairs under Oregon statute which are enforced in admiralty.

PARTNERSHIP.— Limited partnerships are allowed.

REPLEVIN.— At commencement of an action or at any time thereafter, upon affidavit of bond with two or more sufficient sureties plaintiff may have personal property in dispute delivered to him pending the action. Defendant may, however, on giving bond conditioned for the delivery of property to the plaintiff, if delivery be adjudged, retain or recover possession of the property. Bonds must be for double of the property.

STATUTE OF FRAUDS.— Same as old English Common Law.

TAXES.— In addition to the regular internal revenue taxes and duties on imports, taxes are collected for the benefit of the United States, by requiring a license to be taken out and paid for before any person or corporation may engage in any (with a few exceptions) line of business or trade. The price of a license in the different lines of business and trades is from ten dollars to fifteen hundred dollars, but in some instances is determined by the amount of business done or extent of plant operated. One half of the money received for licenses in any incorporated town may be returned to it for school purposes. Incorporated towns may also impose and collect taxes on real and personal property, possessory rights, and improvements, and a license tax on different lines of business. Such tax on property shall not exceed one per cent. of the valuation. No bonded indebtedness is authorized.

ARIZONA.

ACKNOWLEDGMENTS.— The proof or acknowledgment of every conveyance affecting any real estate shall be taken by some of the following officers: 1. If acknowledged or proved within this Territory, by a Clerk of a Court having a seal, a Notary Public, a County Recorder, and a Justice of the Peace of the proper county; 2. If acknowledged or proved without this Territory, and within the United States, by a Clerk of some Court of Record having a seal, a Commissioner of Deeds duly appointed under the laws of this Territory, a Notary Public; 3. If acknowledged or proved without the United States, by a Minister, Commissioner, or Charge d'Affaires of the United States, resident and accredited in the country where the proof or acknowledgment is made. A Consul-General, Consul, vice-Consul, Commercial Agent, vice-Commercial Agent, Deputy Consul, or Consular Agent of the United States, resident in the country where the proof or acknowledgment is made. Every officer who shall take the proof or acknowledgment of any conveyance affecting any real estate, shall grant a certificate thereof, and cause such certificate to be endorsed or annexed to such conveyance. Such certificate shall be: 1. When granted by any Judge or Clerk, under the hand of such Clerk or Judge; 2. When granted by an officer, who has a seal of office, under the hand and official seal of such officer. The certificate of such acknowledgment, shall state the fact of acknowledgment, and that the person making the same was personally known to the officer granting the certificate to be the person whose name is subscribed to the conveyance as a party thereto, or was proved to be such by the oath or affirmation of a credible witness, whose name shall be inserted in the certificate and that he acknowledged the execution for purpose and consideration therein expressed. A Notary Public must also endorse the date of the expiration of this commission.

ASSIGNMENT.— Every creditor consenting to assignment, shall, within six months of the time of the first publication of the notice of the appointment of the assignee, file with such assignee a distinct statement of the particular nature and amount of his claim against the debtor, which shall be supported by an affidavit of the creditor, his agent or attorney, that the statement is true, that the debt is just, and that there are no credits or offsets that should be allowed against the claim, except as shown by the statement, and no creditors shall take any benefit under any assignment whatever who neglect to file such statement.

COLLECTION.— In general. A claim, debt, or demand for less than $300 may be collected in a Justice's Court when title to real estate is not involved. When over $300 in the District Court. Arrest and imprisonment for debt is not allowed except in cases of fraud. Attachment is allowed against non-residents, and against debtors in cases of fraud, whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Costs of suit are recovered by successful party, unless otherwise ordered. Plaintiff in any civil suit may be ruled to give security for costs within 10 days. Defendant must answer court summons within 10, 20, or 30 days according to locality, and a Justice's summons within 5, 10, 15, or 20 days. Executions within 5 years are executed by the Sheriff, and returnable in not less than 10 nor more than 90 days, unless stayed. The judgment of the Justice of the Peace, when a transcript thereof is filed in the office of the Clerk of the District Court of the county where rendered, is a lien upon the debtor's real estate in such county. The judgment is a lien upon personal property only upon the levy of an execution.

COMMENCEMENT OF SUIT.— Defendant is required to answer plaintiff's complaint in District Court: (1) If the defendant is served within the county in which the action is brought, ten days; (2) If the defendant is served out of the county, but in the district in which the action is brought, twenty days; (3) In all other cases, thirty days. When defendant is out of the Territory such summons shall be published at least once in each week for four successive weeks.

COMMERCIAL PAPER.— May be sued on by assignee in his own name, subject to all equities, if assigned after maturity, otherwise not. Protest may be had but without it parties may be held by suit commenced in proper court within 60 days after maturity. Three days' grace is allowed. Paper falling due on a legal holiday is payable or presentable on the next secular or business day. One or more joint, or joint and several, obligors may be released without affecting others. An apparent principal upon proper showing that he is surety only, may have judgment run against property of principal first, before reaching surety's property. Judgments on notes, etc., not over three years past due, may be

entered by Justice of the Peace, Judge, or Clerk of District Court in vacation, in verified complaint, and answer signed by defendant or his attorney, confessing amount for judgment.

COMMERCIAL TRAVELERS.— Are liable to the payment of a license of $50 for a quarter but it is a dead letter law and the courts will not enforce it.

CORPORATIONS.— May be formed under general laws by any number of persons, signing and acknowledging articles showing names of corporations and corporators, a principal place of business, nature of business, capital stock, term of corporation, officers, amount of iudebteduess, and whether private property shall be subject to corporate debts. Foreign corporations must file with Secretary of Territory aud Couuty Recorder authenticated copies of articles of incorporation and appoiutment of au agent upou whom service of protest may be had, before being enabled to transact any business in the Territory.

DAYS OF GRACE.— Grace is allowed on sight aud demand paper and on tiue paper. Saturday is not a half holiday. Notes maturing on Saturday are payable on the same day. Notes maturing on Sundays and holidays are payable the day after.

EXEMPTIONS.— The following property is exempt from execution· 1. There shall be reserved to every family exempt from attachment and execution, and every species of forced sale for the payment of debts, persôual property not to exceed in value the sum of five hundred dollars. 2. Every person who is the head of a family, and whose family resides within the Territory, may hold as a homestead, exempt from attachment, execution, and forced sale, real property to be selected by him or her, which said homestead shall be in one compact body, not to exceed in value the sum of $2,500. 3. It shall not be necessary for any person entitled to any exemption to claim such exemption until requested by an officer holding au attachment or execution against the property of such person, and upon being requested by the officer to designate the property claimed under this act, the person entitled shall designate the property claimed or exempt; if the person fails or refuses to claim when requested, the officer holding attachment or execution shall proceed to designate and set aside real estate not to exceed in value the sum of $2,500. 4. Property herein declared exempt shall not be exempt from seizure and forced sale on attachment and executiou, when the debt owing is for the purchase price or part of purchase price thereof, so long as such property or any part thereof shall be in the hands of the vendee. The earnings of the debtor for his personal services for thirty days next preceding the day of the levy, when it shall be made to appear by the debtor's affidavit or otherwise that such earnings are necessary for the use of a family, supported wholly or partly by his labor, shall be exempt. The property of counties, cities, and towns owned aud held only for public purposes, such as public buildings and sites therefor, fire engines and the furniture thereof, and all property used or intended for extinguishing fires, public grounds and other property devoted exclusively to the use and benefits of the public, shall also be exempted from forced sale; also all public libraries.

GARNISHMENT.— Garnishment may be had upon affidavit showing that an original attachment has issued or upon debt or judgment where defendant has no property within the knowledge of the affiant within the Territory sufficient to make the claim. The garnishee is made party defendant in a new action. Bond must be furnished in an attachment except when an attachment has issued.

INTESTATE LAWS.— No statutory dower. If intestate leave no husband or wife— 1. To children and their descendants. 2. If no children nor descendants, to father and mother equally. 3. If either father or mother be dead, half to survivor, other half to brothers and sisters, of deceased and to their descendauts. 4. If no such brothers, sisters nor descendants, all to surviving father and mother. 5. If neither father nor mother, whole to brothers and sisters of intestate aud their descendants. 6. If no kindred, half to materual, other half to paternal kindred; and if only one of these be living, one-half to survivor, other half to descendants of deceased grandparent. 7. If uo surviving grandparent, whole to their descendants.

If intestate leave husband or wife— 1. Third of personalty to survivor, remainder to children or their descendants; the surviviug husband or wife being entitled for life to one-third of intestate's land, with remainder to child, or children, or their descendants. 2. If no child, children, nor their descendauts, surviving husband or wife entitled to all personalty, and half of lands without remainder to any person, other half to be inherited according to rules of descent and distribution. But if deceased have neither father nor mother, theu surviving husband or wife takes whole estate.

INTEREST.— Legal rate 7 per ceut. Agreed rate, no limit. There is no penalty for usurious contracts.

LEASES AND HOW TERMINATED.— Whether for non-payment of rent for 5 days or for any other violation of covenants by tenant, landlord may take possession of premises without formal demand, which shall be tried, without notice, before any Justice of the Peace in not less than 5 nor more than 30 days. In tenancy from year to year tenancy termiuates at the eud of each year, unless written permission is given to remain. Thirty days' notice is required to teruinate a lease from month to uonth. When tenancy is for a defiuite period fixed in the lease, tenant is bound to surrender possession at end of term, and no notice to quit is necessary; but, as a rule, 10 days' notice is given.

LIMITATION OF ACTIONS.— There shall be commenced and prosecuted within five years after the cause of action shall have accrued, and not afterward, all actions or suits in court of the following description: 1. Actions for debt where the indebteduess is evidenced by or founded upon any contract in writing executed within this Territory. 2. Actions upon a judgment or decree of any court rendered without this Territory, or upon an instrument in writing executed without this Territory (Laws of 1891, Act 56, 16th Legislative Assemby). There shall be commenced and prosecuted within three years after the cause of action shall have accrued, and not afterward, all actions or suits, in courts of the following description: 1. Actions for debt where the indebtedness is not evidenced by a contract in writing; 2. Actions upon stated or open accounts other than such mutual aud current account as concern the trade of merchandise betweeu merchant and merchant, their factors or ageuts. (Revised Statutes of Arizoua, 1887, Sec. 2309.) Part payment does not prevent the statute running.

LICENSES.— Licenses are required of liquor dealers, peddlers, showmeu, brewers, and distillers.

MORTGAGES ON REAL ESTATE.— Mortgages on real estate must be recorded in the office of the County Recorder to be good, save as between the parties. "Power of sale" in a mortgage is valid.

PARTNERSHIPS.— Partners transacting business under a name not showing names of partuers must execute and acknowledge, as deeds are executed, and record with County Recorder a certificate showing all the names of all the partners with their residences.

REPLEVIN.— May be had by owner for personal property taken under execution by giving bond. Seals are not necessary to any instruments whatever, whether or not they affect real property.

STATUTE OF FRAUDS.— Avoids remedy upon action unless upon written memorandum, in these cases: to charge an executor or administrator as such, to charge one persou for the debt of another, upon agreement for marriage, for sale or lease of real estate for more than one year, and upon contract not to be perforuied within one year. Question of fraud is one of fact not of law. No assignment mortgage or lien upon a stock of merchandise is good.

WAGES.— Of clerks, servants, etc., in cases of attachment, execution, assignment, etc., for 60 days, not to exceed $200 are first claims payable out of proceeds upon notice to officer, assignee, etc., properly made and served. And in cases of death such wages are payable before claims or creditors.

ARKANSAS.

ACKNOWLEDGMENTS.— May be made before any court of the United States, or of any State or Territory having a seal, or the Clerk of any such court, or before a Notary Public, or before the Mayor of any city or town, or the chief officer of any city or town having a seal, or before a commissioner appointed by the Governor of this State. If taken within the State it may be before a Justice of the Peace. It must contain the words, "for the consideration and purposes therein mentioned." Act May 8, 1899, cures defective acknowledgments to date. Act March 9, 1901, cures defective acknowledgments to that date.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— The law provides that a debtor can be arrested in a civil action for recovery of debt, upon an affidavit made by the creditor that he believes, either that the debtor is about to depart from the State, with intent to defraud ; has concealed or removed from the State, his property, or so much thereof that the process of the court, after judgment, cannot be executed ; or that the debtor has money, or securities for money, or evidence of debt due him, in the possession of himself or others for his use, and is about to depart from the State without leaving property therein sufficient to satisfy the debt of the creditor. A writ of execution may issue (except against females) upon all judgments for fraud in the making of any contract. The benefit of prison rules is abolished, and all persons arrested on such writ shall be imprisoned in the county jail until they satisfy the judgment, or are regularly discharged as insolvent debtors.

BANKRUPTCY.— Promise to pay debt discharged by, must be in writing.

COLLECTION.—In general. A claim, debt, or demand for less than $300 may be collected in a Justice's Court. When over $100 in the Circuit Court. Arrest and imprisonment for debt is not allowed except in cases of fraud. Attachment is allowed against non-residents, and against debtors in cases of fraud, whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Costs of suit must be secured by non-residents in advance, or the suit will be dismissed. It is at least 10 days between the service of summons on the debtor and obtaining of judgment in the Circuit Court, and 5 days in Justices' Courts where the amount does not exceed $50. Execution can be stayed for 6 months, and cannot be issued until 10 days after judgment except for cause shown by plaintiff. The judgment of a Justice of the Peace, when a transcript thereof is filed in the office of the clerk of the Circuit Court of the county where rendered, is a lien upon the debtor's real estate in such county. The judgment is a lien upon personal property only upon levy of an execution.

COMMENCEMENT OF SUIT.— Where the defendant lives in the county or adjoining county ten days, elsewhere in the State twenty days, and out of the State sixty days prior to the first day of court. In chancery suits, writs must be served twenty days prior to the first day of the term to which suit is brought. In Justices' Courts, where amount claimed does not exceed $50, service need not be above five days. In Pulaski, Jefferson, and Garland Counties default can be taken in the Circuit Court in twenty days from the service of summons regardless of terms of court. This, however, only applies to Little Rock, Pulaski, Jefferson, and Garland Counties.

COMMERCIAL PAPER.— Governed by the law merchant as to days of grace, protest, and notice. Bills and negotiable promissory notes are on the same footing. Promissory notes and bonds not negotiable may be assigned, but are subject to all defenses between the parties. Acceptance must be in writing, and a refusal so to accept is equivalent to non-acceptance. Blank assignments are taken to be made most favorable to defendant, but the date may be proven. Bills of exchange, notes, etc., falling due on legal holidays are payable on the next day preceding, and may be noted and protested on such next preceding day, but notice and protest the next day after the holiday is valid and effectual. Notes, etc., given for patent rights and patent articles are subject to defense in the hands of innocent holders. The statute fixes certain damages to be awarded the holders of bills, expressed to be for value received, protested for non-acceptance or non-payment. In addition thereto the holder is entitled to costs of protest and interest from date of protest until paid at the rate of 10 per cent.

COMMERCIAL TRAVELERS.— No license is required.

CONDITIONAL SALE AGREEMENTS.— Conditional sales are valid in this State, and the vendor may retake the property from the vendee or from any third party so long as the conditions are not complied with.

CONSIGNMENTS.— The failure of a consignee to account for the consigned goods is a breach of trust only. The consignor has only the ordinary civil remedies. Whilst this is generally accepted, it is doubtful. Our Supreme Court has not yet so decided under our embezzlement law, and attorneys differ as to whether it is criminal or not.

CORPORATIONS.—No preferences shall be allowed among the creditors of insolvent corporations, except for wages and salaries of laborers and employees. Any creditor or stockholder of any insolvent corporation may institute proceedings in the Chancery Court for the winding up of the affairs of such corporations, and upon such application the court shall take charge of all the assets of such corporation and distribute them equally among the creditors, after paying the wages and salaries due laborers and employees. Every preference obtained or sought to be obtained by any creditor of such corporation, whether by attachments, confession of judgment, or otherwise, and every preference sought to be given by such corporation to any of its creditors, in contemplation of insolvency, shall be set aside by the Chancery Court, and such creditor shall be required to relinquish his preference and accept his *pro rata* share in the distribution of the assets of such corporation ; provided, that no such preference shall be set aside unless complaint thereof be made within 90 days after the same is given or sought to be obtained. When any Chancery Court shall obtain jurisdiction of any such insolvent corporations under the provisions of this Act, it shall direct notice to be given to all the creditors of such corporations to present their claims within 90 days thereafter for the purpose of sharing in the assets of such corporation.

NOTE.—By act approved February 16th, 1899, foreign corporations are required to appoint an agent upon whom service may be had, and to file a certificate of such appointment, together with a copy of its charter and pay a fee of one dollar. This amendment applies to corporations heretofore doing business in the State and which have complied with the former law, as well as those which may desire to come into the State after the passage of the act. By the terms of the act corporations heretofore doing business in the State have 90 days in which to comply with the same. Failure to comply will subject the company to a penalty of $1,000, and all contracts by them are declared void. In addition to the one dollar fee each corporation shall pay the fees required to be paid by corporations chartered under the laws of this State. The certificate must be signed by the president or other chief officer and designate its chief place of business in the State. (Act February 16, 1899, March 18, 1899, and May 8, 1899.) By act 1901, foreign corporations must also file copy of charter statement showing proportion of capital invested in this State, and certificate, with county clerk of county in which it has opened an office for the transaction of business.

Foreign Corporations.—Before any foreign corporation shall begin to carry on business in this State it shall, by its certificate under the hand of the president and seal of such company filed in the office of the Secretary of State, designate an agent, who shall be a citizen of this State, upon whom service, summons, and other process may be made. Such certificates shall also state the principal place of business of such corporation in this State. Service upon such agent shall be sufficient to give jurisdiction over such

corporation to any of the courts of this State. If any such foreign corporation shall fail to comply with the foregoing section, all its contracts with the citizens of this State shall be void as to the corporation, and no court of this State shall enforce the same in favor of the corporation. Any foreign corporation that has heretofore engaged in business, or made contracts in this State, may, within 90 days from the passage of this act, file such certificate with the Secretary of State, and thereon all their contracts made before this act goes into effect, are hereby declared as valid as if said certificate had been filed before they began business in this State. In case foreign corporation "doing business" in State does not appoint agent service of summons may be made on Auditor of State.

DAYS OF GRACE.—Grace is allowed on sight and demand paper and on time paper. Saturday is not a half holiday. Notes maturing on Saturday are payable the same day. Notes maturing on Sundays and holidays are payable the day before.

ESTATE OF DECEASED PERSONS.—Claims against deceased persons must be verified by affidavit of claimant, or his agent, or attorney, and must be presented for allowance within two years from date of letters executory of administration; such claims rank as to priority of payment: 1st, funeral expenses; 2d, expenses of last sickness, wages of servants, and demands for medicine and medical attendance during last sickness; 3d, judgments rendered against deceased in his lifetime, and which are or might be liens on lands of deceased, if he died possessed of any, otherwise to be regarded as debts due by contract; 4th, all demands without regard to quality (as notes, accounts, etc.), properly authenticated, presented to executor or administrator, within one year after grant of letters on the estate; 5th, all demands exhibited as aforesaid after the end of one year, and within two years after the first letters granted on the estate.

GARNISHMENT.—After judgment, garnishment may issue against any one indebted to defendant or having personal property belonging to him. Garnishment may also be issued before judgment by giving bond in double the amount garnisheed, except against railroad employees. All garnishments are subject to defendant's exemption rights. Laborers are allowed to exempt 60 days' wages when this with other property does not exceed exemptions allowed.

INTEREST.—Legal rate 6 per cent. Agreed rate 10 per cent. Contract is void as a penalty for usury.

INTESTATE LAWS.—Dower is one-third of lands, and absolutely one-third of personalty, unless latter be not over $300 when she takes all. If no children, dower is one-half of real and personal property. Intestate's estates descend, subject to debt and dower: 1. To children and their descendants in equal parts. 2. If no children, to father, then to mother, then to brothers or sisters and their descendants in equal parts; then to grandfather, grandmother, uncles, and aunts and their descendants in equal parts; and so without end passing equally to nearest lineal ancestor, and their children and descendants. If no paternal or maternal kindred, whole to wife or husband, and if none, to State. When no descendants, and estate came by father, it descends to father and his heirs; if by mother, to her and her heirs. In cases not provided for, descent is by common law. Husband entitled to courtesy where children have been born alive.

INSOLVENCY.—Any creditor or stockholder of an insolvent corporation may sue to wind up its business, and the court will take charge and distribute the assets equally between the creditors after paying the wages and salaries of employers and employees. Every preference given in contemplation of insolvency by such corporation may be vacated if complaint be filed within 90 days. Any insolvent debtor, on his own motion only, may be declared insolvent by the Chancery Court in which event the court takes charge of and distributes the assets of the debtor, after paying wages and salaries of laborers and employees, *pro rata* among creditors who agree to accept as satisfaction in full of their claims whatever amount may be realized *pro rata* out of the debtor's assets; the balance if any is paid to other creditors.

JUSTICES' COURTS.—Have exclusive jurisdiction in matters of contract not exceeding $100, and concurrent jurisdiction with Circuit Courts in same cases to $300, exclusive of interest. In replevin suits they have concurrent jurisdiction to $300, and in suits for damage to personal property concurrent jurisdiction to $100. Judgments may be stayed 6 months by giving bond with sureties to be approved by Justice.

LEASES AND HOW TERMINATED.—Where the relation of landlord and tenant exist, either by written lease to expire at a certain date, or tenancy by the month, etc., if tenant refuse to surrender possession at end of his term, or to pay rent when the renting is by the month, or at will, or by sufferance, the landlord may bring action in unlawful detainer, after 3 days' notice to quit. Tenant then has 5 days in which to give bond and retain possession until case is tried. If no bond is given in 5 days, the officer ejects tenant and puts landlord in possession. The following form of notice accords with the statutes:

HOT SPRINGS, ARK., ——, 19—.

To Wm. Wallace:

You are hereby notified that I demand that you quit and deliver to me, or to my agent, John Brown, on or before the —— day of ——, 19—, the possession of the house and premises No. —— —— Street, situated in Block —— in Hot Springs, Arkansas.

GEORGE CREW,
by John Brown, *his Agent.*

LICENSES.—State taxes for licenses are levied as follows: On hawkers and peddlers, for 6 months or less, $25; on clock peddlers, lightning-rod agents, and stove-range agents, and agents for insurance and mutual endowment companies, $100 for one year or less; on sewing-machine agents, $200 for one year or less; and on vendors of spirituous, vinous, and malt liquors, $300 to the State and $400 to the county for one year or less. Auctioneers are obliged to pay a license tax of $10 to the county in addition to a percentage on lands or goods sold.

MORTGAGES ON REAL ESTATE.—Must be acknowledged like chattel mortgages, and recorded in the Circuit Clerk's office of the county where the lands are situated.

REPLEVIN.—Is available in any action to recover specific personal property. The plaintiff must apply for the writ within one year after the cause of action accrued.

SPECIAL PARTNERSHIPS.—May be formed by one or more general partners and one or more special partners. General partners are liable jointly and severally. Special partners put in a specified amount and are not liable beyond it, but cannot withdraw it. They can do a merchantile, manufacturing, or mechanical business but not banking. They must file in the Circuit Clerk's office a certificate containing the name of the firm, general nature of business, names of general and special partners, distinguishing them by name as general or special, the amount of capital contributed by each partner, and the time of beginning and dissolution. A general partner must make affidavit that the special partners have paid their share. Terms of partnership must be published 6 weeks. Every alteration in names, business, or capital shares works a dissolution. Business must be carried on under name of general partners, without word, "Co." If a special partner takes part in management he is liable as general partner.

STATUTE OF FRAUDS.—The following engagements must be in writing and signed by party to be charged: To charge an administrator to answer for a debt or a damage out of his own estate; to charge any one for the debt, default, or miscarriage of another; an agreement in consideration of marriage; a contract for the sale of land, tenements, and hereditaments, or an interest in them; a lease of lands, etc., for a longer term than one year; an agreement not to be performed within a year. No contract for sale of goods of $30 in value is binding unless in writing or vendee accepts part or gives something in earnest of the bargain.

STATUTE OF LIMITATION.—Claims against estates of deceased persons, 2 years. Injuries and wages, 3 years. Accounts

and book debts, 3 years. Notes and bills, 5 years. Judgments, 10 years. Specialties, i. e., instruments of writing under seal, as bouds, deeds, contracts, mortgages, etc., which are not merely written but are sigued, sealed, and delivered by the parties bound by them, 5 years.

VENDOR'S LIENS.—The vendor of personal property iu a suit for the purchase money may specify the particular property claimed and may have it taken by the officer to await final judgment, but can only do so while the property is still in the hands of the vendor. The vendee cannot schedule property not paid for as exempt from execution under our exemptiou laws.

CALIFORNIA.

ARREST AND IMPRISONMENT ON CIVIL PROCESS.—The defendant may be arrested in a civil action in the following cases: 1. In an action for the recovery of money or damages on a cause of actiou arising upon contract, expressed or implied, when the defendant is about to depart from the State, with intent to defraud his creditors. 2. In an action for a fine or penalty, or for money or property embezzled, or fraudulently misapplied, or converted to his own use, by a public officer, or au officer of a corporation, or an attorney, factor, broker, agent, or clerk, in the course of his employment as such, or by any other person in a fiduciary capacity; or for misconduct or neglect in office, or in a professional employment, or for a wilful violation of duty. 3. Iu an action to recover the possession of personal property unjustly detained, when the property or any part thereof has been concealed, removed, or disposed of, to prevent its being found or taken by the Sheriff. 4. Wheu the defendaut has been guilty of a fraud in contracting the debt, or incurring the obligation for which the action is brought; or in concealing or disposiug of the property, for the taking, detention, or conversion of which the actiou is brought. 5. When the defendant has removed or disposed of his property, or is about to do so, with intent to defraud his creditors.

COLLECTION.—In general. A claim, debt, or demand for less than $300 may be collected in a Justice's Court and when over $300 in the Superior Court. Arrest and imprisonmeut for debt is not allowed, except in cases of fraud or intended removal from State. Attachment is allowed against nou-residents and against debtors in cases of fraud, whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Costs of suit uust be secured in advance, and are allowed to the party recovering judgment. Non-residents may be required to give security for costs. It is at least 10 to 30 days between the service of summons on the debtor and obtaining of judgment in the Superior Court, and 5 to 20 days in Justices' Courts, according to locality. Execution may issue from the Superior Court at any time within 5 years after judgment. The judgment of a Justice of the Peace, when a transcript thereof is filed and recorded in the office of the Recorder of the county where rendered, is a lien upon the debtor's real estate in such county. The judgment is a lien upon personal property only upon levying of au execution.

COMMENCEMENT OF SUIT.—In the Superior Courts the defendant is allowed ten days after the service of summons aud complaint to appear and answer the complaint, where service is made within the couuty in which the actiou is brought; thirty days if served elsewhere. In Justices' Courts five days are allowed defendant to auswer where summous is served in the township where action is brought; ten days if served out of the township but in the county in which action is brought, aud twenty days if served elsewhere.

COMMERCIAL PAPER.—There are no days of grace. Notes, bills of exchange, etc., falling due on Sunday or a legal holiday are payable or presentable for acceptance or payment ou the next succeeding business day. The statute of limitations commences to run from date of demand paper. But in determining whether paper is taken with constructive notice of dishonor, the apparent maturity of a promissory note payable at sight or on demand is, if it bears interest, one year after date; if it does not bear interest, 6 months after date; bills of exchange one year if with interest, without interest 10 days in addition to the time which would suffice with ordinary diligence to forward it for acceptance. Indorsement, presentation, protest, notice, etc., of bills of exchange and promissory notes are fully governed by Civil Code under provisions very similar to common law principles.

COMMERCIAL TRAVELERS.—There is no law in this State for the collection of license tax from commercial travelers as such, but the State statutes provide that every traveling merchant, hawker, or peddler who carries a pack and vends goods, wares, or merchandise of any kind, other than the manufactures or productions of the State, must pay for license. The matter is largely regulated by municipal ordinances and they are not uniform throughout the State.

CONSIGNMENTS.—If the consignee fraudulently converts to his own use the consigned goods, he is guilty of embezzlement. The criminal prosecutiou will be barred in three years. The consignor has his civil action, and in such an action may cause the arrest of the consiguee if he has been guilty of fraud.

CORPORATIONS.—Are formed and controlled by general laws for any purpose for which individuals may lawfully associate themselves. Articles of incorporation must be subscribed by 5 or more persons, a majority of whom must be residents of the State, duly acknowledged and filed with the County Clerk, and a certified copy filed with the Secretary of State, and in order to safely purchase, locate, or hold property in any other county than the one where the original articles are filed, it is necessary to file suitably certified copy in such other county. Each stockholder of the corporation is individually aud personally liable for such proportion of its debts and liabilities contracted while he is a stockholder, as the amount of stock or shares owned by him bears to the whole of the subscribed capital stock or shares of the corporation, and for a like proportion only of each debt or claim against the corporation. Such liability is primary and origiual and cannot be limited or postponed by legislation because fixed by constitution. Incorporations having no capital stock, each member is individually and personally liable for his proportion of its debts and liabilities. Liabilities of stockholders of foreign corporations doing business in the State are the same as those of stockholders of domestic corporations. By the constitution directors or trustees of corporations and joint-stock associations are joiutly and severally liable to creditors and stockholders for all moneys embezzled or misappropriated by officers of corporation or joiut-stock association during term of office of such directors or trustees. The pledgee holding corporate stock as security has the right and, as an ordinary business precaution, should cause an entry of the transaction between himself and his pledgor to be entered upon the books of the corporation for his protection, as contemplated by Section 324 of the Civil Code. Such entry upon the books of the corporation should show the names of the parties by whom and to whom the stock is transferred, the number of the certificate, the number or designation of the shares, and the date of the transfer. Pledgee may by actual notice of his prior right to a subsequent intending purchaser or transferee also protect himself. In some cases the pledgee may surrender the certificates, have them canceled and have new ones issued to him.

DAYS OF GRACE.—Grace is not allowed on sight or demand paper or on time paper. By custom Saturday is a half holiday. Notes maturing on Saturday are payable on the same day. Notes maturiug on Sundays and holidays are payable the day after.

ESTATES OF DECEASED PERSONS.—Superior Courts have jurisdiction of all matters relating to estates of deceased persons. Executors and administrators must publish notice to the creditors of the estate in a newspaper to present their claims within teu months from the first publication of the notice, if the value of the estate exceeds $10,000, or within four months if it does not. If the

claims are not presented within such time they are barred; but where the claimant has had no notice by reason of being out of the State, they may be presented any time before distribution of the estate. Every claim must be supported by an affidavit that the amount is justly due, that no payments have been made thereon which are not credited, and that there are no offsets to the same to the knowledge of affiant. If the claim is rejected suit must be brought within three months, if due then, or within two months after it becomes due. Order of persons entitled to administer: 1. The surviving husband or wife, or some competent person whom he or she may request to have appointed. 2. The children. 3. The father or mother. 4. The brothers. 5. The sisters. 6. The grandchildren. 7. The next of kin entitled to share in the distribution of the estate. 8. The public administrator. 9. The creditors. 10. Any person legally competent. If the deceased was a member of a partnership at the time of his decease, the surviving partner must in no case be appointed administrator of his estate. A married woman must not be appointed administratrix. No person is competent or entitled to serve as administrator unless he is a *bona fide* resident of this State.

GARNISHMENT.— Any person owing debts to defendant, or having in his possession or under his control any credits or other personal property belonging to defendant, may be required to attend before the court, or judge, or referee, and be examined on oath respecting same. After such examination, court or judge may order delivery to sheriff, upon suitable terms, of personal property capable of manual delivery, and a memorandum of all other personal property, and upon due service of copy of writ and notice such persons may be held under garnishment proceedings, liable to pay to attachee or execution creditor or to sheriff the amount of indebtedness to defendant or deliver to sheriff such personal property.

INSOLVENCY. — May be declared either upon the party's own petition or the petition of five or more creditors, residents of the State, whose debts or demands accrued in the State, and amount in aggregate to not less than $500, provided that said creditors, or either of them, have not become creditors by assignment within 30 days prior to filing of said petition. In voluntary insolvency the petitioner must have residence in the county for 6 months next preceding the filing of petition, and must owe debts exceeding $300 in amount. At any time after expiration of 3 months and before 1 year, from adjudication of insolvency, the debtor may apply to the court for a discharge from his debts. False swearing, fraud, and many acts amounting to gross and wilful neglect, prevent petitioner's discharge. Fraudulent debts, and those arising from a fiduciary relation, are not discharged. Concealment of property, falsification of accounts, and records and creation of fictitious debts, etc., subject insolvent to punishment by imprisonment in county jail for not less than 3 months nor more than 2 years. Statutes provide for similar proceedings to adjudge corporations or partnerships insolvent, but corporations are not discharged from their debts. (Suspended by National Bankruptcy Laws, except as to proceedings commenced before July 1, 1898.)

INTEREST.— Legal rate, 7 per cent. Agreed rate, no limit. There is no penalty for usurious contracts.

INTESTATE LAWS.— No dower right in the State. Intestate's property descends to heirs subject to control of Probate Court, and is thus distributed: If survivor be husband or wife and only one child or issue of one child, in equal shares to surviving husband or wife and child, or issue of such child. If more than one child, one-third to surviving husband or wife, balance equally to children and to lawful issue of any deceased child. If no child living, remainder to all lineal descendants equally, if of same degree of kindred; if not, then by right of representation. If no surviving husband or wife, to children and their issue, by right of representation, share and share alike. If no issue, one-half to surviving husband or wife, other half to father and mother in equal shares, or to survivor if one be dead. If no father or mother, one-half in equal shares to brothers and sisters, or to their issue, by right of representation. If no issue, or husband or wife, to mother and father, or survivor, or, if both be dead, in equal shares to brothers and sisters, and to children of deceased brothers and sisters, by right of representation. If decedent leave husband or wife, but no issue and no father, mother, sister, or brother, whole estate to surviving husband or wife. If neither issue, husband, wife, father, mother, sister, or brother, to next of kin in equal shares, those claiming through nearest ancestor preferred.

LEASES AND HOW TERMINATED.— Lease of property other than lodging or dwelling house, where there is no other usage, presumed to be for 1 year. Lease of lodging or dwelling houses, presumed to be for such length of time as parties agree upon to pay and receive rent. If monthly, then the lease is for a month. If no time be fixed for payment of rent, the lease is monthly. If tenant remains beyond term, and landlord accepts rent, the term is renewed for the same time and terms not exceeding 1 month if the term is monthly nor in any case exceeding one year. Terms of leases from month to month may be changed by the landlord on 15 days' notice to take effect at the end of the month. If tenant continues to hold, it shall be on the conditions specified in the notice. Tenancy at will may be terminated by notice to remove within 1 month. If a tenant continue to hold without permission of the landlord and after default of rent according to agreement and 3 days' notice in writing requiring payment or possession, is unlawful detainer. Such notice may be served at any time within 1 year after rent is due. In leases of agricultural lands where tenant has held over for more than 60 days, he is entitled to hold for a full year. Assignment or subletting by a tenant contrary to lease covenants terminates the lease upon 3 days' notice.

LICENSE.— Necessary for all occupations.

LIENS.— Demands for services rendered, for supplies furnished, work done on material furnished, wharfage and anchorage, non-performance or mal-performance of certain contracts, injuries committed, are in many cases preferred claims and liens under California statutes upon steamers, vessels, and boats, with priority in the order mentioned, but continue in force only one year from the time cause of action accrued. In assignments for benefit of creditors or insolvency proceedings, and as against attachments and suits on most causes of action, the wages of minors, mechanics, salesman, servants, clerks, or laborers, to the amount of $100 each, and for services rendered within 60 days previously, are preferred claims.

LIMITATIONS.— Real property actions by the State must be brought within 10 years, by others within 5 years. Actions must be brought within 5 years on any judgment or decree of any court of the United States, or within any State within the United States. Actions must be brought within 4 years upon any contract, obligation, or liability, founded upon an instrument in writing executed in the State. Within 3 years, upon liability created by statute, other than a penalty or forfeiture; for trespassing on real property; for taking, detaining, or injuring goods or chattels, including actions for specific recovery of personal property; for relief on ground of fraud or mistake; the cause of action in such case not to be deemed to have accrued until discovery of aggrieved party of facts constituting frauds or mistake. Within 2 years upon contract, obligation, or liability not founded upon an instrument of writing, or founded upon an instrument of writing executed out of the State; to recover damages for death by the wrongful act or neglect of another. Within 1 year upon certain statute for penalty for forfeiture; against municipal corporation for damages or injuries to property caused by mob or riot. Within 6 months against officer, or officer de facto, to recover certain personal property of value thereof, or damages in making seizures, and to recover stock sold for delinquent assessment. Actions on claims against county which have been rejected by board of supervisors must be commenced within 6 months after first rejection. Other actions not provided for must be commenced within 4 years after cause of action accrues. There is no limitation as to the time within which action may be brought to recover money or other property deposited with any bank, banker, trust company, or sav-

ings and loan society. Time of absence is not part of time limited for commencement of action, and certain disabilities existing when cause of action accrued prevent the statute running during such disability. When a person entitled to bring action dies before the expiration of time limited for commencement thereof, and cause of action survives, action may be brought by representatives after expiration of that time and within 6 months from death. If a person against whom an action may be brought die before the expiration of the time limited for the commencement thereof, and the cause of action survive, an action may be commeuced against his representatives after the expiration of that time and within 1 year after the issuing of letters testimentary or of administration. No acknowledgment or promise is sufficient evidence of new or continuing contract by which to take case out of operation of statute of limitations unless same is contained in some writing signed by a party to be charged thereby. When a cause of action has arisen in another State or in another country, and by the laws thereof an action thereon cannot there be maintained by reason of the lapse of time, au action thereon cannot be maintained against him in this State except in favor of one who has been a citizen of this State and who has held the cause of action from the time it accrued.

MORTGAGES.—Can be created, renewed, or extended only by writing duly executed and acknowledged. They are incidents of debt, but do not bind mortgagors personally in absence of expressed covenant to that effect. Must be recorded to avail agaiust subsequent transfers or incumbrances. Mortgages are held strictly to lien character.

PARTNERSHIPS.—General, special, and mining partnerships are provided for under exhaustive provisious of Civil Code.

STATUTE OF FRAUDS.—Is substantually the same as the English statute, except that an agreement authorizing or employing an agent or broker to purchase or sell real estate for compensation or a commission must be in writing, and that the sale, transfer, or assignment of a stock in trade in bulk, or in any manner otherwise than in the ordinary course of trade and in the regular and usual practice and method of business of the vendor, transferer, or assignor, will be conclusively presumed to be fraudulent and void as against the existing creditors of the vendor, transferer, or assignor, unless at least 5 days before the consummation of such sale, transfer, or assignment, the vendor, transferer, or assignor, or the (intended) vendee, transferee, or assignee shall record in the office of the County Recorder in the county or counties in which the said stock is situated, a notice of said intended sale, transfer, or assignment, stating the name and address of the intended vendor, transferer, or assignor, and the name and address of the intended vendee, transferee, or assignee, and a general statement of the character of the property or merchandise intended to be sold, assigued, or transferred, and the date when, and the place where, the purchase price, if any there be, is to be paid; provided, nevertheless, that if such inteuded sale is to be at public auction, the notice above required to be recorded shall state that fact, the time, terms, and place of said sale, the names aud addresses of the vendor and auctioneer, and a general statement of the character of the property or merchandise intended to be sold, but such sale shall in no event occur within 5 days of the date of recordation of said notice; provided further, that these provisions shall not apply or extend to any sale, transfer, or assignment made under the direction or order of a court of competent jurisdiction, or by an executor, administrator, guardian, receiver, or other officer or person acting in the regular and proper discharge of official duty, or in the discharge of any trust imposed on him by law, nor to any transfer or assignment made for the benefit of creditors generally, nor to any sale, transfer, or assignment of any property exempt from execution.

COLORADO.

ACKNOWLEDGMENTS.—In deeds, bonds, and agreements in writing conveying lands or any interest therein, executed within this State may be taken before any Judge, Clerk, or Deputy Clerk of any Court of Record; such Judge and such Clerks severally certifying the acknowledgment under the seal of their respective courts; before the Clerk aud Recorder of any county, under the seal of such county; before any Notary Public, under his official seal; and before any Justice of the Peace, provided that if the conveyance be of land situated beyond the county of such Justice of the Peace, his official character and signature be certified to by the Clerk and Recorder of the proper county, under his hand and seal of the county. When executed out of this State, and withiu the United States or Territories, acknowledgments may be taken before the Secretary of any such State or Territory, certified by him under the seal of such State or Territory, before the Clerk of any Court of Record of such State or Territory, or of the United States, within such State or Territory, having a seal, such clerk certifying the same under the seal of such court; before a Notary Public of such State or Territory, he certifying the same under his notarial seal; or before any other officer authorized by the laws of such State or Territory to take and certify acknowledgments, provided there shall be affixed to the certificate of such officer, other than above enumerated, a certificate of the Clerk of some Court of Record of the county, city, or district wherein such officer resides, under the seal of such court, that the person certifying such acknowledgment is the officer he assumes to be, that he has the authority by the laws of such State or Territory to take and certify such acknowledgment, and that the signature of such officer is the true signature of such officer; or before any commissioner of these for such foreigu State or Territory, appointed under the laws of this State, he certifying the same under his hand and official seal. When executed out of the United States, acknowledgments may be taken before any Court of Record having a seal, the Judge or Justice of such court certifying the acknowledgment to have been made before such court under the seal of such court; before the Mayor or other chief officer of any city or town having a seal, he certifying the same under such seal; before any consul of the United States within such foreign country, he certifying the same under the seal of his consulate. Witnesses aud seals are unnecessary.

FORM OF ACKNOWLEDGMENT:

State of Colorado, } ss.
County of—— }

I,——Notary Public in and for said county, in the State aforesaid, do hereby certify that——who——personally known to me to be the person——whose name——subscribed to the anuexed instrument, appeared before me this day in person and acknowledged that——signed, sealed, and delivered the said instrument of writing as——free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this——day of——A. D.——.

My commission expires——19——.

.....
Notary Public.

When it is intended to convey a mortgage or homestead, the wife must freely and voluntarily, separate, and apart from her husband, sign and acknowledge the instrument, and the officer taking the acknowledgment must apprise her of her rights and the effect of her signing the instrument. And the officer must, in his certificate of acknowledgment, state that both parties are known, or were proven, to be such persons on the oath of a credible witness.

ACTIONS.—The distinction between actions of law and suits in equity, and the distinct forms of actions are abolished by the provisions of the Civil Code, under which there is but one form of civil action for the enforcement or protection of private rights and the redress or prevention of private wrongs, which is the same at law and in equity. All actions must be prosecuted in the name of the real party in interest. Civil actions are commenced by the fil-

ing of the complaint with the Clerk of the Court in which the action is brought, or by the service of summons. The complaint must be filed within 10 days after the issuance of summons. The summons may be signed by the Clerk directed to the defendant, to be issued under the seal of the court; or it may be signed and issued by the attorney for plaintiff. It must state the parties to the action, State, county, and court in which it is brought, and require the defendant to appear and answer within 20 days after service if served in the county in which the action is brought; or if served out of the county, or by publication, within 30 days after the service of summons, exclusive of the day of service, or that judgment will be taken by default according to the prayer of the complaint. The summons shall also state briefly the sum of money or other relief demanded; but a misstatement of the cause of action will not invalidate the summons unless it be manifestly misleading. If a copy of the complaint is not served with the summons, or if service is made out of the State 10 days additional time is allowed for appearance and answer. A summons is served by delivering a copy to the defendant or by leaving a copy at his usual place of abode with some member of the family over the age of 15 years; or at his usual place of business with his clerk or bookkeeper, if he has one. Against a corporation, when suit is brought in the county in which such corporation has its principal office or in which its principal business is carried on, service is made by delivering a copy to the president or other chief officer, or to the secretary, cashier, treasurer, or general agent thereof; but if no such officer can be found in the county in which the action is brought, then by delivering a copy to any stockholder; in all other cases service is made on such corporation by delivering a copy of the writ to the principal local or station agent, resident and employed in the county where the suit is brought. Service by publication can only be made after summons has been issued, and a return thereon made that the defendant, after diligent search cannot be found. Ten days must elapse after the issuance of the summons and before publication. Publication is made by an order of the Clerk of the proper court; but can be made only in cases of attachment, foreclosure, claim and delivery, divorce, or other proceedings where specific property is affected, or, the proceeding is one *in rem*. After such return, the plaintiff may file in the Clerk's office an affidavit stating that the defendant resides out of the State, or has departed from the State without the intention of returning, or conceals himself to avoid service of process, and giving his post-office address if known, or stating that his post-office is unknown to affiant. Whereupon the order is made by the Clerk, which directs the publication to be made in a newspaper published in the county. The publication must be made at least once a week for four successive weeks. When the affidavit gives the post-office address of the defendant, the Clerk must mail a copy of the summons to defendant at such address. Service by publication is deemed complete at the expiration of 10 days from the date of the last publication. When no newspaper is published in the county, the Clerk must designate a newspaper published in some adjoining county. Actions for the following causes are to be tried in the county in which the subject of the action, or some part thereof, is situated: For the recovery of real property, for injuries to real property, for the partition of real estate, and foreclosure of mortgages. The following are to be tried in the county where the cause, or some part thereof, arose: for the recovery of a penalty or forfeiture, imposed by statute, against a public officer or person especially appointed to execute his duties; for an act done by him in virtue of his office, or against a person who, by his command, or in his aid, does anything touching the duties of such officer; or for a failure to perform an act or a duty required by law; all other actions are to be tried in the county in which the defendants, or any of them, may reside at the commencement of the action, or in the county where the plaintiff resides when service is made on the defendant in such county; or if the defendant be a non-resident, the action may be tried in any county in which the defendant may be found, or in the county designated in the complaint, or if the defendant is about to depart from the State, the action may be tried in any county where the plaintiff resides, or where the defendant is found and service had; actions on book accounts, or for goods sold and delivered, may be tried in the county where plaintiff resides, or in the county where the goods were sold; actions on contracts may be tried in the county in which the contract was to be performed; actions upon notes or bills of exchange, in the county where the same are payable; actions for torts in the county where the tort was committed. The court may, on good cause shown, change the place of trial; when the county designated is not the proper county; when there is reason to believe that an impartial trial cannot be had therein; when the convenience of the witnesses, and the ends of justice, will be promoted by the change; or when, for any cause, the Judge is disqualified. The disqualification of the Judge cannot operate to change the venue where a competent Judge of another District Court will appear and try the action, or where the parties to the action agree upon an attorney to preside at the trial.

ASSIGNMENT LAWS.—1. Does there exist in this State a separate or distinct assignment, insolvency, or bankruptcy law?—A. Yes; an assignment and bankruptcy law.

2. Does the law in this State permit the debtor to make a prefereutial assignmeut?—A. No.

3. Can a judgment by default or confession be given in favor of relatives or friends, thus defeating the efforts of general or outside creditors?—A. A judgment by default can be given if *bona fide*.

4. Can a conveyance or transfer of property be made immediately anterior to assignment and still be held valid?—A. Not within three months before.

5. Can a debtor in this State obtain a discharge from his obligations without the unanimous consent of creditors?—A. Yes.

6. Does the acceptance of a dividend from an estate under assignment discharge the debtor?—A. Yes, if law be constitutional.

7. What is the position of creditors who do not come into an assignment, should one be made?—A. Their claims are secondary to those filed within three months after the assignee has mailed notice of assignment, unless such creditors can show that they did not receive such notice.

SYNOPSIS OF ASSIGNMENT LAW.—Any person, partnership, association, or corporation, may make a general assignment for the benefit of his creditors, by deed duly acknowledged, and filed for record in the office of the Clerk and Recorder of the county where the assignor resides, or if non-resident, where his principal place of business in the State is; shall vest in the assignee in trust, for the benefit of such creditors, all the property of assignor not exempt from execution, subject, however, to all valid and subsisting liens. The assignor must within four days from the date of such assignment render to the assignee an inventory of his property to the best of his knowledge with its estimated value, and a list of all creditors, and a list containing the names, residences, and post-office addresses, if known, of his creditors, and the amount of their respective demands. An omission of any property shall not defeat the assignment, and such assignment by an insolvent or in contemplation of insolvency is invalid unless by its terms it be made for the benefit of all its creditors, in proportion to the amount of their claims. The assent of the creditors shall be presumed. The assignee shall within six days from the date of filing the deed of assignment, file, with the Clerk of the District or County Court of the county in which such deed of assigument is recorded, an inventory of the valuation of the property of the assignor under oath so far as the same has come to his knowledge, and shall give bonds in favor of the people of the State of Colorado, for the use of the creditors, in double the amount of the inventory or valuation, with sureties to be approved by the court for the faithful performance of said trust and for the full and complete accounting of all property which has come into his hands. Until this is done, assignee shall have no power to sell or dispose of the property. The assignee when qualified shall be an officer of court, and any interference with him in the discharge of his duties shall be contempt of court, and no suit shall be begun against him without permission of the court in which the assignment is pending.

8. Where real estate and any interest therein is conveyed, assignee shall file with the Clerk and Recorder of each county where the same is situated a notice of the assignment and the same shall be constrictive notice of the property described in such notice.

9. Assignee shall forthwith, and for the period of four weeks, publish notice of the assignment, in a newspaper in the county, and send notice to each creditor, containing statement estimated aggregate value of the property of assignor, estimated amount of liabilities, and notifying each creditor to present his claim, under oath, within three months. Claims filed within three months shall have priority over those filed thereafter, unless creditor can prove that he did not receive notice.

10. At the expiration of three months from the time of giving notice assignee shall file with the Clerk, a full list, under oath, of all creditors who have filed their claims, their residence, the amount claimed, and amount and value of security held. And also file a statement of all the proceedings, showing what money has come into his hands and all disbursements thereof.

11. Any person interested may appear, before a dividend shall be made, and file with the Clerk exceptions to the claim of any creditor, and the Clerk shall cause notice to be given to the creditor, which shall be served and returned as in the case of the summons, and within the time allowed to answer in an action at law the creditor shall file his reply. The court shall designate the time for hearing, and shall hear the proofs and render judgment thereon.

12. If no exception be made to the claim filed, or if the same has been favorably adjudicated, the court shall enter judgment in favor of the creditor against the assignor and order the assignee to make dividends of the assets in its hands in proportion to their claims.

13. The assignee shall be subject at all times to the supervision of the court, and may be compelled to file reports, and all conveyances of real estate and all sales of personal property by the assignee not in the usual course of business as conducted by the assignee, which shall not be valid until approved by the court. In case of the death of assignee named in the deed or neglect to file an inventory within ten days and give bonds, the court may, upon application of any person interested, appoint another assignee.

15. The court may remove assignee for good cause shown or upon petition of the majority of the number and value of the creditors, unless it shall appear to the court that such removal will not be for the best interest of the estate.

16. The assignee shall have all the powers of the assignor necessary to the execution of the trust and right, to sue for all property belonging to the estate.

17. When sureties on assignee's bond are not sufficient the court may order sufficient sureties to be given.

18. The assignee shall file an inventory of additional property that may come into his hands after the first inventory.

19. The court may compel the appearance of the debtor or other witnesses before the court, or commissioner to be appointed to testify as to matters relating to the trust, and the court may compel the debtor to deliver to the assignee any property embraced in the assignment.

20. No assignment shall be invalid because of the misappropriation of property by the debtor prior to the assignment, but assignee may recover such property. The debtor before assignment may convey or mortgage property in good faith.

21. Debts not due may be claimed.

22. A majority of number and value of the creditors may, in writing, appoint an attorney at law to represent the estate and inquire into the condition of the assignee. He may appear for assignee in all suits in behalf of the estate. But shall appear in behalf of creditors in examinations and suits against the assignee. The court may allow reasonable compensation to such attorney.

23. At any time after the assignment, the assignor, creditors, or the assignee, may agree in writing, that proceedings before the court be waived and such arrangements be made as may seem proper to them.

24. Before assignee shall be discharged, he shall file his final report, and shall send written notice to all creditors at least ten days before hearing. When the trust estate is fully closed the court may order the assignee and his sureties discharged from all liability.

25. Assignee shall close his trust within one year unless the court for good cause extends the time.

27. Valid claims of servants, employes, etc., of assignor for wages earned during six months next preceding the date of assignment, not to exceed $50, unpaid and held by person who earned the same, and all taxes assessed under the laws of the State or of the United States, shall be preferred claims.

28. Any creditor may maintain action on bond of assignee for damages which he may have sustained by reason of misfeasance of the assignee.

29. No mortgage or deed of trust for security shall be foreclosed within one year after making such assignment except under order of court, and no security shall be foreclosed otherwise than by suit, and when such claim shall be proved and allowed, the court may order foreclosure within and from the making of the assignment. Lien of such security will not be impaired by the suspension of the remedy.

30. Every person who shall hereafter make a general assignment, or who shall have an assignment still pending under the laws of this State, may be discharged from his debts of every character, except as otherwise provided, upon compliance with the provisions of this act.

31. Such assignor desiring a discharge from his debts shall after three months and within one year after filing his deed of assignment, if such deed is filed after the passage of this act, but if filed prior to the passage of this act, then within one year after the passage of this act, file with the Clerk of the Court where such assignment is pending his application for such discharge, in which he shall state the name and address of the assignee and creditors and the amount of their respective claims to which application shall be attached an inventory of all his property.

32. Said assignor shall annex an affidavit stating that the statements in the inventory are true, and that at no time during his insolvency has he disposed of his property for the benefit of himself and family in order to defraud any creditors, and has not created or acknowledged a debt for more than honestly due, and has never fraudulently contracted any debt now due, and has not paid, secured, or compounded with any of his creditors with the view of fraudulently obtaining the discharge prayed for, and has not used any portion of his property nor its proceeds within two months prior to the date in giving preference to any creditors.

33. Upon the filing of such application, the court shall make an order requiring all creditors to show cause, if any, why such assignor should not be discharge from his debts. And such order shall fix a day for hearing thereof, and shall require that a copy be published in a newspaper in the county for at least four weeks prior to the date of hearing, and a copy of such application be within five days sent by registered mail to each of the creditors of the assignor whose address is given or who has filed his claim.

34–39. The application shall be regarded as a complaint, and any creditor may file at least ten days previous to the date set for hearing his answer duly verified, setting forth the ground of his objections to such discharge, which answer must controvert one or more material allegations of the affidavit. All issues so formed shall be tried together. If the allegations of such application are not controverted they are to be taken as true. Upon demand of assignor or creditor, the case is to be heard by a jury, otherwise by the court. The verdict is to be recorded as in other cases and costs taxed against the unsuccessful party. When the jury cannot agree the merits are to be then tried by the court. The assignor may be examined on oath at the instance of a creditor and such creditor may contradict or impeach him.

40. Every creditor residing without the State who shall make proof of his claim against the assignor, or who shall accept any dividend from the assignee, or out of the estate, or shall in any way participate in the proceedings, shall be deemed a party to

such proceedings for the discharge of the assiguor. The order discharging the assignor from his debts shall be final and biuding upon such non-resident creditors, and all creditors residing within the State, subject to the right of appeal.

41. If it shall appear upon the hearing that the assignor has in all respects complied with the law, the court shall graut him a discharge from all his debts prior to the time of making such assignment, but if it shall appear that he fraudulently contracted a debt, such assignee will not be discharged from the debt so contracted; or if a creditor, at the time of such discharge, has a lien, the court will discharge the assignor for all purposes, except that of enabling the creditor to enforce his lien. When the assignor has giveu any preference in violation of this act, without any intention to defraud his creditors, and has in other respects complied with the act, he shall be entitled to his discharge, if within three months from the date of such finding, he causes such property to be conveyed to the assignee, or pays to the assignee the amount of such indebtedness so secured. The assignor may, however, pay necessary household expenses. The assignor shall not be discharged from any debt or obligation created in consequeuce of any defalcation as a public officer, executor, or in other fiduciary capacity, or any indebtedness to any person, incurred by payment of such fiduciary debt. Upon granting such discharge, a judgment shall be entered against the debtor, in favor of such of his creditors who have appeared for the sum allowed, and also a discharge thereof upon the docket. In any action brought against such debtor, a discharge so granted, may be pleaded as a bar to the recovery for any indebtedness or liability found due in such proceediugs, and included iu such judgment so entered.

44. Appeals may be taken by such assignor or by any creditor from final order or judgment, within the same time and the same manner as appeals in ordiuary civil actions, provided that the appeal bond shall be couditioned to pay the costs of the appeal only, and appeal by some creditors shall not suspend the discharge from the debt of creditors not appearing.

45. The discharge of any debtor shall not effect the liability of any surety, indorser, or joint-maker, or obligor of such assignor, or any other person liable for the same indebtedness.

46. Property acquired or liabilities incurred by assignor, subsequent to filing his petition for discharge, are not affected by such assignment or discharge. The County Court shall have concurrent jurisdiction with the District Court in matters of assignment where the amount involved shall not exceed $2,000, and no appeals will be allowed in such proceedings to the District Court.

48. Whenever such proceedings are pending in the County Court, and it shall be found the amouut involved exceeds the sum of $2,000, the entire proceedings shall be transferred to the District Court. The provisious of the code shall control all proceedings under this act, except as otherwise provided. The act relating to assignments, for the benefit of creditors is repealed. Approved May 5th, 1897; weut iuto effect August 4th, 1897.

COLLECTION.—In general. A claim, debt, or demand for less than $300 may be collected in a Justice's Court. When less than $2,000 in the County Court. When over $300 in the District Court. Arrest and imprisonment for debt is uot allowed except in cases of fraud. Attachment is allowed against non-residents, for iucorporations and against debtors iu cases of fraud whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Costs of suit must be provided for by bond in the case of nou-resident plaintiffs. It is at least 10 to 40 days between the service of summons on the debtor and the obtaining of judgment in the District or County Court, and 5 to 15 days in Justices' Courts. Execution may issue in Justices', County, and District Courts after entering of judgment. The judgment of a Justice of the Peace, when a transcript thereof is filed in the office of the Recorder of the county where rendered, is a lien upon the debtor's real estate iu such county. The judgment is a lien upon personal property only upon levy of an execution.

COMMERCIAL PAPER.—The act in force in New York is enacted here, declaring the law of negotiable paper, as approved by the courts, and defiuing the same under an act called "The Negotiable Instrument Act." Days of grace are done away with; paper coming due on a Sunday or a holiday is payable on the uext day, except that demand paper coming due on a day which is partly a holiday may be presented on that part of the day not a holiday. There is no protest on iuland bills. Foreign bills must be protested for non-acceptance or non-payment, or drawer or indorser are released.

CONDITIONAL SALES.—There are no statutes in Colorado on this subject; and conditional sales are not valid as against an innocent purchaser, for value, without notice of the conditions which were made to his vendor. It has been held, however, that when a purchaser has notice of such conditiou he is bouud thereby.

CORPORATIONS.—(See Actions.)—Any three or more persons may associate themselves together as a corporation by executing a certificate in writing, stating the name, the objects for which organized, the amount of capital stock, the number of shares, the term of its existence not to exceed twenty years (excepting in particular cases), the number of directors and the names of those who manage the affairs of the company for the first year, the name of the town or place and the county in which the principal office of the company is to be kept, and the name of the county or couuties in which its principal business is to be carried on. Oue certificate must be filed in the office of the Secretary of State, and one iu the office of the County Clerk and Recorder of the county where the principal business is carried on; and if the business of the corporation is to be transacted beyond the limits of the State, such fact should be stated in the certificate. They may sue and be sued; have a corporate seal, which they may alter or renew by filing an impression of the same with the Secretary of State; may own, possess, and enjoy such real aud personal property as may be necessary for the transaction of their business, and may from time to time sell and dispose of the same, when not required for the use of the corporation; may borrow money and pledge their franchises and property to secure the payment; and may have and exercise all the powers necessary to carry into effect the objects for which they are incorporated. But the directors of a miuing or manufacturing company canuot encumber the mines or plant of the corporation until the question has been submitted to the stockholders and a majority vote of all the shares of stock has been made in favor of such proposition; any mortgage or encumbrance without such consent is absolutely void. They may amend their articles in any respect, except as to the object for which incorporated. The corporate affairs are managed by a board of directors of not less than three nor more than thirteen, who must be stockholders and who, except for the first year, are annually elected by the stockholders, at such time and place as may be directed by the by-laws of the company. Public notice of the tiue and place of holding such elections must be published not less than ten days previous thereto, iu some newspaper printed nearest the place where the principal office of the company is kept, and also by delivering personally or depositing in the post-office, at least thirty days before the meeting a notice addressed to each stockholder; the election is by the stockholders, either in person or by proxy, provided a majority of the stock is represented; if a majority of the stock is not represented, the meeting may be adjourned for a period uot exceeding thirty days; all elections must be by ballot, and each stockholder is entitled to as many votes as he has shares of stock; provision is also made for a cumulative method of balloting for directors. The directors are elected to hold office until their successors are elected and qualified. When any vacancy occurs among the directors, it is filled for the remainder of the year in the manner provided by the by-laws. If an election of the directors does uot occur on the day designated by the by-laws, the company is not for that reason dissolved, but the directors may be chosen at any subsequent meeting of the stockholders at which a majority of the stock is represented; such meeting may be called by the directors or any two stockholders, by giving public notice of the time and place of the meeting, as provided by statute; if a majority of the stock is not

represented at such meeting, the same may be adjourned by the stockholders present for a period not exceeding sixty days. The officers are elected by the directors. And the directors may require official bonds. The by-laws of the company are made by the stockholders, unless the articles of incorporation provide that they are to be made by the directors. The stockholders are liable for the debts of the company to the extent of the amount that may be unpaid on their stock. After the payment of the last instalment of the capital stock, fixed and limited by the articles of incorporation, the president and a majority of the directors should make a certificate stating the amount of the capital stock so fixed and paid in; which certificate must be signed and sworn to by the president and a majority of the directors, and is recorded in the office of the Secretary of State and in the office of the Clerk and Recorder of the county where the business of the company is carried on. Every corporation, except railroad and telegraph companies, must keep at its principal office, or place of business, correct books of account of all its business; and all stockholders have the privilege at reasonable times of examining such books, accounts, and papers; and the failure to accord such privilege subjects the officer refusing to exhibit the same, to a penalty of not more than two hundred dollars. Stock may be issued to the amount of value of property purchased by the corporation, and necessary for its business; the stock so issued is taken as full paid stock and not liable to any further assessments; but in all statements, such stock must be stated or reported as being issued, not for cash, but according to the facts. Within sixty days from the first day of January in each year, every corporation must file a report, stating the amount of its capital and the proportion actually paid in and the amount of existing debts; which report must be signed by the president and be verified by the oath of the president or secretary, under its corporate seal, and filed in the office of the Recorder of Deeds of the county where the business of the company is carried on; and a failure to file such report (unless the capital stock of the company has been fully paid in, and a certificate made and filed as aforesaid), makes all the directors or trustees of the company, jointly and severally, liable for all the debts of the company contracted during the year next preceding the time when such report should have been made and filed; and until such report is filed. Meetings of directors are to be called according to the provisions of the by-laws; and no meeting of the directors can be held beyond the limits of the State unless so provided in the certificate of incorporation, or unless such meeting was authorized, or its acts ratified, by a vote of a majority of the stockholders at a regular meeting. Corporations may be dissolved on a vote of two-thirds of the entire stock, but a dissolution will not impair remedies against the corporations for liabilities previously incurred, nor will it take effect until all its debts are paid. Foreign corporations are permitted to do business in the State, provided they make a certificate signed by the president and secretary duly acknowledged, and file the same with the Secretary of State, and in the office of the Clerk and Recorder of the county in which such business is carried on, designating the principal place where the business of the corporation is to be carried on, and an authorized agent or agents in this State, residing at its principal place of business, upon whom process may be served. Such corporations are subject to all the liabilities, restrictions, and duties which are or may be imposed upon domestic corporations. No foreign corporation shall have or exercise any corporate powers or hold or acquire any real or personal property, franchises, rights, or privileges, or be permitted to do any business or prosecute or defend in any suit in this State, until all the fees prescribed by the act shall have been paid, and until it shall have received from the Secretary of this State a certificate, setting forth such full payment. And no foreign corporation can mortgage, pledge, or otherwise encumber its real or personal property to the injury or exclusion of any citizen or corporation of this State who are creditors of such corporation; and no mortgage of a foreign corporation, except railroad and telegraph companies, given to secure any debt created in another State, can take effect, as against a citizen or corporaton of this State, until all debts and liabilities due to any person or corporation in this State, at the time of recording such mortgage, have been paid or extinguished. Special provision is made by statute whereby a foreign corporation may mortgage its property to secure debts in other States. Every foreign corporation doing business within this State must file in the office of the Secretary of State a copy of their charter of incorporation; or in case such company is incorporated by a certificate under any general corporation law, a copy of such certificate and of such general corporation law, duly certified and authenticated by the proper officer of such foreign state, kingdom, or territory. No foreign corporation can effect a reconstruction, by liquidation or otherwise, so as to affect a citizen of this State, unless all of his rights and interests are fully recognized and protected. Special provisions are made by statute regulating particular corporations, such as banks, savings banks, trust deposits, and security associations, surety companies, title guaranty, toll road, ditch, flume, bridge and ferry, mining, telegraph, telephone, gas, and railroad companies; and also for corporations not organized for pecuniary profit, religious, educational, benevolent, cemetery, and charitable organizations and joint-stock companies. All corporations, both foreign and domestic, must under the revenue law, file a statement annually, and within sixty days from the first day of January, with the Secretary of State, showing business done during the preceding year; and must, also, within the same period, file an annual report with the Auditor of State as a basis for taxation.

ESTATES OF DECEASED PERSONS.— Demands against the estates of any testator or intestate are divided into the following classes: (1) all funeral and other expenses attending the last sickness; (2) all expenses of proving the will, taking out letters testamentary or of administration, settlement of the estate and physician's bills in the last illness of the deceased; (3) when any executor, administrator, or guardian has received money, as such his executor or administrator shall pay out of his estate the amount thus received and not accounted for; (4) all other debts and demands whatsoever and without regard to quality or dignity which shall be exhibited within one year from the granting of letters. All demands not exhibited within one year shall be forever barred, unless such creditor shall find other estate of the deceased not inventoried or accounted for by the executor or administrator, in which case his claim shall be paid *pro rata* out of such subsequently discovered estate; saving, however, to *femmes covert*, persons of unsound mind, or imprisoned or beyond the seas, the term of one year after their respective disabilities be removed, to exhibit their claim. Every executor or administrator shall fix a day certain at a term of the County (probate) Court within six months from the time of his qualification for the settling and adjusting of claims against the decedent. Notice thereof must be given by publication for four successive weeks prior thereto, in some daily or weekly newspaper printed in the county wherein such administration is had, requesting all persons having claims against the estate to present the same to the court on the day named in such notice. Estates are answerable for costs on all claims exhibited at or before said time, but not after. Persons having claims against the estate, upon giving the executor or administrator ten days' notice of the time they intend to present the same, with a copy of the account or instrument of writing whereon the claim is founded, may exhibit such claim against the estate at any term of court subsequent to the issuing of letters testamentary or of administration. After payment of all claims against the estate, and all legacies declared by the will, and the expenses of administration, the court shall direct the executor or administrator to distribute the surplus remaining in his hands among the heirs and next of kin, as provided by law or by the will. Creditors who have liens on the real estate cannot foreclose for one year after the death, unless permitted by the court, as provided by statute, and not until their claims have been allowed by the court.

GARNISHMENT.— Any person owing a debt to attachment defendant is subject to have such debt attached by writ of gar-

nishment at or any time after attachment writ is issued before judgment, and he is likewise subject to garnishment after judgment on issuance of proper writ. No money owing on negotiable instrument is liable to garnishment before due.

INSOLVENCY.—There is a law discharging insolvents. (See assignment.)

INTEREST.—Legal rate 8 per cent. Agreed rate, no limit. There is no penalty for usurious contracts.

INTESTATE LAWS.—Dower and courtesy abolished. 1. An estate of intestate descends to surviving wife or husband, if no children; but if children, or descendants of such, one-half to surviving husband or wife, other half equally to the children or their descendants, subject to debts of deceased. 2. To surviving children or descendants of such. 3. If no children nor their descendants, to the father; if no father, to the mother; if neither father nor mother, to brothers and sisters and their descendants in equal parts, descendants representing share of their ancestor. 4. If no relative above enumerated, to grandfather, grandmother, uncles, aunts, and their descendants, in equal parts, descendants representing collectively the share of ancestor. 5. If none of above be living, to nearest lineal ancestors and their descendants. Posthumous children inherit. Children of half-blood inherit as of whole-blood, but collateral heirs of half-blood inherit only half. There is a special widow's allowance of certain articles and she may elect to take the value of same in money.

JOINT DEBTORS.—In case one or more joint debtors are released, no one of the remaining debtors shall be liable for more than his proportionate share of the indebtedness unless he is the principal debtor and the debtor released is his surety, in which case such principal debtor or debtors shall be liable for the whole of the remainder of the indebtedness. Nothing herein shall affect or change the right of a surety who has paid his proportionate share of indebtedness from recovering the same from his principal debtor.

JUDGMENTS AND EXECUTIONS.—From the time judgment is docketed and a transcript of the docket filed with the Recorder of the County, it becomes a lien on the real property of the judgment debtor, not exempt from execution in the county, owned by him at the time, or which he may afterwards acquire, until such lien expires. The lien of a judgment continues for six years from the date of entry, unless previously satisfied. If judgment creditor is restrained from issuing execution or selling, the time during which he is so restrained is not considered. Execution may issue on the judgment at any time within twenty years from date of entry, but not afterwards unless revived. A transcript of the docket entry of a judgment rendered in any District or Circuit Court of the United States within this State, duly certified by the clerk, may be filed with the Recorder of Deeds of any county, in the same manner as a transcript of the docket entry of any judgment of a court of this State; and from the date of filing such transcript, such judgment becomes a lien upon all the real estate of any judgment debtor, not exempt from execution, owned by him, or which he may afterwards acquire, in the county where the transcript is recorded, in the same manner as if judgment had been rendered by a court of this State. Executions may be issued immediately, where no appeal is taken; and, when placed in the hands of an officer, become a lien on the personal property of the judgment debtor, not exempt from execution in the county in which it is issued, and it may be directed to the Sheriff of any county in the State. All executions are returnable within ninety days from issuance

JUSTICES' COURTS.—In actions for damage or debt, have written jurisdiction to extent of $300.

LEASES AND HOW TERMINATED.—Three days' notice is required to evict a tenant at will; no notice required if lease expires at a certain time; 3 months' notice if lease is from year to year. In all cases where repossession is sought for failure to pay rent, or other breach of covenant, landlord must give 3 days' notice in the alternative. If the tenancy be for 6 months, one month's notice is required; if monthly, 10 days' notice. No form of notice prescribed, but it must be in writing and specific as to dates, the landlord's intent, and description of property.

LICENSES.—Are required for dealing in all articles excepting produce, provisions, or mining tools, excepting from those who pay the annual tax assessed by State, or sell articles made or raised by themselves.

LIMITATIONS.—The following actions must be commenced within six years next after the cause of action accrues, and not afterwards: (1) All actions of debt founded upon contract or liability in action; (2) all actions upon judgments rendered in any court not being a Court of Record; (3) all actions for arrears for rent; (4) all actions of assumpsit, or in the case founded on any contract or liability expressed or implied; (5) all actions for waste, and for trespass upon land; (6) all actions of replevin, and all other actions for taking, detaining, or injuring goods or chattels; (7) all other actions on the case, except actions for slanderous words and for libel. The limitation of actions for the recovery of real estate is twenty years, and in cases of actual residence seven years. Actions for assault and battery and for false imprisonment, and actions for slanderous words and libel, must be commenced within one year after the cause of action accrues; all actions against sheriffs and other officers for the escape of persons imprisoned on civil process shall be commenced within six months from the time of such escape. Actions against sheriffs and coroners upon liabilities incurred by them as such, must be brought within one year after the cause of action accrued; in action of debt or assumpsit brought to recover the balance due upon a mutual and open account current, the cause of action is deemed to have accrued at the time of the last item proved in such account. All personal actions, on any contract not limited by the foregoing, must be brought within three years after the accruing of the cause of action. Actions for any penalty or forfeiture of any penal statute must be commenced within one year after the offense is committed. Bills of relief on the ground of fraud must be filed within three years after the discovery by the aggrieved party of the facts constituting such fraud. Bills of relief, in case of the existence of a trust not cognizable by the courts of common law, and in all other cases not above provided for, must be filed within five years after the cause thereof accrues. If any person, entitled to bring any of the above mentioned actions, is at the time when the cause of action accrues, within the age of twenty-one years, or a married woman, insane, imprisoned, or absent from the United States, such person may bring the action within the time limited after such disability is removed. If a suit is commenced in this State, and the cause of action arose without the State upon a contract of agreement, expressed or implied, or upon a sealed instrument, or judgment or decree of court, more than six years before the commencement of the action, such person may plead the same in bar of plaintiff's right to recover.

MORTGAGES ON REAL ESTATE.—Must be recorded in the office of the Clerk of the county where land is situated to have priority against subsequent purchaser or mortgages.

NEGOTIABLE INSTRUMENTS.—To be negotiable, an instrument must contain a written unconditional order or promise to pay to bearer or order a certain sum of money on demand or at a fixed or determinable time. The sum payable may be with interest: In a particular kind of current money; with exchange; with attorney's fee and cost of collection, in case payment is not made at maturity. The instrument may authorize in case of non-payment at maturity, the sale of collateral securities and confession of judgment, and may waive benefit of any law intended for the advantage of the obligor. A promise, or order, payable out of a particular fund, or upon the happening of a contingency, is not negotiable. The date expressed is *prima facie* the true date. A person in possession of negotiable paper has *prima facie* authority to fill in blanks. An incomplete instrument not delivered is not enforcible. When doubtful whether instrument is a bill or a note, holder may treat it as either. Where it is not clear in what capacity a person signs his

name upon an instrument he is deemed an indorser. Where a person adds to his signature words indicating that he signs in behalf of a principal or in a representative capacity, he is not liable if authorized. But mere words of description without disclosing his principal do not exempt him. A signature by procuration operates as notice that agent's authority is limited. A pre-existing debt is a valuable consideration. A holder having a lien upon an instrument is a holder for value to the extent of his lien. An accommodation party is liable to the holder for value, with notice. An instrument payable to bearer is negotiated by delivery; if payable to order, by indorsement of holder written on the instrument itself or a paper attached, completed by delivery. An indorsement may be special or in blank, and may be either restrictive, prohibiting further negotiation, or vesting title in indorsee for the use of another; qualified, amounting merely to an assignment, or conditional. Two or more payees, unless partners, must all indorse unless one has authority for all. An instrument payable to a person as cashier or other fiscal officer of a bank or corporation is *prima facie* payable to the bank or corporation, and may be indorsed by either the corporation or the officer. Where an instrument is negotiated back to a prior party, such party may reissue it. For one to be a "holder in due course," the instrument must be complete and regular upon its face, and he must have taken it in good faith for value before it was overdue, and without notice of any infirmity in the instrument or defect in title. To constitute notice of an infirmity or defect the person taking it must have had actual knowledge or knowledge of such facts that his action in taking it amounted to bad faith. Every holder is deemed *prima facie* to be a holder in due course, but when the title of a person who has negotiated the instrument is defective, the burden is on the holder to prove that he is a holder in due course. The drawer may by express stipulation, inserted in the bill, negative or limit his liability. Every person negotiating an instrument by delivery or by a qualified indorsement warrants: That the instrument is genuine; that he has a good title; and capacity of prior parties to contract, and that he has no knowledge of any invalidity of the instrument. An unqualified indorser warrants, in addition, that the instrument at the time of his indorsement was valid and subsisting. One indorsing an instrument before delivery incurs all the liability of an indorser. Joint payees or indorsees who indorse are deemed to indorse jointly and severally. Except when presentment is excused the instrument must be presented for payment or acceptance on the day when due in order to charge drawer and indorsers. Presentment must be made to all primarily liable unless they are partners or unless one has authority to act for all. No days of grace. When the day of maturity falls on Sunday or a holiday the instrument is payable on the next succeeding business day. Where part of a day is a holiday, it is to be presented on the next succeeding business day, except that instruments payable on demand may be presented, at the option of the holder, on the secular part of such day. An instrument payable at a bank is equivalent to an order to the bank to pay the same for the account of the principal debtor. Except when excluded, notice of non-acceptance or non-payment must be given to the drawer and to each indorser or their agent, otherwise they are discharged. Notice may be given by the holder or by any one in his behalf, and may be in writing or oral, and in any terms which sufficiently identify the instrument and indicate that it has been dishonored by non-acceptance or non-payment, and notice may be given personally or through the mails. Notice must be given to all parties unless they are partners or unless one is authorized to accept it for all. Notice must be given on the next business day after dishonor or, if parties reside in different places, then mailed on such day. Notice of dishonor may be waived expressly or impliedly. Waiver embodied in the instrument binds all parties; written above indorsement binds only that indorser. Waiver of protest is deemed a waiver of formal protest, presentment and notice of dishonor. Protest is not required except in case of dishonored *foreign bills*. It is optional in case of other negotiable instruments. A person secondarily liable is discharged: By any act which discharges the instrument; by release of principal debtor; or by extension of time of payment. Payment by a party secondarily liable does not, unless he be an accommodation party, discharge the instrument but he may again negotiate it. Renunciation of holder's rights against a party must be in writing, unless the instrument be delivered up. A material alteration avoids an instrument except as against those assenting; but a holder in due course of an altered instrument and not a party to the alteration may enforce payment according to its original tenor. A bill does not operate as an assignment of funds in the hands of the drawee. Bills drawn and payable within this State are inland; other bills are foreign. Unless the contrary appears on the face of the bill the holder may treat it as inland. The drawer or indorser may insert in the bill the name of a "referee in case of need," to whom holder may resort if he see fit. Acceptance must be in writing signed by the drawee. An unconditional promise in writing to accept a bill before it is drawn, or a written acceptance on a paper other than the bill itself is deemed an acceptance, only in favor of a person to whom it is shown and receives the bill on the faith of such promise or acceptance. The drawee has twenty-four hours after presentment in which to decide whether he will accept. A qualified acceptance discharges drawer and indorser unless they assent; assent is presumed unless they dissent within a reasonable time after notice. Holder can refuse to receive a qualified acceptance, and may treat the bill as dishonored. Where a bill is dishonored for non-acceptance, immediate recourse against drawer and indorser accrues and no presentment for payment is necessary. Where a foreign bill is dishonored by non-acceptance or non-payment, it must be duly protested, otherwise drawer and indorsers are discharged. Protest is unnecessary where a bill does not appear to be foreign on its face. Protest may be made by a Notary, or by any respectable resident of the place where the bill is dishonored, in the presence of two or more credible witnesses. A bill protested for non-acceptance may be subsequently protested for non-payment. Before the bill matures the holder may cause it to be *protested for better security* against drawer and indorser. Protest is dispensed with by circumstances which dispense with notice of dishonor. Any person not a party may, with the consent of the holder accept *supra* protest for the honor of any party liable, a bill protested for non-acceptance or for better security, not overdue. The maturity of a bill accepted for honor is calculated from the date of the noting for non-acceptance Presentment for payment must be made to acceptor for honor, and if dishonored by him must be protested. Any person may pay *supra* protest, for the honor of any person liable thereon or the person for whose account it was drawn, a bill protested for non-payment. A note drawn to maker's order is not complete until indorsed by him. A check must be presented for payment within a reasonable time or the drawer will be discharged from liability to the extent of loss caused by delay. A check is not an assignment of any funds, and the bank is not liable to the holder until it accepts or certifies the check. This act does not apply to negotiable paper executed prior to its enforcement. Where not otherwise provided by this act, the "Law Merchant" prevails.

PARTNERSHIPS.—Limited partnership may be entered into by one or more general and one or more special partners (any of whom may be married women), by the parties executing and acknowledging a certificate stating the name of firm, business to be carried on, place of business, the names and residences of the partners, which general and which special, the amount contributed by the special partners, and how long the partnership is to continue. The certificate must be recorded in the office of the County Clerk, and published for 4 weeks in a paper published in said county where principal place of business is. The names of the general partners can only appear, and they only can take part in the management. Notice of dissolution must be published same as certificate. On decease of partner the survivor administers the assets of the partnership for heirs and creditors under supervision of County Court, and may be compelled to give bond, or have receiver appointed. This applies to all partnerships. Any person or persons trading or doing any business in the State under

the name of "Manager," "Trustee," "Agent," or in any other representative name, and any person or persons using as part of the business name the words "& Co." or "& Company," or using merely one initial letter as part of the business name, and any person or persons, partnership or association of persons, doing business or carrying on any trade in the State under any other name than the personal name or names of his or its constituent members, must file for record with the Clerk and the Recorder of the county of the residence of and in which such business or trade is carried on, an affidavit setting forth in full christian and surname, and addresses of all the parties who are so represented; and further affidavits must be filed for record upon any change or changes whether of withdrawal, addition, or otherwise, in the party so represented. In default of filing for record such affidavit, such persons, partnerships, and association shall not be permitted to prosecute any suits for the collection of their debts until such affidavits shall be filed, and each and every person so in default shall be deemed guilty of a misdemeanor and upon conviction thereof in a Court of competent jurisdiction, shall be fined any sum not less than $10 nor more than $300, or imprisoned in the County jail not less than 10, nor more than 90 days, in the discretion of the Court; these provisions, do not, however, apply to the regularly incorporated companies having their articles of incorporation duly filed.

PUBLIC TRUSTEE.—All deeds of trusts given to secure an indebtedness of any kind shall name as trustee therein the public trustee; and any deed of trust naming any other persons as trustee shall be deemed and taken to be a mortgage, and can be foreclosed only as a mortgage is now foreclosed in court. In counties of the first and second classes such public trustee is appointed by the Supreme Court, and in all other counties it is the County Treasurer. The public trustee, before entering upon the duties of his office, must give a bond with good and sufficient sureties, to be approved according to the statute. The public trustee performs all the functions and exercises all the powers conferred by the deed of trust, and is authorized and required to execute release deeds whenever requested by the beneficiary, and to make sales thereunder whenever default occurs, according to the terms and conditions of the deed of trust. He issues certificates of sale, certificates of redemption, and trustees' deeds, as the case may be, and is entitled to receive the fees provided by statute. Such trustee quarterly files with the County Commissioner a statement under oath of the transactions of his office, and pays to the County Treasurer such excess fees as may be then due the county, arising from the performance of his duties. Whenever the beneficiary under a deed of trust declares a violation of the covenants in such deed and elects to advertise the property for sale, he must file a notice of such election and demand for sale with the trustee, who thereupon advertises the premises for sale in accordance with the terms of sale specified in the deed. The trustee also keeps a book containing such notices, which is open for the inspection of the public; and the trustee is obliged to mail a copy of the printed notice of sale as soon as printed to the grantor, and all subsequent encumbrancers. When a sale is made the trustee enters in the book kept for that purpose, a record of the person executing the deed of trust, the date thereof, a description of the property, the date of sale, the name of the newspaper containing the notice of sale, the address of the purchaser at such sale, and the amount for which the property was sold. All deeds of trust must prescribe the period of advertisement of the notice of sale weekly in some newspaper of general circulation, which publication cannot in any case be less than four weeks. Whenever any lands are sold under any deed of trust, it is the duty of the trustee, instead of executing a deed to the purchaser, to give him a certificate in writing describing the lands, the sum paid therefor, the time when the purchaser is entitled to a deed unless the same is redeemed, and the trustee, within ten days from the date of sale, files in the County Clerk's office a duplicate of such certificate. Any subsequent encumbrancer desiring to redeem any lands sold by the trustee may pay to the trustee the amount necessary to redeem, and the trustee thereupon issues a certificate of redemption therefor. The sum so paid shall be added to the sum represented in the subsequent encumbrance held by the party redeeming, and his demand secured thereby, and draws interest at the rate of eight per cent. But nothing in the act prevents the grantor, his heirs or assigns, whose lands are sold, from redeeming within six months from the date of sale. If the grantor fails to redeem, the holder of the subsequent encumbrance is entitled to a deed to the premises the same as if he had been the original purchaser. If any judgment creditor redeems the land from such sale, he is required to pay the sum for which the premises were sold, together with the amount of the subsequent encumbrance, which aggregate is paid to the trustee, and his release operates as a cancelation of the subsequent encumbrance. The grantor, his heirs or assigns, or subsequent encumbrancers, whose lands are sold under any deed of trust, can, within six months from the date of such sale, redeem the lands by paying to the trustee the sum of money which may have been paid on the purchase thereof, together with interest at the rate of eight per cent. per annum, and upon such redemption being made, the trustee issues a certification of redemption to the party so redeeming, whereupon the sale and the certificate of sale are deemed null and void. After the expiration of six months, and at any time before the expiration of nine months from the date of sale, it is lawful for any judgment creditor to redeem the lands in the manner indicated by the statute, and any judgment creditor having so redeemed, is considered as having paid at such sale the amount of his redemption money so paid by him, and interest thereon from the date of such redemption to the date of sale, and if no bid greater than such amount is offered, the land is struck off and sold to such judgment creditor, and a deed thereupon is executed by the officer to such creditor, and no other redemption is allowed. Provisions are also made by the statute for cases where there are other and higher bids, and the method to be pursued in such cases. Certificates given by persons making such sales are assignable by indorsement. Every person to whom a certificate is assigned must immediately notify the trustee of such assignment. When the time for redemption has expired, the trustee upon demand of the person holding such certificate makes and executes to him a deed to the lands and tenements sold. The public trustee is allowed to appoint a deputy. A deed of trust or a mortgage given to secure a debt is without force or effect after six years from the maturity of the debt, and the property conveyed thereunder or transferred to secure the debt reverts to the owner.

REPLEVIN.—In an action to recover specific personal property or its possession, the plaintiff, on giving a bond in double the value of such property, is entitled to have same returned to him pending the action, unless the defendant elects to give a redelivery bond in double the value of the property.

SALES OF STOCK IN BULK.—All sales of any portion of a stock, or in bulk, otherwise than in the ordinary course of trade, are presumed to be fraudulent, unless the inventory thereof was taken at least 5 days before the sale, and unless the purchaser shall, at least 5 days before, notify, or cause to be notified, personally, or by registered mail, each of the seller's creditors of whom the purchaser has knowledge, or can, with the exercise of reasonable diligence, acquire knowledge, of said proposed sale and of the cost price of the merchandise to be sold, and of the price proposed to be paid therefor by the purchaser.

STATUTE OF FRAUDS.—Every agreement that by the terms thereof is not to be performed within 1 year from the making thereof; every special promise to answer for the debt, the fault, or miscarriage of another; every agreement, promise, or undertaking made upon consideration of marriage, except mutual promises to marry; and every contract for the sale of any goods, chattels, or things in action, for the price of $50 or more, shall be void unless made in writing and subscribed by the parties to be charged therewith; unless on such sale there shall be a part delivery or part payment.

CONNECTICUT.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— Debtors may be arrested in actions for fraud or torts, and can give bail to the officer making the arrest for their appearance before the court to which the writ for arrest is returnable. If the debtor is committed to jail on civil process, he can be released on taking an oath that he has not any real or personal estate in possession, reversion or remainder, of the value of seventeen dollars in the whole, or sufficient to pay the demand for which he is imprisoned, except what is by law exempted from being taken on execution; and that he has not, directly or indirectly, sold, or otherwise disposed of, all or any part of his estate, thereby to secure the same, or to receive or expect any profit or advantage therefrom, or to defraud or deceive his creditor. The debtor will not be released if his oath is overcome by rebutting evidence.

COLLECTION.— In general. A claim, debt, or demand for less than $100 may be collected in a Justice's Court. From $100 to $500 in a Court of Common Pleas of Hartford, New Haven, Fairfield, and New London Counties. City Courts also vary in jurisdiction. The Superior Court has jurisdiction in law and equity where the amount involved exceeds $500. Arrest and imprisonment for debt is allowed in cases of fraud and torts. Attachment is allowed. Parties to the suit or interested therein are competent witnesses. Costs of suit must be secured in advance or the suit will be dismissed. Defendant must answer in a Superior Court and Court of Common Pleas within 30 days from return day, and afterward pleadings must advance one step in every 20 days. Execution may issue in any court after entering of judgment. The judgment is a lien upon personal property only upon levy, and upon real estate upon filing certificate of record. The latter may be foreclosed as a mortgage.

COMMENCEMENT OF SUIT.— Process returnable to a Justice of the Peace must be served at least six days before the trial day which is therein fixed. Process returnable to other courts than a Justice's, and all trustee process, must be served at least twelve days before the day upon which they are returnable.

COMMERCIAL PAPER. — The uniform negotiable instrumeuts law has been adopted. Promissory notes for the unconditional payment of money only, on demand or at a fixed or a determinal future time are negotiable. Presentment for payment is not necessary to charge the person primarily liable unless payable at a special place, but it is necessary, in order to charge indorsers that presentment be made within a reasonable time after issue. Negotiable instruments are payable at a specified time, without grace. When maturing on Sunday or a holiday the instrument is payable on the next succeeding business day. Instruments falling due on Saturday are to be presented for payment on the next succeeding business day, except that instruments payable on demand may at the option of the holder be presented for payment before 12 o'clock noon Saturday when that entire day is not a holiday. Where a party has added on an address to his signature, notice of dishonor must be sent to that address; but if no address is given, then notice must be sent: 1. Either to post-office nearest to his residence, or the post-office where he is accustomed to receive his letters; 2. if he live in one place and do business in another, notice may be sent to either place; 3. if he is sojourning in one place notice may be sent there. If notice is actually received, it will be sufficient however sent. Banking hours end at 12 o'clock noon on Saturday. In case of dishonor of drafts drawn or negotiated here on parties in other States, the holder in this State may recover of the drawer or indorsers as damages to the time of protest as follows: If drawn on parties in New York City 2 per cent. on principal amount of the bill; if on parties in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York (outside New York City), New Jersey, Pennsylvania, Delaware, Marylaud, Virginia, or the District of Columbia, 3 per cent. of the principal sum; if upon parties in North Carolina, South Carolina, Ohio, Indiana, Illinois, Michigan, Kentucky, or Georgia, 5 per cent. upon the principal sum; and if upon party in any other State, Territory, or District in the United States, 8 per cent. upon such principal sum, without regard to rate of exchanges existing at time of notice, and the legal rate of interest after dishonor. Notes given for patent rights or patented articles must state consideratiou therefor, under penalty of imprisonment; such notes are deemed suspicious and liable to all equities in favor of the maker.

CONDITIONAL SALES. — By the provisions of the statute law, all contracts for the sale of personal property except household furniture, musical instruments, bicycles, and such property as is by law exempt from attachment and execution, conditioned that the title thereto shall remain in the vendor after delivery must be in writiug, describing the property and all conditious of said sale, acknowledged before some competent authority and recorded within a reasouable time in the Town Clerk's office in the town where the vendee resides, and if the provisions of the statute are not complied with, such sales are made absolute sales, except as between the vendor and the vendee, and such property is liable to be taken by attachuent and execution for the debts of the vendee in the same mauner as any other of his property. Couditional sales made in conformity to the statute are valid.

CONSIGNMENTS. — For a failure to account for goods consigned, the consignor has only his action at law. The consignee is not guilty of embezzlement.

CORPORATIONS.— For busiuess and manufacturing purposes are organized both under a general law (called the Joint Stock Companies Act), and by special charters. Upon the organization of a company, under the Joint Stock Act, a majority of the directors are required to sign and swear to a certificate showing, among other thiugs, the amount of the capital stock actually paid for in cash, which must be at least 20 per cent. of the total capital, and the amount paid for in property, specifying the same, and giving the actual value thereof, and in case any portion of said property consists of letters patent, or rights under the same, the numbers and date of such patents; and the president and treasurer of every such corporation are required annually in February or August of each year to sign and swear to a certificate showing the amount of its capital stock actually paid in, the cash value of its real estate, the cash value of its personal property exclusive of patents, the amount of its debts and the amount of its credits, with the name, residence, and number of shares of each stockholder. The certificates are filed with the Town Clerk of the town where the corporation is located, and also a duplicate thereof with the Secretary of State. Similar annual certificates are required to be signed and sworn to, and lodged with the Town Clerk, by the president and secretary of all corporations having a special charter, unless required by law to make other annual returns of a similar character to some State officer, as, for instance, to the bank or insurance commissioner, in the case of a bank or an insurance company. All officers of corporations who shall intentionally fail to perform any of the duties that are required of them, are jointly and severally liable for all the debts contracted during the period of such failure; and if the directors declare or pay a dividend, and the corporation is insolvent, or the payment of which will render it insolvent, knowing it to be insolvent, or that the payment of such dividend would render it insolvent, the directors assenting thereto are jointly and severally liable for the debts due at the time of the declaration, or payment of such dividend; and in these instances, the liability can be enforced in a suit by the creditor against the officers so liable. Any officer swearing wilfully and corruptly to a false certificate is liable to be punished for perjury. There is no limitation upon the right of action by a creditor except the general statute of limitation. There is no further statutory liability to creditors on the part of officers or stockholders, but if they are guilty of actual fraud in the organization or management of the company, they are undoubtedly liable as individuals to the creditor who can show he has been injured thereby. Stockholders are further liable only to the amount of their unpaid subscriptions, and which can only be collected by a trustee in insolvency or a receiver for the common

benefit of all the creditors. When a corporation winds up its affairs, or when the receiver is appointed, the court limits a time not less than four months for the presentation of claims; and all claims not presented within the time limited are barred. If a corporation fails to file the annual certificate for two successive years, it may be dissolved, and its affairs wound up, upon the application of a stockholder, or creditor, but such dissolution will not be allowed if on the hearing the corporation shall be found to be in fact solvent.

CORPORATION ACT OF 1901.—Any three or more persons may associate to form a corporation for the transaction of any legal business, except that of a bank, savings bank, trust company, building and loan associations, insurance, surety or indemnity company, steam or street-railway company, telegraph, gas, or electric light or water company, or any company which shall need to have the right to take and condemn lands, or to occupy the public highways of this State.

Every corporation formed under the provisions of this act shall be located in some town in this State and shall have power: (a) to have succession by its corporate name for the time stated in its certificate of incorporation, and when no period is limited, perpetually; (b) to sue and be sued; (c) to have common seal; (d) to hold, purchase, and convey such real and personal estate as the purposes of the corporation shall require; (e) to elect and appoint in such manner as it may determine, all necessary and proper officers and agents, to fix their compensation and define their powers; (f) to make by-laws; (g) to wind up or dissolve itself, or to be wound up, as provided by law.

The persons so associating, called the incorporators, shall file a certificate of incorporation, which shall be signed and sworn to by all of the original incorporators, in the office of the Secretary of State. A certified copy of such certificate shall be filed in the office of the Town Clerk in the town in which said corporation is located. The certificate shall set forth: (a) the name of the incorporation; (b) the name of the town in this State in which it is located and in which its principal office or place of business is to be located; (c) the nature of the business to be transacted, or the purposes to be promoted or carried out; (d) the amount of total authorized capital stock, which shall not be less than two thousand dollars; the number of shares into which the same is divided, and the par value of each share, which shall not be less than twenty-five dollars; the amount of capital stock with which it shall commence business, which shall be not less than one thousand dollars; and if there be more than one class of stock created, a description of the different classes, with the terms on which they are created; (e) the period, if any, limited for the duration of the corporation.

The certificate may also contain any lawful provisions for the regulation of the business of the corporation, or defining and regulating the powers of the corporation, the directors and the stockholders, or any class of stockholders.

Upon filing the certificate of incorporation, and the payment of a franchise tax required by law of fifty cents on every one thousand dollars of its authorized capital up to five million dollars, and of ten cents upon every one thousand dollars in excess of five million dollars, the corporation existence shall begin, but no such corporation shall commence business until at least fifty per cent. (50%) of the amount of its authorized stock has been subscribed by *bona fide* subscribers, nor until twenty per cent. (20%) of said subscriptions has been paid in, which payment shall in every case aggregate at least one thousand dollars, nor until its directors and officers have been duly elected and its by-laws adopted, nor until the directors have caused to be filed with the Secretary of State a certificate, signed and sworn to by a majority of them, stating that the requirements of this section have been complied with, and giving: (a) the amount of its capital stock, the amount thereof paid for in cash and the amount paid for in other property, describing the character of such property; (b) the name, address, and place of residence of each of the original subscribers, with the number of shares subscribed for by each; (c) whether or not the stock is paid for in full, and if not, the amount paid on each share; (d) the name, residence, and post-office address of each of its officers and directors, and a certified copy of said certificate must be filed in the office of the Town Clerk in the town in which said corporation is located. The certificate of incorporation is designated as the charter of the corporation, and with an indorsement thereon by the Secretary of State showing his approval thereof, and that the franchise tax has been paid, or a copy thereof duly certified, is evidence in all courts of the legal existence of such corporation.

After the required amount of capital stock has been subscribed, the incorporators, or a majority of them who are given by law charge of the formation of the corporation, and with power to take such steps as are necessary to obtain subscriptions and to perfect the organization, may call the first meeting at such time and place as they may designate, by notice published twice in a newspaper of this State circulating in the town in which the corporation is located, at least seven days before the time designated, but said notice may be waived by a writing, signed by all the subscribers and incorporators, specifying the time and place for said meeting. At such meeting the organization shall be perfected by the choice of a temporary clerk, and by the election of three or more directors, and the adoption of by-laws.

There must be three or more directors, who shall be stockholders. A majority of the directors shall constitute a quorum, and at least once every year they shall make a full and detailed report of the financial condition of the corporation to its stockholders, which report shall be filed with the treasurer of the company and subject to the inspection of the stockholders.

The directors shall choose from their own number a president, and shall appoint a treasurer and secretary; the same person may fill the last two offices. No stock can be issued until the same has been subscribed and paid for in full. At least twenty per cent. (20%) of the par value must be paid within thirty days after the date of subscription, and the balance when called for. The treasurer and secretary of the company shall deliver to each subscriber a receipt, with the seal of the company, stating the amount said subscriber has paid upon his subscription, and the number of shares of full-paid and non-assessable stock for which he or his transferee upon the payment of the balance due upon his said subscription will be entitled to receive a certificate, and the persons to whom such receipts are issued shall be deemed to be stockholders. If any stock is paid for otherwise than in cash, the directors shall make and sign upon the company's record book a statement showing particularly of what such property consisted, and that it is an actual value, equal to the amount for which it is received. The judgment of the directors as to the value of such property shall be final, but directors concurring in such valuation in case of fraud or gross negligence or over-valuation are liable to the amount of the difference between the actual value of such property and the amount for which it was received in payment.

Every stockholder, whether an original subscriber or not, shall be liable for any balance due on the stock held by him, but no subscriber for, or holder of, stock shall be liable for any payment thereon, or for any debt of the corporation after the par value of his stock has been paid. The stock is personal property and is transferable only on the books of the corporation, and the corporation has a lien upon the stock owned by any person for all debts due it from him. The corporation shall not purchase its own capital stock except when necessary to prevent loss upon a debt previously contracted, nor shall any shares of its stock belonging to, or held by, the corporation be voted upon directly or indirectly. Stock books must be kept, and at least three days before every stockholders' meeting a complete list of the stockholders must be prepared, which shall be open to the inspection of any stockholder at said meeting. Stockholders may vote by proxy, each share of stock entitling the holder thereof to one vote. All stockholders' meetings must be held in this State, and except the first, at such place as shall be provided in the by-laws, and at least five days' notice must be given each stockholder in writing of such meeting. The president may, and upon the request

of stockholders holding one-tenth (1-10) of the capital stock, shall call a special meeting, and in case of his neglect, such stockholders may call the same.

A corporation may change its name, the nature of its business, the location of its office, may increase or reduce the amount of its authorized capital, may create one or more classes of preferred stock upon the vote of two-thirds (⅔) of all the outstanding stock of each class at a meeting of the stockholders duly called. In case the reduction of the capital stock shall render the corporation insolvent, the stockholders voting in favor of such reduction are jointly and severally liable to the amount of such reduction for all debts of the corporation existing at the time of such vote.

The president and treasurer shall annually, on or before the 15th day of February or August, lodge with the Secretary of State and the Town Clerk of the town in which the corporation is located, a certificate signed and sworn to by them, stating: (a) the name, residence, and post-office address of each of its officers and directors; (b) the total amount of its authorized capital stock, number of shares, and par value thereof, the amount thereof which has been issued, and the amount which has been paid for in full; (c) the name, residence, and post-office address of each stockholder whose stock has not been fully paid, with the amount due thereon; (d) the location of its principal office in this State, giving the street and number, if any there be, and the name of the agent or attorney in charge thereof, upon whom process against the corporation may be served, and his residence and post-office address; (e) the number of shares of stock or other securities of any other corporation owned by it, with the name and location of such corporations. Corporations failing to file such certificate, shall forfeit to the State one hundred dollars for each failure. Creditors of stockholders are entitled to be informed as to the number of shares of stock owned by said stockholder. Shares of stock or treasurer's receipts for part payments may be pledged by delivering the certificate of such stock or such receipt, with the power of attorney for their transfer to the pledgee, but no such pledge, unless consummated by an actual transfer of the stock of such receipt to the pledgee, or unless a copy of said power shall be filed with the corporation shall be effectual to hold such stock against any person but the pledgor, his executors, or administrators. All dividends or distribution of assets must be made from its net profits or actual surplus, and the name of every director voting for any dividend or other distribution of assets shall be entered upon the records of the corporation, and every director voting for a dividend or other distribution of assets in violation of the act, is subject to a fine not exceeding five hundred dollars ($500.00), and if such payment or distribution renders a corporation insolvent, the directors so voting are liable to the amount of such payment to the creditors of the corporation.

Any two or more corporations organized under this act or heretofore organized under the joint stock law, which are carrying on business of the same or similar nature, may merge or consolidate into a single corporation, which may be either one of said corporations, or a new corporation formed by means of such consolidation, but no such merger or consolidation can be effected except upon the vote of two-thirds (⅔) of the stockholders of each corporation. Any stockholder in any corporation consolidating who objected to the consolidation in writing, may within ten days after the agreement of consolidation has been filed for record, demand in writing from the consolidated corporation payment of his stock, and the corporation must pay the same to him within three months thereafter; and the corporation may dissolve itself whenever the directors shall vote to terminate its existence and such vote shall have been confirmed at a special stockholders' meeting by three-fourths (¾) in interest of each class of stock issued and the directors become trustees to wind up the business. At least thirty days' notice of the meeting must be given, and the call must be published four times in a newspaper circulating in the town where the corporation is located, and a copy thereof mailed to the last known address of each stockholder. The vote of the directors and the confirming vote of the stockholders may be dispensed with if every stockholder shall sign and acknowledge an agreement that the corporate existence of such corporation shall be terminated. Notice of said proposed dissolution must be sent to all known creditors, warning them to present their claims, and application may be made to the Court to limit a period of four months within which claims must be presented or barred. Receivers may be appointed to wind up the business of the corporation upon the application of the stockholders owning not less than one-tenth (1-10) of its capital stock, whenever the Court finds any good and sufficient reason for the dissolution of such corporation. Whenever application is made for the dissolution of a corporation, the Court may cause the stock of the applicant to be appraised, and if the amount of such appraisal is paid, the application for the appointment of a receiver shall be dismissed.

"Foreign corporation" shall mean every corporation established under the laws of the United States, or of any other State or foreign country. Foreign corporations may purchase, hold, mortgage, lease, sell, and convey real and personal estate in this State for its lawful uses and purposes, but no foreign corporation can engage or continue in any kind of business in this State the transaction of which is not permitted to domestic corporations. Every foreign corporation shall before transacting business in this State, file in the office of the Secretary of this State a certified copy of its charter or certificate of incorporation, together with a statement subscribed and sworn to by its president, treasurer, and a majority of its directors, showing the amount of its authorized capital stock, and the amount thereof which has been paid in, and if any part of such payment has been made otherwise than in money, said statement shall set forth the particulars thereof. All such corporations now doing business in this State shall file such copy and statement on or before the first day of January, 1902. Every foreign corporation with an office or place of business in this State, except foreign insurance companies or associations, shall before doing business appoint in writing the Secretary of the State and his successor to be its attorney, upon whom process against it may be served, and service upon the Secretary shall be held to be service upon the corporation. Every officer of a foreign corporation who fails to comply with the foregoing provisions, and every agent of such delinquent corporation who transacts business as such agent in this State, is subject to a fine of not exceeding one thousand dollars, but such failure shall not affect the validity of any contract by or with such corporation. Every foreign corporation doing business in this State shall within thirty days after an increase or reduction of its capital, file a certificate thereof substantially like that required of domestic corporations. The charge for filing the certificate of incorporation is ten dollars, and for filing the statement, five dollars. All penalties and liabilities which are imposed by the laws of this State upon officers and stockholders of domestic corporations for false and fraudulent statements and returns, apply to the officers and stockholders of foreign corporations doing business in this State.

Corporations Without Capital Stock.— Any three or more persons may associate a corporation without capital stock to promote or carry out any lawful purpose, by signing or acknowledging before any officer authorized to take acknowledgment of deeds, and filing with the Secretary of the State a certificate stating: (1) that they do so associate; (2) the purpose or object of the corporation; (3) the town in this State in which its principal office or place of business is to be located. Upon such certificate being filed with the Secretary of State and approved by him and a duplicate thereof filed in the office of the Town Clerk in the town where the corporation is located, the persons so associated, become a body politic and corporate, and may hold, sell, and convey real and personal estate as the purposes of the corporation may require, not exceeding the amount limited in its charter, and have general corporate powers.

The provisions of the Act of 1901 apply to all corporations heretofore organized under the joint stock laws of this State, and any person who violates any of the provisions of said act for which no other penalty or punishment is prescribed, is subject to a fine of not more than one thousand dollars.

GARNISHMENT.— All sums owing defendant, and effects concealed in the hands of an agent or trustee of defendant may be attached by garnishee process and held to answer the judgmeut.

INTEREST.— Legal rate, 6 per ceut. Agreed rate, no limit. In case of usurious contracts there is no recovery beyond the legal rate.

INTESTATE LAWS.— Surviviug husband or wife is entitled to use for life of one-third of all property owned by deceased, after payment of debts, and such third may be set apart out of personalty or realty or both. The right cannot be defeated by will. If no will, survivor takes such third absolutely; and if no childreu, takes all of estate absolutely up to $2,000 and one-half absolutely of remainder. Survivor may elect to take by will or statute. Since April 20, 1877, after interest of husband or wife has been set out, residue of persoualty and realty descend equally to children and their legal representatives. Marriage legitimates children born before wedlock. If no children or legal representative of them, residue of a state descends to the brothers and sisters of intestate, of whole-blood, and their representatives. If no such, to parent or parents. If no parents, equally to brothers and sisters and their representatives, of the half-blood. If no parents, no brothers nor sisters nor any to represent them, equally to next of kin of like degree, whole-blood being preferred to half-blood, and no representatives admitted among collaterals after brothers and sisters and their representatives. Realty of decedent which came by desceut, gift, or devise of kinsman, goes equally to brothers and sisters of intestate, and their representatives of the blood of the ancestor from whom the estate descended. If none such, then to be divided as other real estate.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Any party to a civil action brought before a Justice of the Peace and prosecuted to final judgment may cause such judgment to be recorded in a record book kept for that purpose by the Town Clerk where such action is brought, at any time within one year after the rendition of such judgment. All attested copies of such judgments with a certificate of the Town Clerk that they have been recorded and with the seal of such town affixed, shall be legal evidence in any Court of this State. Judgment may be obtained within the first three days of the term to which suit is brought, unless the debtor state reasouable ground of defense. In litigated cases, judgment can generally be reached in Justices' Courts within one week, in courts of Common Pleas within three months, in the Superior Court within one year. Execution may be taken immediately upon judgment, and is returnable within sixty days. Goods may be sold on levy in twenty-one days, or, if perishable, in seven days, and execution returned. Stay of execution is granted only on appeals and new trials, or for some special cause within the discretion of the court.

LEASES AND HOW TERMINATED.— The following notice must be given 10 days before a tenant can be compelled to leave:

I hereby give you notice that you are to 'quit possession of the —— now occupied by you on or before the (date 10 days in the future.) X. Y.

Above notice to be made in duplicate and one served on the party.

LICENSES. — Licenses are necessary for sales of liquors, wine, beer, or cider, to be drunk on the premises, and contracts made in violation of law with unlicensed persons cannot be enforced. Liquors kept for sale by unlicensed persons are liable to seizure and forfeiture. Licenses are granted by the County Commissioners annually on the recommendation of 5 taxpayers, and giving a bond to observe the law. The conviction of licensed dealer of any violation of the law regulating a sale (as by keeping open duriug prohibited hours, etc.), works the forfeiture of a license for a second conviction, and may for a first conviction in the discretion of the Court, in addition to the fines prescribed. A local option law prevails. Manufacturers of fertilizers or manures of the value of $10 or upwards a ton, or their agents, must file with the Connecticut Agricultural Experiment Station the name, brand, or trade-mark uuder which the fertilizer is sold, the chemical composition, the name and address of the manufacturer, and a sample; annual fee $10 for each ingredient. Each package sold must bear a statement of above particulars. Special provisions for pulverized leather whether raw, steamed, or roasted iu any form, by itself or as ingredient; also for manufacturers of fish guano. Pawn brokers require license from Selectmen or Chief of Police. They cannot receive over 25 per cent. per annum for use of money, and cannot sell any article pledged under 6 months. Junk dealers require an annual license from Selectmen or Chief of Police; purchasing or receiving goods from a minor is punishable by a fine. The manufacture, purchase, transportation, sale, possession, or use of compounds more explosive than a gunpowder without a license is forbidden. Penalties not exceeding 10 years' imprisonment or $10,000 fine. Possession, transportation, and use of gunpowder is also regulated. Master plumbers are licensed by local authorities. Druggists must procure a license annually from the Commissioners of Pharmacy, under a penalty of $5 for each day of ueglect. Commercial travelers selling by sample require no license except in the case of spirituous and intoxicating liquors, the license to sell which ranges from $100 to $500 a year as the County Commissioners may determine. Every itinerant person not the inhabitant of this State, advertising to practice or practicing mediciue herein, must pay a license fee of $20 per day to the Selectmen or Chief of Police under penalty ol a fine of $25 per day for each day he shall exercise his profession. Itinerant vendors must have state and local licenses. Non-resident auctioneers must procure licenses, except for sale of farm produce, provisions, etc. Foreign insurance companies and pilots are licensed under general laws. But no person can solicit insurance in any foreigu company not approved by the Insurance Commissioner without a license from him and paying a fee. No other occupations require license except in cities under municipal regulations.

LIMITATIONS.— Actions iu ejectmeut must be begun within 15 years after right to land accrues, except in case of disabilities, when 5 years after their removal are allowed; on specialties under seal and non-negotiable promissory notes, within 17 years after right accrues; on book account, debt, or simple contracts, assumpsit, implied contract, and contracts in writing not uuder seal except promissory notes not negotiable, within 6 years. In actions against representatives of deceased persons only written acknowledgments or promises will remove the bar of the statute of limitations, but this does not alter affect of payment of principal or interest. A partial payment or unqualified promise to pay, though not in writing will revive a contract. Trespass on the case must be brought within 6 years. Actions on all contracts other than those proper for book debt, actions of trespass, and actions on the case for words withiu 3 years. *Scire facias* against garnishee, within 1 year. Action for forfeiture under penal statute, within 1 year. Actions on bonds against surety in any civil action for prosecution or appeal, within 1 year after final judgment in the suit in which they were given. Civil actions against Sheriff or Constable for default in office, within 2 years. Against railroad company for loss of life, within 1 year after death. In computing time, the time the defendant has been absent from the State shall be excluded. Writs of error and petitions for new trials must be brought within 3 years after rendition of judgment complained of.

MORTGAGES ON REAL ESTATE.— Must be recorded in the office of the Town Clerk of the town where the land is situate, must contain a description of the premises mortgaged, and describe with accuracy the claim intended to be secured.

PARTNERSHIPS.— General partners are individually liable for all debts of partnership. In limited partnership certificates of all partners, under oath, of terms of partnership must be filed with the Town Clerk, and a statement of terms published in a newspaper in the county twice a week for at least 6 weeks. The special partner may withdraw each year from the actual profits 10 per cent. of the capital furnished by him. He is not allowed to claim

as creditor on account of capital furnished. Limited partnerships cannot carry on banking or insurance business. Names of general partners only can be used in business.

REPLEVIN.— Replevin to recover possession of personal property lies in favor of any person (other than defendant in suit in which it has been attached) who has a general or special property therein with a right of immediate possession therein. Bonds in double amount of value of property replevied must be given, conditioned to return the goods to person from whom they are taken, and pay costs in case of failure of plaintiff to maintain his right of possession.

SALES.— No person who makes it his business to buy commodities and sell the same in small quantities for the purpose of making a profit, shall, at a single transaction and not in the regular course of business, sell, assign, or deliver the whole or a large part of his stock in trade, unless he shall, not less than 7 days previous to such sale, assignment, or delivery, cause to be recorded in a Town Clerk's office in the town in which the said vendor conducts his said business, a notice of his intention to make such sale, assignment, or delivery, which notice shall be in writing, describing in general terms the property to be so sold, assigned, and delivered and all conditions of such sale, assignment, or delivery, and the parties thereto.

STATUTE OF FRAUDS.— No civil action can be maintained whereby to charge any executor or administrator upon a special promise to answer damages out of his own estate, or any person upon any special promise to answer for the debt, default, or miscarriage of another, or upon any agreement made upon consideration of marriage, or upon an agreement for the sale of real estate or any interest concerning it, or upon any agreement that is not to be performed within a year from the making thereof, unless such agreement or some memorandum thereof be made in writing and signed by the party to be charged therewith or his agent, except agreement of lease for 1 year or less. No agreement for sale of property for $50 or upwards is good unless the buyer accept and actually receive part of the property sold, or make a payment, or unless some memorandum hereof be made in writing and signed by the party to be charged or his agent.

SYNOPSIS OF THE INSOLVENCY LAW.— This State has an Insolvent Law, which is administered by the Court of Probate of the District in which the debtor resides, or in case of a co-partnership or corporation, by the Court of Probate of the District in which such co-partnership or corporation has its office or principal place of business. A creditor to the amount of one hundred dollars or more, may, by petition, force a debtor into insolvency: 1. In cases where the debt is due, if an officer fails to find property sufficient to satisfy an attachment issued thereon. 2. In cases where the debt is not due, if the debtor has failed since its contraction, and the debt will not become due in season for the creditor to otherwise protect himself against other attachments, or against a fraudulent disposition of his property by the debtor. If an attaching creditor shall apprehend that within sixty days thereafter the debtor will make an assignment, and in the meantime dispose of his assets, so that the same cannot be found by the trustee in insolvency, any Judge of the Superior Court has power, on the application of such creditor, to enjoin the debtor from disposing of his property, require from him a bond, appoint a receiver, or make any other proper order in the premises.

Voluntary assignments may be made at any time by a debtor for the benefit of all his creditors, no preferential assignments being allowed. The Court of Probate appoints the trustee in all cases, requiring from him a bond before entering upon the discharge of his duties, and may remove him at any time for cause. Creditors are entitled to be heard relative to the appointment of a trustee, and notice is given of the time and place of the hearing by publication in a newspaper at least five days before the appointment. The Court also appoints commissioners to receive and pass upon claims against the estate, an appeal from whose doings may be taken to the Superior Court, within one month after their report is accepted, provided the matter in demand exceeds fifty dollars. The law requires notice of the appointment and meeting of the Commissioners to be given to all known creditors residing out of the District. Three months is ordinarily allowed for the presentation of claims. The commencement of proceedings in insolvency dissolves all attachments and levies of executions not completed, made within sixty days next preceding. All transfers of property by a person in failing circumstances, with a view to insolvency, are void, if made within sixty days before proceedings in insolvency are commenced.

One hundred dollars in cash, household furniture not exceeding $300 in value, and certain articles of personal property of nominal value are the only exemptions.

If a debtor shall have complied with all the provisions of the insolvent act, and if the Court shall find, after a hearing at which any creditor may be present, and examine the debtor on oath, that he has delivered up all his property to the trustee, and has made no conveyance or transfer in view of insolvency, for the purpose of giving prefereuce, and has not aided any creditor in obtaining a preference, he shall be entitled to the following privileges and benefits: 1. An allowance for the necessary support of himself and family, not exceeding fifteen dollars per week and for a period not exceeding six months. 2. If his estate shall upon final settlement pay 50 per cent. or more on the claims allowed, said Court shall, if the debtor so request, order twenty-five per cent. of the residue of such estate paid to him, provided such payment does not exceed $1,000. 3. If upon final settlement his estate shall pay 70 per cent. on the claims allowed, he shall be discharged from all claims which have been *proven* against his estate, and his property shall be exempt for two years from legal process founded on any claim that might have been proved against his estate, but no claim fraudulently contracted shall be affected by the discharge.

DELAWARE.

ACKNOWLEDGMENTS.— Within the State, before the Chancellor, or any Judge or Notary Public, or before two Justices of the Peace for the same county; out of the State, before any Consul-General, Consul, vice-Consul, Consular Agent, or Commercial Agent of the United States, duly appointed in any foreign country, at the places of their respective official residence, before the Judge of any District or Circuit Court of the United States, or the Chancellor, or any Judge of any Court of Record of any State, Territory, or county, or the Mayor or chief officer of any city or borough, and certified under the hand of such Chancellor, Judge, Mayor, or officer, and the seal of his office, court, city, or borough, by certificate endorsed upon or annexed to the deed; also before a Commissioner of Deeds for Delaware, or before any Notary Public of any State or Territory of the United States, or of the District of Columbia.

ASSIGNMENT LAW, SYNOPSIS.— Within thirty days after the execution of the assignment the assignee must file, in the office of the Register in Chancery of the county in which the assigned estate is situated, a sworn inventory of all such estate. Then it is the duty of the Chancellor to appoint two disinterested persons to appraise the estate. As soon as such appraisement is filed, the assignee must file a bond, with two sufficient sureties, approved by the Chancellor, in double the amount of the appraised value of the estate. The bond shall run to the people, but shall be for the protection of all persons interested in the estate. The assignee shall render an account every year from the date of his bond, until a final account is rendered and approved. If he fails to render the account voluntarily, he may be compelled to do so. Exceptions to the account may be filed at any time within a year from its date, to be heard before the Chancellor. The Chancellor upon cause shown may remove an assignee and compel an assignment to another appointed in his place. Any order of the Chan-

cellor's in the premises may be enforced by attachment and imprisonment.

COLLECTION.— In general. A claim, debt, or demand for less than $200 may be collected in a Justice's Court. When over $200 in the Superior Court. Arrest for debt is allowed in cases of fraud. Attachment is allowed against non-residents, and against debtors in cases of fraud, whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Cost of suit may be required of non-residents, and security for same in certain Superior Court cases. Judgment of Court of Record, if no defense entered, is had at first term after suit brought. In Justice's Court in 4 days after summons served. Execution may issue after entering of judgment. The judgment recovered in a Superior Court, from the time of entry, is a lien upon the debtor's real estate in such county. The judgment is a lien upon personal property only upon the levy of an execution.

COMMENCEMENT OF SUIT.— Summons in Justice Courts are returnable within fifteen days from date of issue, but on affidavit may be made returnable forthwith. In Superior Court the summons must be served personally on debtor before Court sits, or by leaving a copy of the summous at his usual place of abode, in presence of some white adult person, six days before court sits. Upon filiug proper affidavits suits may also be begun by capias and attachment, domestic and foreign. The allegations iu the affidavits may be investigated by summary proceedings before the Superior Court or before any one of the judges in vacation.

COMMERCIAL PAPER.— Is governed by the common law. Must be presented, protested, and parties notified. Notes, etc., falling due on Saturday or Sunday are payable the next succeeding day. Notes, etc., falling due on legal holidays are payable the next preceding business day, except when Monday is a holiday, and items due that day are payable Tuesday; when Saturday is a holiday, items due that day or Sunday, are payable the preceding Friday. In New Castle County, other than the city of Wilmington, notes, etc., falling due on Saturday are payable the same day. Notes, etc., falling due on Sunday or legal holiday are payable the preceding business day. Since July 1, 1898, no days of grace are allowed on notes, drafts, bills of exchange, made, drawn, or accepted by any person or corporation, but the same are due and payable without days of grace.

CORPORATIONS.— Any number of persons not less than three may associate to establish a corporation for the transaction of any lawful business or to promote any legitimate object or purpose by filing a certificate of corporation with the Secretary of State, as provided in a General Corporation Law recently enacted. Holders of stock assigning stock as collateral security must have stock duly transferred on the book of the company in order to make a valid and binding security. Foreign corporations which do business in the State without first filing with the Prothonotary of the Superior Court in each county a written designation signed, sealed, and attested, of a resident as its agent to receive a service of protest, are guilty of a misdemeanor punishable by fine. One who transacts such business for such corporation is guilty of a similar offense. Ten days after the death of such agent or his removal from the State, another must be designated.

ESTATE OF DECEASED PERSONS.— Executors or administrators have one year for settlement of the decedent's estate, and claims must be proved within that time. Executors and administrators shall pay demands against deceased in the following order: (1) Funeral expenses; (2) the reasonable bills for medicine and medical attendance during the last sickness, and for nursing, and necessaries for the last sickness of the deceased; (3) wages of servants and laborers employed in household affairs, or in the cultivation of a farm, but no servant or laborer to be allowed this preference for more than one year's wages; (4) rent for not exceeding one year, and this at the election of the party entitled, may be of rent in arrear, or rent growing due; (5) judgments against the deceased, which shall include judgments before a Justice of the Peace, and decrees of a court of equity against him for the payment of money; (6) recognizances, mortgages, and other obligations of record, for the payment of money; (7) obligations and contracts under seal; (8) contracts under hand for the payment of money; (9) other demands.

GARNISHMENT.— After judgment, may be made of debts due defendant except for wages in New Castle.

INSOLVENCY.— There is a domestic insolvent law, but it is very seldom used — not more than once in 20 years. It provides for a full surrender and equal distribution among creditors.

INTEREST.— Legal rate, 6 per cent. Agreed rate, 6 per cent. The penalty for usurious contracts is forfeiture of principal or equivalent.

INTESTATE LAWS.— Widow has use for life of one-third of realty. If no children, the use of one-half. She takes absolutely all personalty, after payment of debts, if no children nor kin. If there be issue, she takes one-third of residue of personalty, and one-half if there be no such issue, but brothers, sisters, or next of kin. She may take her dower in realty by notes and bonds or in money. Surviving husband, if no issue, takes one-half of deceased wife's realty during life, after debts are paid. If issue, whether living or dead, he takes all of her realty during life. If no surviving children, he takes all of her personalty after payment of debts; if children survive, the residue of such personalty is divided equally between surviving husband and children. Descent is according to the common law, with some slight statutory modifications.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Judgments can be obtained in the Superior Court against a debtor in all actions upon bills, notes, bonds, or other instruments of writing, for the payment of money, book accounts, and security on mortgages, judgments, and recognizances, on the second Friday, or if Court shall not sit so long, on the last day of the term of the Court to which the summons is returnable, provided no sufficient affidavit of defense is filed. If proper affidavits of demand and copies of causes of action have been filed on or before the return day of the term to which suit has been brought, judgment may be obtained in Justice Courts in six days after commencement of suit, but the defendant may claim one adjournment for a time not exceeding fifteen days, of course, and other adjournments if good grounds therefor can be presented by him. Judgments of the Superior Court are liens on real estate from the date of their entry or the rendition of the verdict. Judgments before a Justice are not a lien upon real estate until entered upon the records of the Superior Court by virtue of a transcript from the Justice's docket. Executions issued by a Justice are returnable in not more than six nor less than three months, and bind all the personal property of the debtor, within the bailiwick, that shall be levied upon within sixty days after the delivery of the execution to the officer. Execution may be stayed six months upon any judgment recovered at the first term in Superior Court, on security for the same. A stay before a Justice of the Peace may be secured for six months on plea of freehold, and for nine months on security. No judgment entered after May 4, 1893, continues a lien upon real estate for a longer term than 10 years next following the day of entry, or recording of such judgment.

LEASES AND HOW TERMINATED.— Whether a tenant is occupying under a hold-over lease for one or more years, or from year to year, for less than a year, or at will, a landlord cannot terminate it without giving the tenant 3 months' notice in writing to remove; excepting where the lease is by the month or week, when a month's or week's notice is sufficient. No particular form of notice.

LICENSES.— Necessary for nearly all professions and trades, they are granted to all without restrictions on the payment for the same to the Clerk of the Peace in the several counties; the tavern licenses are granted only by the Courts at regular sessions, and

under special and restricted circumstances, and their violation is severely punished.

MORTGAGES OF REAL ESTATE.—Are as at common law, and take effect as liens from date of recording. When taken to secure purchase mouey must be recorded within 30 days.

PARTNERSHIPS.—Are goverued by the common law; but special and limited partnerships are provided for by statutes. These must be formed by writing, with terms, to be recorded, and published in newspapers. They are closely guarded.

REPLEVIN.—Bond must be given before writ issues. Defendant may retain property on giviug a couuty bond. Sales of personal property are not valid unless possession is takeu and retained. Promises to pay the debt of another must be in writing and signed by party to be charged, if the sum exceed $25. If under $5 it may be proved by the oath of the promisee; betweeu $5 aud $25, by the oath of one credible witness.

STATUTE OF FRAUDS.—Is substantially the same as that of Eugland.

STATUTE OF LIMITATIONS.—Claims agaiust estates of deceased persous, 1 year. Injuries and wages, 1 year. Accounts and book debts, 3 years. Notes and bills, 6 years. Judgments, 10 years in New Castle County, 20 years, in Keut and Sussex Counties. Specialties, i. e., instruments of writing, under seal as bonds, deeds, contracts, mortgages, etc., which are not only written, but are signed, sealed, and delivered by the party bound by them, 20 years.

DISTRICT OF COLUMBIA.

ACKNOWLEDGMENTS.—Acknowledgments of deed may be made in the District of Columbia before any Judge of auy of the Courts of said District, the Clerk of the Supreme Court of the District, or any Justice of the Peace or Notary Public, or the Recorder of Deeds of said District, and the certificate of the officer taking the acknowledgment shall be to the following effect:

I, A —— B ——, a Justice of the Peace (or other officer authorized), in and for the District of Columbia, do hereby certify that C —— D ——, party to a certaiu deed bearing date on the —— day of ——, and hereto annexed, personally appeared before me in said District the said C —— D ——, being personally well-known to me as (or proved by the oath of credible witnesses to be) the person who executed the said deed, and acknowledged the same to be his act and deed.

Giveu uuder my hand and seal this —— day of ——

A —— B —— (Seal.)

When any deed or contract under seal is to be acknowledged out of the District of Columbia, but withiu the United States, the acknowledgment may be made before any Judge of a Court of Record aud of law, or auy Chaucellor of a State, any Judge or Justice of the Supreme, Circuit, or Territorial courts of the United States, any Justice of the Peace or Notary Public; provided: That the certificate of acknowledgment aforesaid, made by any officer of the State or Territory not having a seal, shall be accompanied by the certificate of the Register, Clerk, or other public officer, that the officer taking said acknowledgment was iu fact the officer he professed to be.

ARREST.—No person can be held to bail in a civil suit, or imprisoned for debt.

ASSIGNMENTS.—In all cases of voluntary assignments for the benefit of creditors an inventory under oath must be annexed to the deed setting forth estate, real and persoual, list of creditors with their residences, places of business, and amount of their demands; such iuventory is not conclusive as to amount of the estate. Such assignment shall vest in the assignee title to any other property belonging to debtor at time of assignment, exceptiug what is exempt. Assignee must be a resident of the District, his assent shall appear upon the deed in writing, and the assignment is invalid unless recorded withiu five days after its execution, while the trust thus created is under the supervision and control of the District of Columbia Supreme Court. Immediately upou filing such deed the assignee must give bond to the United States with security approved by the Equity Court, and he or a trustee appointed in his place may be required to give additional security. Upon a failure to comply with any of the aforesaid requirements he may upon application of assignor or creditor be removed and a trustee appointed iu his place. Court has power to accept resignation of assignee, and, for cause shown, to remove any assignee or trustee, and to make and enforce orders uecessary to put the new trustee in possession of all assets covered by the assignment. Provision is made to reach executor or administrator of assignee, and even in proper cases to reach bond of such executor or administrator. Assignee may bring suit in his own name to recover debts or assets, and the assignor may be examined under oath, and Court has power to prevent fraudulent transfer. Distribution is made under direction of Court. All preferences void excepting *bona fide* liens and incumbrances before the assignment. Creditors share equally but Court may make allowance to the creditor beginning proceedings for expenses and counsel fees. Creditors may nevertheless attack assignment made to hinder, delay, or defraud them, whereupon Court may eujoin any proceeding and, finding same void, may appoint trustee to take charge of effects passing all necessary orders. Trustees must give notice to all creditors to prove their claims before the auditor of the Supreme Court.

BANKRUPTCY.—By an act of Congress to establish a uuiform system of bankruptcy throughout the United States, approved July 1, 1898, "The Supreme Court of the District of Columbia" is made a Court of Bankruptcy for this District. Acts of bankruptcy by a person shall consist of his having: 1. Conveyed, transferred, concealed or removed, or permitted to be concealed or removed, any part of his property with intent to hinder, delay, or defraud his creditors, or any of them; 2. transferred while insolvent any portion of his property to one or more of his creditors with intent to prefer such creditors; 3. suffered or permitted a creditor to obtain a preference by legal proceedings, and not having at least 5 days before a sale of property affected by such preference vacated or discharged such preference; 4. made general assignment for benefit of creditors; 5. admitted iu writing his inability to pay his debts and his willingness to be adjudged a bankrupt on that ground. Any person except a wage-earner or a person engaged chiefly in farming, unincorporated company, and any corporation engaged principally in manufacturing, trading, printing, publishing, or mercantile pursuits, owing debts to the amouut of $1,000 or over, may be adjudged an involuntary baukrupt upon default or an impartial trial. Any person who owes debts except a corporation, shall be entitled to the benefits of this act as voluntary bankrupt. The jurisdiction, practical aud procedure, is defined in detail in the the act.

CHATTEL DEEDS OF TRUST.—Are the prevailing forms of conveyauces securing the payment of debts on persoual property. They must be witnessed, acknowledged, aud recorded. Trusts take effect as to third parties from date of record. A bill of sale, trust, or mortgage on articles exempt from execution is iuvalid unless signed by the wife of the debtor, if he be married and living with her. Chattel trusts upon goods offered for sale are presumably void. Any conveyance, iu whole or part, of personal property or chattels, without delivery, is invalid as to innocent purchasers without notice unless recorded prior to such sale.

COLLECTION.—In general. The limit for suits or claims before Justices of the Peace is $300. They have exclusive jurisdictiou in claims of less than $100; also jurisdiction in replevin up to $300. Arrest or imprisonment for debt is not allowed. Attachment is allowed against debtors in cases of frand whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Costs of suit must be secured in advance in Jus-

tices' Courts, or the suit will be dismissed, and so on demand in Circuit Court. It is at least 20 days between the service of summons on the debtor and obtaining of judgment in the Supreme Court, and 5 days in Justices' Courts, or some brief period. Execution may issue in the Supreme Court after entering of judgment, and in Justices' Courts in 4 days, unless such execution is stayed. Such stay is allowed in Justices' Courts only, except on motion to vacate or appeal. Judgment of the Supreme Court is a lien on realty from date of rendition, on personalty from issue of execution. Such judgment must be enforced within 12 years, and may be revived for a like term. Judgments in Justices' Courts are liens from date of filing with clerk of Supreme Court.

COMMENCEMENT OF SUIT.— Every civil action shall be commenced by filing in the Clerk's office a bill, petition, or declaration, etc., as the case may be, with the deposit for costs. In any action arising on contract, if the creditor shall file, at the time of bringing his action, an affidavit setting out distinctly his cause of action and the sum he claims to be due, exclusive of all off-sets and just grounds of defense, he shall be entitled to a judgment for the amount claimed, with interest and costs, unless the debtor shall file, along with his plea, an affidavit of defense, denying the right of the creditor to the whole or some specified part of his claim, and stating in precise and distinct terms the grounds of his defense. Twenty days, exclusive of Sundays and legal holidays, after service, are given for defendants in actions arising on contract in which to plead.

COMMERCIAL PAPER.— The holidays elsewhere specified shall, for all purposes of presenting for payment or acceptance, for the maturity and protest of bills of exchange, bank checks, and promissory notes, or other negotiable paper, be treated and considered as is the first day of the week, commonly called Sunday, and all notes, drafts, checks, or other commercial or negotiable paper falling due or maturing on any of said holidays shall be deemed as having matured on the judicial day next succeeding. Days of grace are abolished since January 1, 1897. For all purposes respecting the presentation for payment or acceptance, or the protesting or the giving notice of dishonor, of commercial paper, whether made in or beyond the District, Saturday is a legal holiday from 12 o'clock, noon, and all promissory notes and other commercial paper, which otherwise would be due and payable, or presentable for acceptance or payment on such half holiday, Saturday, is due and payable or presentable for acceptance or payment on the secular or business day next succeeding.

COMMERCIAL TRAVELERS.— Under a decision of the Supreme Court of the District of Columbia a license is no longer required of commercial travelers in this District.

CONDITIONAL SALE.— No bill of sale, conditional sale, mortgage, deed of trust, or any conveyance of personal property, where the property has not been delivered whereby title is claimed or a lien retained, is valid against a subsequent innocent purchaser for value without notice, unless the same be duly recorded prior to such sale to such purchaser. Such conditional sale, etc., takes effect from the date of record.

CONSIGNMENTS.— Any warehouse man, factor, storage, forwarding, or commission merchant, or his clerk, agent, or employee, who, with intent to defraud the owner thereof, sells, disposes of, or applies or converts to his own use, any property intrusted or consigned to him, or the proceeds or profits of any sale of such property, shall be deemed guilty of embezzlement, and shall suffer imprisonment for not more than 10 years.

CORPORATIONS.— Under the general incorporatiou law 7 different classes of corporations are enumerated, the number of incorporators varying, according to the class, from 3 to 20. There are special provisions for the incorporation of safe deposit, guaranty, and title insurance companies. Under the general law a certificate must be filed stating the corporate name, objects, term of existence, amount of stock, number of shares, names of trustees for first year, and location of place of business. The certificate must be verified by the president and a majority of the trustees, and filed in the office of the Recorder of Deeds within 30 days after the payment of the last instalment of the capital stock. The stockholders of manufacturing, mercantile, and other similar corporations, formed under the general statute of incorporation in class 4, are severally and individually liable to the creditors of the company in which they are stockholders, to an amount equal to the stock held by them respectively, for all debts and contracts made by such company, until the entire amount of the authorized capital shall have been paid in, and a certificate thereof made and duly recorded. Stock in any incorporate company cannot be levied on or attached in the District of Columbia, and hence the pledgee of certificates of stock would be protected from the claims of creditors without any registry of the stock in his own name. Annual reports are required to be made stating the amount of capital portion paid and existing debts. Foreign insurance companies, building associations, banking companies, or other companies or associations advertising for or receiving premiums, deposits, or dues of membership, doing business in the District of Columbia are required to publish verified semi-annual statements in the months of March and September in each year, showing their capital stock and the amount paid in, assets, liabilities, dividends, current expenses for 6 months ending January and July preceding, etc. These statements are required to be published in 2 daily papers printed in the District during the months of March and September. Especial reference to the laws of the District by intending incorporators is advisable in order to avoid mistakes.

DAYS OF GRACE.— Grace is not allowed on sight or demand paper nor on time paper. Saturday is a half holiday. Notes maturing on Saturday, payable the next business day. Notes maturing on Sundays and holidays, payable the day after.

DEEDS OF TRUST.— Money loaned upon real estate is generally secured by a deed of trust instead of mortgage. The former conveyance saves the intervention of a Court, and is a preferable security, as by these deeds a legal title to the property is vested in a trustee, who is empowered to sell the same in default of payment. From such sales there is no redemption. They take effect as to third parties from date of record.

ESTATES OF DECEASED PERSONS.— Every executor and administrator shall render to the Probate Court within the period of twelve months from the date of his letters the first account of his administration. If the first account shall not show the estate which was on hand to be fully administered, other accounts shall be rendered from time to time until the estate is fully administered under such rules as the Supreme Court of the District may establish.— Act of June 30, 1902.

FRAUD.— No contract for the sale of goods for the price of $50, or upwards, shall be allowed to be good, except the buyer shall accept part of the goods sold, and actually receive the same, or give something in earnest to bind the bargain, or in part of payment, or that some note or memorandum in writing of the said bargain, be made and signed by the parties to be charged by such contract, or their agents thereto lawfully authorized. Every promise to answer for the debt of another person must be in writing, and signed by the party to be charged.

INTEREST.— Legal rate, 6 per cent. Agreed rate, 10 per cent. The penalty for usurious contracts is forfeiture of all interest if sued for in one year.

INTESTATE LAWS.— Dower is one-third life interest in rents and profits of realty. Since 1896 widow is entitled to dower in equitable as well as legal estate of deceased husband. Intestate's realty descends equally to child or children and their descendants. If no child nor descendant, to father, if land came on his part. If no father, to brothers and sisters of intestate of the blood of the father, and to their descendants equally. If no brothers nor sisters, or descendants of such to grandfather on part of the father, and to his descendants. If estate came by the mother, it follows the mother's line. If decedent's estate was acquired by purchase, then it de-

scends first to the children ; next to brothers and sisters of whole-blood and their descendants equally ; next to brothers and sisters of half-blood and their descendants equally ; next to father, next to mother, then to grandfather and his descendants, then to grandmother and her descendants. If no descendants or kindred, to husband or wife, and his or her kindred. Estates of courtesy exist as a common law. Personalty, after payment of debts, goes wholly to widow, if there be no child, parent, grandparent, brother, or sister. If child or children or descendants thereof, the widow takes one-third ; if no child or children or descendants thereof, she takes one-half. Balance divided equally among children and descendants. If none, to father, next to mother, next to brothers and sisters. No distinction between whole and half-blood in distribution of personalty.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— All judgments of the Supreme Court are liens upon real estate, and there shall be no *supersedeas* or stay of execution otherwise than by injunction or on proceedings in error to the Supreme Court of the United States. In the Justices' Courts stay of execution on sums over five dollars may be had for periods varying from one to six months, according to the amount involved, but no judgment by a Justice of the Peace shall be a lien on real estate, unless after a return of *nulla bona*, and the judgment then filed in the Supreme Court, when it becomes like other judgments of that Court.

LEASES AND HOW TERMINATED.— If the lease is not for a definite term, but the rent day is fixed as monthly, landlord must give tenant 30 days' notice, such notice to end with a rent period. The same rule applies to tenant holding over. The usual form of notice is as follows:

> As I desire to again have and possess premises, No.——, you are hereby notified to quit and remove therefrom at the end of 30 days.

If the tenant does not move, proceedings may be had before a Justice of the Peace, by virtue of which, about 15 days thereafter, removal may be enforced.

LICENSES.— Every person liable for a license tax who shall fail to pay the same before engaging in business is subject to a fine of not less than $5, nor more than $50, for each offense, in addition to paying the license tax. No license is required of any person bringing to the city wood, lumber, building material, or produce of any kind, to be sold by the car, cargo, or wagon load. If any person resident or non-resident of the District of Columbia shall permit any dealer or commercial agent, without a license as such, to sell under his license, the person so offending shall pay a fine of not less than $100 for each offense.

LIMITATION.— Claims against estates of deceased persons, 15 to 18 months. Injuries and wages, 1 year. Accounts and book debts, 3 years. Notes and bills, 3 years. Judgments, 12 years. Specialties, i. e., instruments of writing under seal, such as bonds, deeds, contracts, mortgages, etc., which are not only written but are signed, sealed, and delivered by the party bound by them, 12 years.

LIMITED PARTNERSHIPS.— For the transaction of any business may be formed by two or more persons who shall be severally responsible as general partners, and by one or more persons who shall contribute a specific sum in cash to the common stock. A certificate of such limited partnership stating the amount contributed by each special partner, must be filed with the Clerk of the Supreme Court of the District. Special partners are liable for the debts of the partnership to the extent of the fund contributed by them, and cannot in case of bankruptcy, claim as creditors until all the claims against the partnership have been satisfied.

REPLEVIN.— At the time of filing a declaration in replevin the plaintiff, his agent, or attorney must file an affidavit made before the Clerk, stating: 1. That the plaintiff is entitled to recover possession of the chattels proposed to be replevied, being the same described in the declaration ; 2. that the defendant has seized and detains the same ; 3. that said chattels are not subject to such seizure or detention, and were not taken upon any writ of replevin. The plaintiff must also enter into an undertaking, with surety approved by the Clerk, to abide the judgment of the Court in the premises.

SERVICE.— The first Tuesday of every month excepting July and August, in equity, is return day of process and appearance day of parties. At law the defendant is required to plead to the declaration on or before the 20th day, exclusive of Sundays and legal holidays, occurring after the day of the service thereof.

FLORIDA.

ASSIGNMENT LAWS.— 1. Does there exist in this State a separate, distinct assignment, insolvency, or bankrupt law? — A. Yes.

2. Does the law in this State permit the debtor to make a preferential assignment? — A. No.

3. Can a judgment by default or confession be given in favor of relatives or friends, thus defeating the efforts of general or outside creditors? — A. If the judgment be for full consideration, and there be no fraud it will be upheld.

4. Can conveyance or transfer of property be made immediately anterior to assignment and still be held valid? — A. Yes, if for a valuable consideration and without fraud.

5. Can a debtor in this State obtain a discharge from his obligations without the unanimous consent of creditors, and under what circumstances? — A. No, it only releases debtors from the claims of such creditors as accept a dividend in full discharge of their claims, and does not in any way affect the other creditors.

6. Does the acceptance of a dividend from an estate under assignment in this State discharge the debtor? — A. Yes.

7. What is the position of creditors who do not come into an assignment, should one be made? — A. His claim is not affected.

COLLECTIONS.— In general. A claim, debt, or demand for less than $100 may be collected in a Justice's Court. The Circuit Court is unlimited. Arrest for debt is not allowed. In cases of fraud attachment is allowed against debtors whether the debt is due or not. Parties to the suit or interested therein are competent witnesses. Costs of suit must be secured in advance or the suit will be dismissed. It is at least 10 days before time, exclusive of rule day afterward, between the service of summons on the debtor and the obtaining of judgment in the Circuit Court, and 10 days in Justices' Courts. Execution may issue in any Court after entering of judgment. The judgment of a Justice of the Peace, when a transcript thereof is filed in the office of the clerk of the county where rendered, is a lien upon the debtor's real estate in such county. The judgment is a lien upon personal property only upon levy of an execution.

COMMENCEMENT OF SUIT.— First Mondays in month are return days of process. All common law actions commence by filing a præcipe. Process is made returnable to rule day, being first Monday in month, but there must be at least ten days between the issuing of its process and the return day. On return day, defendant must appear ; if he appears, he has to next rule day to file plea or demurrer.

If no appearance, default is entered for that reason ; if no plea or demurrer, default for that reason.

COMMERCIAL PAPER.— Commercial bills proper are negotiable everywhere, of course, and promissory notes payable to bearer, also, if taken in the way of business before maturity. Every negotiable instrument is payable at the time fixed therein without grace. When the day of maturity falls upon Sunday or a holiday, the instrument is payable on the next succeeding business day. Instruments falling due on Saturday are to be presented for payment on the next succeeding business day, except that instruments payable on demand may at the option of the holder, be presented for payment before 12 o'clock noon on Saturday when that entire day is not a holiday. Provision for attorney's fees in note and for transfer and deposit of a collateral do not interfere with

negotiable character of the instrument. Collateral securities may be sold as agreed upon between parties to pledge.

CONDITIONAL SALES.— No provision is made by the statutes for recording conditional sales. Such sales have been held valid at any time within two years after the delivery of possession of personal property to the conditional vendee without record, even against *bona fide* purchasers, for value and without notice. After the expiration of two years from the delivery of possession they are invalid against purchasers for value without notice.

CONSIGNMENTS.— If a consignee fraudulently converts the consigned property to his own use, he is guilty of embezzlement, and may be punished therefor, otherwise the only remedy is a civil action at law.

CORPORATIONS.— For business and manufacturing purposes are organized only under general laws, a constitutional provision prohibiting the granting of special charters. Notice of intention to apply for letters patent accompanied by a copy of the articles of incorporation, which notice shall contain the name of the company, amount capitalized for, amount of shares, business to be transacted, officers to serve same for the first year, amount of indebtedness to which the company can be subjected, shall be published once in each week for four weeks in the newspaper nearest the principal place of business of the proposed company. Copy of the articles must be filed in the Secretary of State's office during the period of publication. Upon proof of publication the Governor issues patent, and this must be recorded in the Clerk's office and office of the Secretary of State, showing ten per cent. of the capital stock has been paid in. All stock subscriptions payable in money, unless otherwise provided in articles, in which case property may be substituted, provided property be described. Diversion of the funds of the corporation, or payment of dividends, leaving insufficient funds to meet outstanding liabilities, is a criminal offense, punishable by fine or imprisonment. Directors, being stockholders, who knowingly declare and pay any dividend, the corporation being insolvent, or any dividend the payment of which would render it insolvent, are jointly and severally liable for all debts of the corporation then existing, and for all thereafter contracted, so long as they continue in office. They are exempt from that liability if absent when the dividend was declared; or, if being present, they objected in writing to the declaring thereof. Stockholders only liable for unpaid subscriptions to creditors, unless some fraud has been perpetrated which they are party to.

INSOLVENCY.— There is no provision made by law for insolvent debtors. In case of insolvent estate, when an executor or administrator shall believe the estate indebted to an amount greater than the value thereof, he shall file a written suggestion of insolvency in the office of the County Judge of the county in which letters were granted, and thereupon the Judge shall make an order requiring a true schedule of the assets of said estate to be filed, and the Judge shall give notice once a month in a newspaper published in the county, and by written notice at the Court House door to all persons having claims against said estate to appear and file the same with him on or before a day to be specified in said notice, not less than 6 months, or more than 9 months. After that time the Judge shall, after payment of the costs of administration, make distribution of said assets among the creditors *pro rata*, with exception of the preferred creditors, which are: 1. The necessary funeral expenses; 2. debts due for board and lodging during the last sickness of the deceased; 3. physicians' and surgeons' bills for medicine and attendance, and debts incurred in favor of other persons for nursing, attendance, and medicine during the last sickness of the deceased; 4. judgments of record rendered and docketed in this State during the lifetime of the deceased and all debts due to the State; 5. finally, all other debts, whether by specialty or otherwise, without distinction of rank.

INTEREST.— Legal rate, 8 per cent. Agreed rate, 10 per cent. Forfeiture of all the interest is the penalty for all usurious contracts.

INTESTATE LAWS.— Widow is entitled to life-estate in one-third of deceased husband's realty, and to one-third of personalty absolutely. Dower is a preferred claim. She may elect to take, in lieu of a dower, a child's part, if done within a year of probate of will or letters taken out. A child's part becomes a fee simple but subject to husband's debts. Realty descends in parcenary to male and female kindred: 1. To children and their descendants. 2. If none, then to father. 3. If no father, to mother, brothers, and sisters and their descendants. 4. If none, inheritance divided into moieties, one going to paternal, the other to maternal kindred, as follows: to grandfather; if none, to grandmother, uncles, and aunts on the same side and to their descendants; if none, to the great-grandfathers, or to the great-grandfather, if but one; if none, to great-grandmothers, or great-grandmother, if but one; and the brothers and sisters of the great-grandfathers and great-grandmothers and their descendants. And so without end passing to nearest male ancestors and for want of them to lineal female ancestors of like degree, and their descendants. Personalty is distributed according to the laws regulating descents.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Executions are returnable when satisfied. Sheriff required to report what he has done at every term of Court. Real estate is bound or held by judgment from its date. Personal property is only bound by execution from date of reception by Sheriff. All property under execution must be advertised thirty days before sale. The legal days of sale are the first Monday in every month. No stay of execution.

JURISDICTION OF COURTS.— Justices' Courts and county Judges' Courts have jurisdiction to the amount of $100, except in counties where County Courts have been established. In such counties the County Courts have jurisdiction to the amount of $500, and the Courts of County Judge and Justices of the Peace $50.

LEASES AND HOW TERMINATED.— Where tenancy is by the month, 3 days' notice is required before the tenant can be evicted by legal proceedings. The statutes do not prescribe the length of notice required where the tenancy is from year to year, or the tenant is occupying under a hold-over lease.

MORTGAGE ON REAL ESTATE.— Must be recorded in office of Clerk of County to be good as against subsequent purchasers or creditors, but as between the parties themselves would be good without recording.

PARTNERSHIPS.— No special statute for partnership. The general law obtains.

REPLEVIN.— Personal property wrongfully taken or detained may be recovered upon affidavit describing the property, and stating that affiant is entitled to the possession thereof; that it has not been taken for any tax, assessment, or fine, nor seized under any execution or attachment against affiant's property liable to execution or attachment, and if so seized, that it is exempt from such seizure. Bond, however, in double the value the property sued for, must be given, with good surety, before a writ will be issued. The defendant can have the property restored to him within 3 days after the service of the writ from the Circuit Court, or before the return day of the writ from the Justice's Court, upon giving bond in double the value of the property with good surety.

STATUTE OF FRAUDS.— All promises made by persons of full age to answer for acts done while an infant, to charge any person upon assurance concerning character, conduct, credit, ability, trade, or dealings, with the intent that such other may obtain credit, money, or goods — to charge any person as a personal representative upon promise to answer out of his own estate — to answer for the debt, default, miscarriage, in consideration of marriage, for the sale of real estate, including a lease of more than one year, and agreements as to lands, etc., which are not to be performed within a year, or any uncertain interest therein, are required to be in writing, signed by the parties sought to be charged, to sustain an action upon such agreement of promise. But the consideration need not be expressed.

STATUTE OF LIMITATION.— Claims against estates of deceased persons, 2 years. Injuries and wages, 2 years. Accounts and book debts, 4 years. Notes and bills, 5 years. Judgments, 20 years. Specialties, i. e., instruments of writing under seal, such as bonds, mortgages, contracts, etc., which are not only written but are signed, sealed, and delivered by the party bound by them, 20 years.

GEORGIA.

ACKNOWLEDGMENTS.— May be made before a Commissioner of Deeds of Georgia, with certificate under his seal, or a Judge of a Court of Record, with the certificate of the Clerk, under seal of such Court, of the genuineness of the signature of such Judge. If the Judge is ex-officio Clerk he may certify as Clerk under the seal of his Court to his attestation as Judge; or by a Notary Public of the State and county where executed, with a certificate under the seal of the Court from the Clerk of the Court under which the Notary holds his appointment; or if appointed by the Governor then with a certificate from the Secretary of State, certifying that said Notary was at the time of the execution of the deed regularly commissioned and authorized by law to attest deeds and take acknowledgments thereof.

COLLECTIONS.— In general. Less than $100 may be collected in a Justice's Court. Not less than $50 nor over $300 in a County Court. The Superior Court has general jurisdiction. Arrest for debt is not allowed. Attachment is allowed against non-residents and against debtors in case of fraud whether the debt is due or not. Parties to the suit or interested therein are competent witnesses. Costs of suit must be secured in advance only when demanded. It is at least 15 days between the service of summons on the debtor and the obtaining of judgment in the Superior Court, in Savannah City Court, 10 days, Atlantic City Court, 15 days, and in Justices' Courts 10 days. Execution may issue in any Court after entry of judgment unless stayed. Judgment is general property of the defendant, except choses in action, and on these from date of levy. All judgments bind personalty and realty from date except as otherwise provided.

COMMENCEMENT OF SUIT.— In the Superior Court, petition must be filed and process issued twenty days, and served fifteen days before the Court meets. Equity suits must be filed thirty days before Court meets. In the City Court of Savannah, petition must be filed and process issued fourteen days, and served ten days before the Court meets. City Courts of Atlanta, Athens, Augusta, Rome, and Gainesville same as in Superior Court. In the Justices' Courts suit is commenced by a summons bearing date fifteen days before the trial, and of which at least ten days' service must be made.

COMMERCIAL PAPER.— The three days of grace allowed by custom on paper payable at banks or brokers' offices shall not be allowed on any bill or draft payable at sight. Accommodation indorsers are sureties. Indorsers may be sued in the same action and in the same county with the maker, drawer, or acceptor. It shall not be necessary to protest in order to bind indorsers except in the following cases (this does not apply to foreign bills of exchange): 1. When the paper is made payable on its face at a bank or banker's office; 2. when it is discounted at a bank or banker's office; 3. when it is left at a bank or banker's office for collection. In all such cases days of grace shall be allowed. The *bona fide* holder for value of a bill, draft, or promissory note, or other negotiable instrument, who receives the same before it is due and without any notice of any defect or defense, shall be protected from any defenses set up by the maker, acceptor, or indorser, except the following: 1. *Non est factum;* 2. gambling, or immoral and illegal consideration; 3. fraud in its procurement. If the holder received it after it is due, its non-payment at maturity is notice of its dishonor, and he takes it subject to all the equities between the original parties thereto. Commercial papers presentable for acceptance on a legal holiday, shall be deemed to be presentable for acceptance or payment on the secular or business day next preceding such holiday. When the legal holiday (other than Sunday) shall fall upon Sunday, the Monday next following shall be deemed a legal holiday, and paper due on such Sunday shall be payable on the Saturday next preceding; and paper which would otherwise be payable on said Monday shall be payable on the Tuesday thereafter. Whenever a legal holiday shall fall on a Saturday, paper due on Sunday following shall be payable on the Monday next succeeding. When a legal holiday shall fall on Monday, paper which would otherwise be payable on that day shall be payable on the Tuesday next succeeding.

COMMERCIAL TRAVELERS' LICENSE LAWS.— There is no State law on the subject, except the act of September 29, 1881, which imposes a tax of $200 yearly upon manufacturers and dealers in iron safes. In Atlanta no tax is imposed if the traveler sells none but "registered merchants" of the city. If he sells others, the tax is $25 per annum and Clerk's fee, or $5 per month and Clerk's fee.

CONDITIONAL SALES.— The contract must be recorded in the Clerk's office of the Superior Court in the county in which the purchaser resides and also in the county where the property is located.

CONSIGNMENTS.— If a consignee appropriates the consigned property to his own use he is guilty of the crime of "larceny after trust," and, upon conviction, may be punished by imprisonment and labor in the penitentiary for not less than two nor more than seven years. The criminal prosecution must be begun within four years. The remedy of the consignor is that of an ordinary action at law, and he can prosecute offender.

CORPORATIONS.— The power to create corporations vests in the General Assembly and the Courts, by whom all charters must be granted. The liability of stockholders is confined to the amount of their unpaid subscriptions, unless charter otherwise expresses. Except as against the claims of the corporation, a transfer of stock does not require a transfer on the books of the company. As to whether or not it is desirable to have transfers of stock held as collateral made on the books of the company, the circumstances of each case must determine. For instance, if the corporation be one imposing individual liability on the stockholders, such as State Banks, if the pledgee has the stock transferred on the books of the company, and the bank fails, while the stock thus stands in the name of the pledgee the statutory liability at once attaches to him, and he will find himself holding a liability instead of a security. Again, while the transfer is good except as against the claims of the corporation, as above stated, the holder of the scrip by blank indorsement is liable to have to interpose claims to sustain his title in case of the levy of attachment or other process on the stock as the property of the person in whose name it stands on the books. Hence, if one held stock as collateral for the debt of a financially weak party, it might be safer to transfer on the books to prevent annoyance of possible lawsuits. *E converso*, if the debtor is thoroughly responsible financially, nothing is gained by transfer. Whenever a stockholder in any corporation is individually liable under the charter, and shall transfer his stock, he shall be exempt from such liability, by such transfer, unless such corporation shall fail within 6 months from the date of such transfer. The stockholder in whose name the capital stock stands under the books of such corporation at the end of its failure shall be primarily liable to respond upon such individual liability; but upon proof made that any shareholder at the date of the failure is insolvent, recourse may be had against the person from whom such insolvent shareholder received his stock, if within a period of 6 months prior to the date of the failure of such corporation. Shares in corporations are subject to levy and sale under attachment or execution in any county where the corporation does business. The law requires notice of the levy to be given to the defendant, if residence be known, and also of the officers or agents of the corporation in the county where the levy is made. The statutes provide that the officers of corporations are required to give the levying officer information as to the number of shares owned by the defendant in execution.

ESTATE OF DECEASED PERSONS.— Claims must be presented and proved within twelve months after letters are granted to executor or administrator, or they lose their priority over other claims of less dignity paid before notice. No specified time is given to the administrator or executor to close the estate. He is under the control of the Ordinary, and must make returns annually under oath to that office. Debts of the decedent rank in the following order: — 1. Funeral expenses, physician's bill, and expenses of last sickness. 2. Necessary expenses of administration, including a year's maintenance for the family, which is fixed by five appraisers appointed by the Ordinary. 3. Taxes — State and United States. 4. Debts due by deceased as executor, administrator, guardian, or trustee. 5. Judgments, mortgages, and other liens created in his lifetime, according to priority — mortgages and specific liens preferred only so far as such property extends. 6. Debts due for rent. 7. All liquidated demands, including foreign judgments, dormant judgments, bonds, promissory notes, and other debts whose amounts were fixed, ascertained, or acknowledged by deceased in his lifetime. 8. Open accounts.

INTEREST.— Legal rate, 7 per cent. Agreed rate, 8 per cent. Penalty for usurious contracts is forfeiture of excess.

INTESTATE LAWS.— Dower is one-third of estate for life in deceased husband's realty, the dwelling-house not to be valued unless in a city. Widow can not waive dower by mortgage or lien. It is superior to judgments or other liens. She may elect to take a child's inheritance in lieu of dower. She is entitled to possession of dwelling and furniture till her dower and furniture are set apart. No tenancy by courtesy. Descent is as follows: 1. Husband is sole heir of wife unless she leaves children or descendants of such, then he and the children take share and share alike, descendants of children taking *per stirpes*. 2. Wife is sole heir of husband leaving no children or their descendants. 3. If there are children or their descendants, wife takes the child's part, unless the shares exceed five, when she takes a fifth part. If wife elects to take dower, she has no further interest in realty. 4. Children stand in first degree from intestate, and inherit equally. Lineal descendants of children stand in place of parents and take *per stirpes*. 5. Brothers and sisters of intestate stand in second degree, and inherit, if there is no widow nor surviving husband nor children nor descendant. Half-blood on paternal side inherits equally with whole-blood. If no whole nor half-blood on paternal side, half-blood on maternal side inherits. Children or grandchildren of deceased brothers and sisters stand in place of their parents, and there is no representation further than this among collaterals. 6. Father inherits equally with brothers and sisters. If no father but a mother, who is a widow, she inherits as the father would. If mother is not a widow, she takes nothing, but takes as widow if the estate be that of her only or last surviving child. Paternal and maternal next of kin, in all degrees beyond those above mentioned, stand on equal footing. 7. The next degree embraces cousins, uncles, and aunts, who inherit equally. 8. More remote degrees inherit by rules of cauon law. Personalty is distributed under laws governing descent of realty.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Judgment can be obtained in the Superior Court at the second term, and in the City Courts of Savannah and Atlanta at the first term. They are, from their date, lien upon all property of the debtor, real and personal, not specially exempted. Execution may issue at any time after judgment is signed and filed, and is returnable to the next term after being issued; may be stayed for sixty days by giving bond and security within four days after the adjournment of the Court.

JURISDICTION OF COURTS.— Justices' Court jurisdiction is $100. City Court of Savannah, unlimited. Superior Court, unlimited, and in equity, land, and divorce cases, exclusive. City Court of Atlanta has six terms each year, of two months' duration each, for the return and trial of all civil cases. The terms are first Mondays in January, March, May, July, September, and November, and suits must be brought twenty (20) days before each term and judgment can be obtained at the first term of Court. The jurisdiction of the Court is unlimited as to amount but it has no jurisdiction over equity, land, or divorce cases.

LEASES AND HOW TERMINATED.— Where a tenant occupies premises from month to month without lease for a definite length of time, 60 days' notice to quit is required; tenant must give the landlord 30 days' notice of his intention to vacate. No notice required by landlord to terminate a written lease to expire at a fixed time. This would apply to a lease from year to year. If a tenant holds premises under a lease for a year and does not vacate at end of term, but continues to occupy without further agreement, he holds for the same period as the lease ran. Notice must be in writing, but no particular form required.

LIMITATION OF ACTIONS.— For open actions, four years; notes, etc., six years; sealed iustruments, twenty years; judgments to be kept open and retain their lien must have execution issued thereon, within seven years, or they become dormant. Execution must be levied or have some eutry made thereon by the Sheriff or other ministerial officer every seven years, or the judgment becomes dormant. Dormant judgments may be revived within three years. A promise to renew or revive the debt must be in writing, in the handwriting of the debtor, or signed by him or by some one authorized by him. By an act of the legislature passed March 16, 1868, all debts contracted previous to June 1, 1865, are barred if not sued on or before the first of January, 1870.

MORTGAGES.— Mortgages on realty must be foreclosed in Superior Court of county where the land lies, and is by petition and rule nisi, and foreclosure is granted at the first term thereafter, provided the rule be published 4 months, or personal service be had 3 months, before the first day of the term. Land is then sold by the Sheriff after legal advisement. Foreclosure on personalty is summary, and only requires after maturity of debt an affidavit of the sum due and statement of facts and filing of this affidavit annexed to the original mortgage, or a sworn copy of the original in office of Clerk of Superior Court of county of defendant's residence. If mortgagor places himself in positiou where an attachment could issue against him, mortgage can be foreclosed on personalty before debt is due. Execution then issues and can be levied at once. Affidavit can be made by the party, his agent, or attorney in fact or attorney at law. The defendant may file a counter affidavit. Mortgages of $100 and under on personalty may be summarily foreclosed by filiug the affidavit attached to the original mortgage in the office of any Justice of the Peace of the county residence. Mortgage execution issues at once, and constable can sell in 10 days provided it is on a regular court day, on which day all sales by constable must be made.

PARTNERSHIPS.— Limited partnerships for carrying on any business may be entered into by one or more general partners and one or more special partners by the parties executing and acknowledging a certificate stating the time such partnership is to continue, the name of the partnership, the names and places of residence of the general and special partners, who are the general and who are the special partners, that the amount contributed by the special partners has been actually paid in, the nature and place of business of the partnership, and the same duly recorded with the Clerk of the Superior Court where business is to be carried on, and notice of said partnership published in some newspaper of the county. The names of the general partners only can be used in the business. The special partner is liable only for amount contributed to the business.

STATUTE OF LIMITATION.— Claims against the estates of deceased persons, 12 months. Injuries and wages, 1 year. Accounts and book debts, 4 years. Notes and bills, 6 years. Judgments, 7 years. Specialities, i. e., instruments of writing under seal, such as bonds, deeds, contracts, etc., which are not only written, but are signed, sealed, and delivered by the parties bound by them, 20 years.

TAXES.— Taxes, State, County, and Municipal, are the highest liens upon all property, except the widow's provision for a year's support, and the expense of administration. Taxes may be enforced by execution as soon as due. A third person can take up a tax execution, and upon a proper transfer to him, and an entry of the fact upon the execution docket of the Superior Court, in 30 days, he succeeds to all the rights, etc., of the State, in reference to the execution transferred. The executions bear interest at seven per cent. per annum.

HAWAIIAN ISLANDS.

ARREST.— A person may be arrested in an action for a debt contracted fraudulently, or where by secreting, transferriug, or removing his property, or intending to abscond, he seeks to evade liability. Plaintiff must give bond for damages and cost, and must pay for expense of defendant's support during imprisonment $.50 per diem, and, in default of such payment for 10 days, defendant is released.

ATTACHMENTS.— May be issued in an action or judgment or contract, expressed or implied, on proof by sworn complaint of the amount of the debt, exclusive of set-off and counterclaims, and that (1) the debt was contracted fraudulently or by false pretense, (2) the defendant has signed or is about to sign or remove his property with intent to defraud creditors, or (3) has absconded, or (4) is a non-resident. A bond of from $50 to $500, with at least one surety, must be given for all costs aud damages.

CHATTEL MORTGAGES.— All mortgages of chattel property and powers of attorney for the transfer of real estate within this Republic shall, in order to show their validity, be recorded in the office of the Registrar of Conveyances, in default of which no such instrument shall be binding to the detriment of third parties or conclusive upon their rights. Chattel mortgages do not have to be renewed if not paid at maturity of loan.

COMMERCIAL PAPER.— Except demand paper, is entitled to 3 days' grace, uuless the third day falls on Sunday or a day of public feast or thanksgiving appointed by the President, in which cases there are only 2 days' grace.

COMMERCIAL TRAVELERS.—The only fee for a license to solicit orders for the sale of goods, wares, or merchandise by sample by any person representing a foreign house, company, or corporation which does not hold a merchaut's license shall be $500 for the Island of Oahu and $250 for each of the other islands of the Republic.

CORPORATIONS.— Joint-stock compauies, for the purpose of carrying on any business, either mercautile, agricultural, or manufacturing, or buying, or selling, leasing, or otherwise dealing in real estate or buildings or other structure, whether used or intended to be used as shops, stores, warehouses, offices, boarding and lodgiug houses, for which individuals may lawfully associate themselves, excepting banking and professional businesses, shall be incorporated by any number of persons, not less than five, the majority of whom are residents of this Republic, by signing articles of association, and acknowledging same before any officer authorized to take acknowledgments, which articles shall contain the name of the corporation, followed by the word limited, the place of its principal office, the purpose of the company, the amount of its capital stock, and, if the privilege of subsequent extension of capital stock thereof is asked, the limit of such extension and the number and designation of officers proposed. Such articles shall be recorded in the office of the Minister of the Interior. Upon the filing of said articles of association, the persons who have snbscribed their names, their associates, successors, and assigns shall thereafter be deemed a body corporate, and have corporate existence for a term not to exceed 50 years. No stockholder shall be liable for the debts of the corporation beyond the amount of what may be due upon the share or shares owned by hiu. No corporation shall engage in business nnless three-fourths of the shares have been subscribed for, nor unless 10 per cent. of the capital shall have been paid in, or the corporation shall have acquired property of a value equal to at least 10 per cent. of its capital.

COURTS.— The different islands are divided into Districts, and in each District there is a Court styled a District Court that has jurisdiction over criminal offenses and civil actions of assumpsit where the claim does not exceed $300. The islands are divided also into Judicial Circuits. The islands of Oahu, Kauai, and Maui have one circuit each. The Island Hawaii has two circuits. Among other matters over which the Circuit Court has original jurisdiction are suits involving claims exceeding $300, equity, probate, divorce, admiralty, and indictable crimes. All appeals from the District Court may be taken to the Circuit Court, to a jury, or to the Supreme Court on points of law when the facts are not in dispute. Exceptions and writs of error, and appeal in certain cases, lie to the Supreme Court, the Court of last resort.

EXECUTIONS.— Executions may issue at any time within one year after entry of judgment. After the expiration of one year the plaintiff may have *scire facias* to obtain a new execution, or he may at any time after judgment have an action of debt thereon.

EXEMPTIONS.— The following property, when owned by any person being a housekeeper and having a family, shall be exempt from levy and sale on execution, viz.: Family Bible, family pictures, school books, 2 swine or 6 goats, all necessary fish, meat, flour, and vegetables, one piece of land where kalo is grown or any other vegetable, provided the same does not exceed one-half an acre actually cultivated for family use; likewise a house lot not to exceed one-quarter of an acre, and the dwelling house and other buildings thereon situated, provided the value thereof shall not exceed $250 (but this exemption shall not apply to mechanics and material men for labor performed and material furnished in the erection of such buildings), all necessary wearing apparel, mats, beds, bedstead, bedding for such person and his family, one poi board and two calabashes, one table, six chairs, six knives and forks, six plates, six cups and sancers, one sugar dish, one milkpot, one teapot, one coffeepot, and six spoons; the tools and implemeuts of any mechanic necessary for carrying on his trade or business, not exceeding $50 in value.

GARNISHMENT.— Debts owing defendant, or personal property of his in the hands of a third party, may be garnisheed.

HOMESTEADS.— There is no general homestead law in the Hawaiian Islands. What are known as homestead leases may be acquired in lots of not over 8 acres in first-class agricultural land, not over 16 acres in second-class agricultural land, and not over 1 acre of wet land; not over 30 acres first-class pastural land, and not over 60 acres in second-class pastural land, aud not over 45 acres in pastural agricultural land, by any person who is an Hawaiian by birth or naturalization, or by any person who has received letters of denization, and by any person who has received special rights of citizenship, provided all of such persons shall be over 18 years of age, shall be under no civil disability for any offenses, who shall not be delinquent in the payment of taxes, shall not have made a false declaration in applying for land, shall not be the owner in his own right of any land in the Hawaiian Islauds in class known as "wet land." The applicant must occupy the land 6 years, and at that time shall be entitled to a lease of the same in case he shall have made improvements on the land as required by law. The leases shall be for the term of 999 years, and shall not be assignable by way of mortgage, and said lands and the improvements on the premises and the crops growing thereon shall not be subject to attachment, levy, sale, or execution, or upon any process in bankruptcy. The leases shall be upon condition that the lessee, or his successors shall continuously maintain his home upon these premises; he shall pay taxes upon said premises within 60 days after the same are delinquent. In case of the death of such lessee any conveyance, advice, or bequest to the contrary notwithstand-

ing, the lease shall vest in the relation of the descendants, first in the widow or widower, then to the other heirs in the order named in the statute.

INSOLVENCY.— There is no provision for insolvents executing general assignments for the benefit of creditors. Such assignments are upheld, however, by the Courts. The United States bankruptcy laws will apply here.

INTEREST.— The legal rate of interest is 6 per cent. The maximum rate that can be charged is 12 per cent. Usury makes void only the excess of interest.

JOINT-STOCK COMPANIES.— See corporations.

JUDGMENTS.— Are not a lien upon real estate.

LIMITATIONS.— Action to recover land must be brought within 20 years (after January 1, 1900, 10 years). The limitation is 6 years for an action on contract, obligation, or liability, except judgments or decree of a Court of Record (4 years, however, where the cause of action arose in a foreign country), on a judgment of a Court not of record, for rent, for trespass upon lands, for taking, detaining, or injuring goods or chattels, including an action of replevin, for criminal conversation, libel, or injury to persons or rights, except such as are hereinafter specified. The limitation is 2 years for actions for assault and battery, false imprisonment, slander, or against a Marshal, Sheriff, or other officer for an escape, or for an act in their official capacity, or an omission of an official duty. A cause of action arising out of mutual open and current account is deemed to accrue from the time of the last item of the account. The disability of infancy (which ends on reaching 20 years), insanity, imprisonment, for less than life, or coverture, prevents the running of the statute of limitations uutil the removal of the disability.

MARRIED WOMEN.— Married women are allowed to hold and dispose of personal property as if *femme sole*. They can lease their real estate, but cannot mortgage or convey the same without the consent of their husbands.

MECHANICS' LIENS.— Any person or association of persons furnishing labor or material to be used in the construction or repair of any building, structure, railroad, or other undertaking shall have a lien for the price agreed to be paid for such labor or material (if it shall not exceed the value thereof) upon such building, structure, railroad, or other undertaking, as well as upon the interest of the owner of such building, structure, railroad, or other undertaking in the land upon which the same is situated. The lien provided above shall not attach unless a notice thereof shall be filed in writing in the office of the Clerk of the Circuit or Supreme Court as the case may be, where the property is situated, and a copy of the notice be served upon the owner of the property. Such notice shall set forth the amount of the claim, the labor or material furnished, a description of the property sufficient to identify the same and any other matter necessary to a clear understanding of the same. The same shall continue for three months, and no louger, after the completion of the construction or repair of the building, structure, railroad, or other undertaking against which it shall have been filed, unless the same shall have been satisfied, or proceedings commenced to collect the amount due thereon by enforcing the same.

PARTNERSHIPS.— Limited partnerships are allowed.

REPLEVIN.— Actions of replevin lie for the recovery of chattels unlawfully detained.

STATUTE OF FRAUDS.— Statute of frands exists here very much the same as under the old English common law.

IDAHO.

ALIENS.— No person other than a citizen of the United States, or who has declared his intention to become such, nor any association or corporation, except railway corporation, whose members are not exclusively citizens of the United States or persons who have declared their intention to become such shall hereafter acquire title to any land, other than mineral lands or such as are necessary for the working of mines and the reduction of products thereof. Such prohibited persons or corporations, however, may acquire judgment or other liens upon real estate, and may become the purchasers of such real estate at any sale for the purpose of collecting the debts secured thereby. Widows and heirs who are aliens or who have not declared their intention to become citizens may take lands by inheritance; but all such lands acquired as aforesaid shall be sold within 5 years from the time they are acquired or the same shall revert to the state of Idaho. There is no statute as to the right of aliens to convey real estate.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— All notes in writing made and signed by any person, or by a lawful agent in his behalf, by which he shall promise to pay at a given date, to any other person, or to his order, or to bearer shall be due and payable as therein expressed, and shall have the same effect, and be negotiable in the same manner, as inland bills of exchange. The payees and indorsers of every such note may maintain action for the sums of money mentioned therein, in like manner as in the case of inland bills of exchange. Such notes made payable to the maker thereof, or to the order of a fictitious person, shall, if negotiated by the maker, have the same effect, and be of the same validity against the maker and all parties having knowledge of the facts, as if payable to bearer. No person in this State shall be charged as an acceptor ou a bill of exchange unless his acceptance shall be in writing, and signed by himself or his lawful agent.

COLLECTIONS.— In general. A claim, debt, or demand for less than $300 may be collected in a Justice's Court. When $500 or less in the Probate Court. When over $1,000 in the District Court. Arrest and imprisonment for debt is allowed in cases of fraud. Attachment is allowed against non-residents, and against residents in case of unsecured contract debts. Parties to the suit, or interested therein, are competent witnesses. Costs: Non-residents may be required to give security for costs of suit. It is at least 10 to 30 days between the service of summons on the debtor and obtaining of judgment in the District Court, and three days in Justices' Courts. Execution may issue in any Court after entering of judgment. The judgment of a Justice of the Peace, when an abstract is filed and recorded in the office of the Clerk of the District Court of the county where rendered, is a lien upon the debtor's real estate in such county. The judgment is a lien upon personal property only upon levy of an execution or attachment.

COMMENCEMENT OF SUIT.— Civil actions in the District Courts and the Probate Courts shall be commenced by the filing of a complaint with the Clerk of the Court in which the action is brought. In the District Court the defendant must answer in 10 days, if served within the county in which the action is brought; in 20 days, if served without the county, but within the judicial district in which the action is brought. In all other cases, 40 days. In the Probate Court, answer must be filed in 10 days.

COMMERCIAL TRAVELERS.— No law exists in this state requiring commercial travelers to take out a license.

CORPORATIONS.— Are created under a general law. No reports are required to be filed or published. The total debts of the corporation shall not at any time exceed the amount of the capital stock actually paid in, and in case of any excess, the trustees under whose administration the same may have happened, except those who have caused their dissent therefrom to be entered at large on the minutes of the board of trustees at the time, and except those not present at the time when the same did happen, shall, in their individual and private capacities, be liable jointly and severally to the said corporation, and in the event of its dissolution, to any of the creditors thereof, for the full amount of such excess. Each stockholder shall be individually and personally liable for his proportion of all the debts and liabilities of the corporation, contracted or incurred during the time that he was a stockholder, for the recovery of which joint or several actions may be instituted; and

when a judgment in such action shall be recovered against joint stockholders, the Court in the trial thereof shall apportion the amount of the liability of each, and in the execution thereof no stockholder shall be liable beyond his proportion so ascertained. In "limited" corporations stockholders are liable only for amount of unpaid subscribed stock, and in case stock is all paid, uo personal liability attaches.

DAYS OF GRACE.— No grace is allowed on sight or demand paper, uor on time paper. Saturday is not a half holiday. Notes maturing on Saturday are payable the same day. Notes maturing on Suudays and holidays are payable the day after.

ESTATES OF DECEASED PERSONS.— Every executor or administrator shall, immediately after his appointment, cause to be published in some newspaper published in the county — if there be one; if not, then in such newspaper as may be designated by the Court — a notice to the creditors of the deceased, requiring all persons having claims against the deceased to exhibit them, with the necessary vouchers, within teu months after the first publicatiou of the notice to such executor or administrator, at the place of his residence or transaction of business, to be specified in the notice. If a claim be not presented within ten months — unless the value of the estate does not exceed fifteen hundred dollars; in which case notice to creditors shall be given to present their claims within four months — after the first publication of the notice, it shall be barred forever: *provided*, if it be not then due, or if it be coutingent, it may be presented within ten months after it shall become due or absolute; and *provided* further, that when it shall be made to appear by the affidavit of the claimant, to the satisfaction of the executor or administrator and the Probate Judge, that the claimant had no notice, as provided in this act, by reason of abseuce from this State, it may be presented at any time before a decree of distribution is entered.

INTEREST.— The legal rate of interest in Idaho is as follows: — When there is no express contract in writing fixing a different rate of interest. interest is allowed at the rate of 7 cents on the hundred by the year on: (1) money due by express contract; (2) money after the same becomes due; (3) uoney lent; (4) money due on a judgment of any competent tribunal or Court; (5) money received to the use of another and retained beyond a reasonable time without the owner's consent, express or implied; (6) money due on a settlement of mutual accounts from the date the balance is ascertained; (7) uoney due on open accounts after three months from the date of last item. Parties may agree in writing to pay up to 12 per cent. per annum. Any judgment rendered on such contract would bear interest at the rate of 7 per cent. per annum. The penalty for a greater rate than above specified is as follows: When a greater rate of interest than above specified has been contracted for, such contract works a forfeiture of ten cents on the hundred by the year on the amount of such contract to the school fund. The Court must render judgment for said ten per cent. in favor of the State for the use of the school fund of the county, and the plaintiff is to have judgmeut, for the principal sum less all payments of principal or interest theretofore made, and without interest or costs.

INTESTATE LAWS.— Dower does not exist. 1. Surviving husband or wife, and only one child, share intestate's estate equally; if more than one child then one-third to surviving husband or wife, remainder in equal shares to children or their descendants; if no surviving husband or wife, then equal shares to the children or their descendants. 2. If no issue, one-half to surviving husband or wife; other half to decedent's father and mother equally, but if either be dead, whole of said half to the survivor. If both be dead, half to brothers and sisters or their descendants in equal shares. If no husband, nor wife, nor issue survive decedent, whole to father and mother equally; if one be dead, whole to survivor. 3. If neither husband, wife, issue, father, or mother, to brothers and sisters equally or their descendants. 4. Whole to surviving husband or wife when no issue and no father, mother, brother, nor sister. 5. If neither husband, wife, issue, father, mother, sister, brother, nor issue of brother or sister, to uext of kin in equal degree, and in equal shares, collaterals claiming through nearest ancestor being preferred. 6. Share of deceased minor and unmarried child goes equally to other children or their issue. 7. If deceased were widow or widower and without kin, that part of his estate which was common property at the death of his spouse goes to her father; if he be dead, to the mother; if both be dead, to brothers and sisters, and their descendauts equally. 8. If no husband, wife, nor kindred, the estate escheats to benefit of school fuud.

LEASES AND HOW TERMINATED.— Whenever the right of re-entry is given to the landlord under the terms of a lease, such re-entry may be made at any time after the right accrues upon 3 days' notice, as provided in the civil code. Thirty days' notice must be given in order to terminate a teuancy at will, and then three days in order to secure possession. No particular form of notice prescribed.

LIMITATION OF ACTIONS.— Six years: real estate, including quartz miues or lodes, judgments or decrees of any Court of the United States, or of any State or Territory of the United States. Five years: auy contract, obligation, or liability founded upon an instrument of writing. Four years: contract or liability not founded upon an instrument in writing, accounts included. Three years: trespass upon real property, taking, detaining, or injuring goods or chattels or for the specific recovery of personal property. Relief on ground of fraud. Two years: contract or liability not founded on an instrument of writing, including accounts. An action for libel or slander. One year: placer mining claims. General provisions; an action upon any contract, obligation, or liability for the payment of money, founded upon an instrument of writing executed out of this State or any other State from which this State is iu part formed, can only be commenced as follows: 1. Within one year, when more than two or less than five years have elapsed since the cause of action accrued. An actiou upon any judgment, contract, obligation, or liability for the payment of money or damages, obtained, executed, or made out of this State, or any Territory from which this State is in part formed, shall only be commenced within three years after the party making such liabilities shall be a resident of this State.

MORTGAGES ON REAL ESTATE.— Mortgages on real estate are liens merely; they must be acknowledged as deeds and duly recorded. They can be foreclosed only by action in the District Court. Time for redemption on sale, 6 months. Mortgages are discharged by satisfaction paper duly executed or by a receipt on the margin; but an affidavit that all taxes assessed on the mortgage have been paid must be made before the discharge can be entered.

PARTNERSHIPS.— Limited partnerships allowed by the laws of the State.

PROBATE COURT.— Has civil jurisdiction to the extent of $500.

REDEMPTION.— From tax sales, one year. On sales of executious, and on foreclosures of mortgages, the time of redemption is one year. On tax sales, 12 per cent. penalty is added. In all other cases payment of 10 per cent. of the selling price is added. Purchasers of real estate on executions are eutitled to the rents, issues, and profits of the property until it is redeemed.

REPLEVIN.— Claim and delivery of personal property unjustly detained is allowed by law. Plaintiff is required to give the officer executiug the writ and undertaking to be approved by him.

ILLINOIS.

APPEALS.— Appeals from Justices of the Peace lie to the County or Circuit Court, and iu Cook County to the Superior Court also, within tweuty days from the rendition of the judgment except as otherwise specially provided, upon bond with security in double

the amount of the judgment and costs. The trial in the upper Court is *de novo*. Appeals may be taken from the County Courts to the Circuit Courts of their respective counties in all matters except in proceedings for the confirmation of special assessments, in proceedings for the sale of land for taxes, and special assessments, and in all common law and attachment cases, and cases of forcible detainer and forcible entry and detainer. The trial in the Circuit Court is *de novo*. In the above enumerated cases the appeal may be taken in the same manner as provided for from Circuit Courts. Appeals and writs of error may be taken from the Circuit, City, and County Courts, Superior Court of Cook County, and Criminal Court of Cook County to the Supreme Court in all criminal cases above the grade of misdemeanors, and in cases in which a franchise or freehold, or the validity of a statute or construction of the constitution is involved, and in all cases relating to revenue, or in which the State is interested as a party or otherwise; in all other cases appeals lie to the Appellate Court of the district in which the case is decided. The decision of the Appellate Court is final in all matters *ex contractu* involving less than $1,000. In all other cases appeals and writs of error may be taken from the Appellate Court to the Supreme Court. In case a majority of the Appellate Judges shall be of opinion that a case decided by them, involving less than one thousand dollars, also involves questions of law of sufficient importance, they may grant appeals or writs of error to the Supreme Court.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.—A debtor may be arrested and held to bail whenever he refuses to surrender his property for the satisfaction of an execution against him; or if the debt shall have been fraudulently contracted; or if the debtor has concealed or disposed of his property with intent to defraud the plaintiff; or if judgment has been rendered against the defendant for a tort where malice was the gist of the action. The affidavit for the arrest must be full and minute, setting out particularly all the facts and circumstances which are relied upon as showing fraud. The tendency of the Courts is to discourage arrest in civil cases, and it is of little use to attempt such a proceeding except under extraordinary circumstances.

ASSIGNMENT LAWS, SYNOPSIS.—The act governing voluntary assignments for the benefit of creditors has been in force since July 1, 1877: 1. The assignments shall be without preference; should be accompanied with a list of debtors and creditors, with amounts of respective demands, and must be acknowledged and recorded in the county of the assignor's business or residence. 2. The assignee must give notice of the assignment to all creditors known to him, by mail and publication. 3. He must file in the County Court as worn inventory of the estate, and must give a bond in double the amount of the inventory. 4. He must in three months report to the Court how he has given notice and who has filed claims. 5. Any person interested may contest a claim filed by first giving bond for costs. 6. After three months, if no exceptions to claims be filed, or after all disputed claims have been adjusted, a dividend *pro rata* will be made upon all proved claims, and final dividend in one year. 7. The Court has at all times directory power over the assignee. 8. May cite the debtor and compel surrender of property, and examine him under oath. 10. Claims to become due, as well as claims due, may be proven; and all claims not presented in three months from notice by the assignee shall not participate in a division of the assets until those proved in time shall be paid in full. 11. The assignee may sell all the estate. 12. If assignee die, or fail to act, or neglect to file an inventory and give bond, the Court shall appoint another person as assignee; and the Court may remove any assignee for cause. 13. Proceedings under assignment law may be discontinued upon the assent, in writing, of the debtor and a majority in number and amount of his creditors; and such discontinuance places the parties in the same condition as though no assignment had been made, except so far as the insolvent's estate shall have been administered and disposed of. The Supreme Court has held that the County Courts have exclusive jurisdiction under the assignment laws, therefore replevin or attachments will not lie against an assignee. A creditor's only redress is by petition to the County Court.

ASSIGNMENT OF STOCKS.—The stock of banks and other corporations may be assigned simply by an indorsement upon the back of the certificate. No entry in the books of the corporation is necessary to pass title, even though it be required by the by-laws. One who holds stocks will be protected to the amount due. The surplus is liable to be taken for the debts of the pledgor.

BILLS OF EXCHANGE AND PROMISSORY NOTES.—Under the statute relating to negotiable paper, as amended at the last session of the Legislature, a distinction is made between promissory notes payable in money and promissory notes, bonds, due bills, and other instruments payable in personal property. "The rights of the lawful holders of promissory notes payable in money and the liability of all parties to or upon such notes are the same as that of like parties to inland bills of exchange, according to the custom of merchants." As to such notes, therefore, notice of nonpayment given, according to the law merchant is sufficient to hold the indorser. But as to promissory notes, bonds, due bills, and other instruments in writing payable in personal property, the indorser is not liable, unless a suit against the maker is commenced by the holder, returnable at the first term of Court held after the paper became due, unless such suit would be unavailing, as, for instance, by reason of the insolvency of the maker, or that the maker had absconded, or resided without or had left the State when the instrument became due. It is not necessary to protest domestic paper, and protest fees cannot be recovered. No note or bill or other negotiable instrument is entitled to days of grace, but absolutely payable at maturity.

CHATTEL MORTGAGES.—No chattel mortgage, trust deed, or other conveyance having the effect of a chattel mortgage or lien on personal property, shall be valid as against the rights or interests of third parties, unless possession thereof shall be delivered to and remain with the grantee, unless the instrument shall provide that possession remain in the grantor and the instrument is acknowledged before a Justice of the Peace in and for the township in which the mortgagor resides, which Justice shall make a memorandum in a book kept for that purpose of the mortgagor, mortgagee, date of mortgage, and a description of the property mortgaged, and if the mortgagor resides out of the State, the mortgage shall be acknowledged before any person competent to acknowledge deeds. If there be no acting Justice of the Peace in the town or precinct where the mortgagor resides then such instrument may be acknowledged before the County Judge of the county in which the mortgagor resides. The certificate of acknowledgment may be in the following form:

> This [name of instrument], was acknowledged before me by [name of grantor] [when made by a resident, insert], and entered by me this —— day of —— 19—.
>
> Witness my hand and seal.
>
> [Name of Officer.] [Seal.]

Such instrument shall be admitted to record by the Recorder of the county in which the mortgagor resided at the time the instrument was executed. If mortgagor is not a resident of the State, said mortgage shall be recorded in the county in which the property is situated. Each instrument so recorded in good faith, shall be good and valid from the date of entry for record, provided such time shall not exceed two years. Any morgagor selling mortgaged property without notice of its being mortgaged, for a valuable consideration shall forfeit and pay to such purchaser twice the value of the property sold, which sum may be recovered by such purchaser in an action of debt, in any Court of competent jurisdiction, and if the mortgagor convey or otherwise dispose of any part of the mortgaged property without the written consent of mortgagee, he shall be guilty of a misdemeanor and be fined in a sum not exceeding twice the value of the property so sold or disposed of, or confined in the county jail, not exceeding one year, or both, at the discretion of the Court. The release or satisfaction of a chattel mortgage, may be made by writing on the margin of the record,

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or by release deed, which release or satisfaction shall be attested upon the margin of said record by the Recorder of the county, and when so attested shall forever thereafter discharge and release the same, and shall bar all actions brought or to be brought thereon. If any mortgagee, his executors and assigns, shall fail to release his mortgage within one month after the payment of a debt secured by mortgage, he shall forfeit and pay to the party aggrieved the the sum of $50, to be recovered in an action of debt. A renewal or extension may be effected for a further period, not exceeding two years, in the following manner: The mortgagor and mortgagee, his or their agent or attorney, shall, within thirty days next preceding the maturity of the mortgage debt, file for record in the office of the Recorder of Deeds of the county where the original mortgage is recorded, also with the Justice of the Peace or his successor upon whose docket the same was entered, an affidavit setting forth particularly the mortgagee's interest in the mortgaged property, the amount remaining unpaid thereon and the time when the same will become due by extension or otherwise. Actual notice of the mortgage lien will not remedy an omission of statutory requirement. When last instalment falls due the mortgagee for his own safety must take immediate possession. Permission to a mortgagor in possession to sell in the ordinary course of trade makes null the lien except as between mortgagor and mortgagee. As between the parties to a mortgage the lien will be good though statutory requirements are disregarded. A mortgage of household goods and wearing apparel or mechanic's tools must be foreclosed in a Court of Record and before foreclosure such property can be taken from the mortgagor's possession by Sheriff only, on a Judge's order. Mortgage of other goods may contain a clause for summary foreclosure by private or public sale, on brief notice, without any Court proceedings. Husband and wife must join in a mortgage on household goods. All notes secured by chattel mortgages shall state that they are so secured, otherwise the mortgage is void. No assignment of a note secured by a chattel mortgage cuts off defenses that are good against the original payee.

COLLECTION.— In general. A claim, debt, or demand for less than $200 may be collected in a Justice's Court. When less than $1,000 in County Court. The Circuit Courts are unlimited. In cases of fraud, arrest and imprisonment for debt is allowed, and attachment against non-residents and debtors whether the debt is due or not. Parties to the suit or interested therein are competent witnesses. Costs of suit follow judgment and can be collected on execution. It is at least 10 days between the service of summons on the debtor and obtaining of judgment in a Court of Record, and 3 days in Justices' Courts. Execution may issue from Courts of Record any time after entering of judgment, and in Justice's Court after 20 days except in special emergencies. The judgment of the Justice of the Peace when a transcript thereof is filed in the Clerk's office of the Circuit Court of the county where rendered, is a lien upon the debtor's real estate in such county. The judgment is a lien upon personal property only upon levy of an execution.

COMMENCEMENT OF SUIT.— If the action be brought in the Superior Court of Cook County, or in the County or Circuit Court, the summons must be served 10 days before the commencement of the term to which said process is returnable. Process in Justices' Courts is returnable not less than 5 nor more than 15 days from date of the summons — which process shall be served at least 3 days before the time of trial mentioned therein.

CONSIGNMENTS.— If a consignee fails to account for the consigned goods, he may be prosecuted for embezzlement, and, upon conviction, may be fined $1,000, and imprisoned one year. The consignor's action at law will be barred in two or five years, according to the nature of the action. Consignors should not give the consignee an invoice of the goods on an ordinary billhead, as they frequently do. They should give and receive a written memorandum stating that the property is to remain the property of the consignor until sold. It is doubtful whether an agreement that the consignee shall account for the goods at certain prices would not render the transaction a conditional sale, and prevent the consignor from prosecuting the consignee criminally for failing to account for the proceeds.

CORPORATIONS.— Are created under general laws, and not by special acts. If the indebtedness of the corporation exceeds the amount of capital stock, directors and officers assenting thereto are personally liable for such excess to the creditors. If any corporation, or its agents, shall do or refrain from doing any act which subjects it to a forfeiture of its charter, or if execution against the corporation is returned "no property found," after demand made by the officer, or if it remains unsatisfied ten days after such demand, or if the corporation shall dissolve or cease doing business, leaving debts unpaid, suits in equity may be brought against the corporation, and against all persons who were stockholders at the time, or were liable in any way for the debts of the corporation, and each stockholder may be required to pay his *pro rata* share of such debts to the amount of his unpaid stock, after exhausting the assets of the corporation, and if any stockholder is insolvent, his share shall be borne *pro rata* by the solvent stockholders. And whenever a corporation is sued for a debt, the creditor may at same time garnish stockholders for their unpaid subscription. If a receiver is appointed under a creditor's bill, the complainant is entitled to a prior lien upon equitable assets, and upon assets discovered by such bill.

Foreign Corporations.— No foreign corporation organized for pecuniary profit is permitted to do business in this State, or to continue business herein if already established, unless it maintains a public office in this State where legal service may be obtained upon it. Such corporations are subject to all the liabilities, restrictions, and duties which are imposed upon corporations of like character organized in this State, and have no other or greater powers. They must engage only in the business authorized in their charters, nor can they hold real estate, except as necessary for their legitimate business. They may take real estate in satisfaction of debts, or if authorized by their charters to invest or loan money, may do so, and when a sale is made under judgment or decree, may purchase the property in their corporate name. But all real estate so acquired, unless necessary for the business of the corporation, shall be offered at public auction at least once every year, and sold whenever the price offered is not less than the claim of the corporation, including interest, costs, and other expenses, and if not sold within five years, the State's attorney may proceed by information against the corporation, and the land may be sold by order of Court. No foreign corporation doing business in this State is permitted to mortgage, pledge, or otherwise encumber its real or personal property situated in this State, to the injury or exclusion of any citizen of this State who is a creditor of such foreign corporation, and no mortgage by any foreign corporation, except railroad and telegraph companies, given to secure any debt created in any other State, shall take effect as against any citizen or corporation in this State, until all its liabilities due to any person or corporation in this State at the time of recording such mortgage have been paid and extinguished. Every corporation must file a certified copy of its charter with the Secretary of State, and a statement, duly sworn to, of the proportion of the capital stock of the corporation which is represented by its property located and business transacted in the State of Illinois, and such corporation shall be required to pay to the Secretary of State upon the proportion of its capital stock represented by its property and business in Illinois, incorporating taxes and fees, equal to those required of similar corporations of the State. The fees for incorporating a company in this State are as follows: All companies having a capital stock of twenty-five hundred dollars, and under, shall pay the sum of thirty-three dollars. All companies having a capital stock of over twenty-five hundred dollars, and under five thousand dollars, shall pay the sum of fifty-three dollars. And all companies having a capital stock of over five thousand dollars, shall pay in addition to the said sum of fifty-three dollars, the sum of one dollar for every one thousand dollars over five thousand dollars. On complying with these provisions the Sec-

retary of State issues a certificate that the corporation has duly complied with the laws of this State, aud is authorized to do business herein. Such certificates are evidence iu Courts of the right of the corporation to act in this State, and any corporation transacting business without it is subject to a fine of not less than one thousand dollars, nor can it bring any suit upon any demand whatsoever iu the Courts of the State. This does uot apply to insurance compauies, or to business that is done by drummers or traveling salesmen soliciting business in the State for foreigu corporations which are entirely non-resident.

DAYS OF GRACE.— No grace is allowed ou sight or demaud paper nor ou time paper. Saturday is a half holiday by custom only. Notes maturing on Saturday are payable the same day. Notes maturing on Sundays and holidays are payable the next business day.

ESTATES OF DECEASED PERSONS.— In addition to a widow's dower in her husband's land, and her share of his estate as heir, when she is one of his heirs, the widow is eutitled, as her widow's award, to various articles of household furuiture, to certaiu live stock, to provisions for herself and family for a year, and fuel for herself and family for three months, and to $100 worth of other property (or to an award of money in lieu of the said allowances). The widow's award is paid in preference to all other claims except funeral expenses and costs of administration. Estates are settled in the Probate Courts. All claims not presented to the Court within two years from granting letters are barred except as to subsequently discovered assets. Real estate of deceased is charged with his debts after personal property be exhausted. Foreigu executors and administrators may sue in the Courts, aud may sell the lands of decedents to pay debts or by virtue of power in the will. Debts incurred by deceased as trustee of money are paid in preference to other demauds, except funeral expenses, widow's award, expenses attending the last illness, debts due the common school or township fund, and Probate Court costs. All debts having been paid, the estate descends: (1) to the children and their descendants *per stirpes*; (2) if husband or wife survive, with desceudants, he or she takes one-third of personalty; (3) if husbaud or wife survive, and no descendants, he or she takes all of the personalty and half of the real estate, and dower in the other half, and the other half to pareuts, brothers, and sisters, a surviving parent, if one be dead, taking a double portion; (4) if no husband, wife, or descendants survive, to parents, brothers, and sisters, or their descendants equally, a surviving parent, if one be dead, taking a double portion; (5) if no descendants, husbaud, wife, or parent, no brother, sister, or their descendants survive, then to the next of kiu in equal degree; (6) if husband or wife survive, and no kindred, he or she takes all. A uon-resideut of the State cannot be appointed administrator. Alieus may acquire title to real estate by deed, devise, or descent, and may alien ate, sell, assign, encumber, devise, and convey same, aud the title to any lands which an alien may die seized or possessed, intestate shall descend to the heirs-at-law, eveu though such heir may be au alien, or is compelled to trace his relation to the deceased through an alien; provided that any alien of the age of twenty-one years, or upwards, at the time of acquiring such title, shall hold title but six years, and any alien under the age of twenty-oue years, shall hold title six years after becoming twenty-one years of age. If such lands shall not within the six years mentioned have been conveyed to a *bona fide* purchaser for value, or such alien have become a citizen of the United States, it shall be the duty of the State's Attorney to proceed as provided by law, to sell such lands, aud after paying expenses, the proceeds of such sale shall be paid over to the State Treasurer as the property of the State.

INTEREST.— Legal rate, 5 per ceut. Agreed rate, 7 per cent. The penalty for usurious contracts is a forfeiture of entire interest.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— If no defense is interposed on or before the third day of the term of Court to which the writ is returnable, a default may be taken, provided the defendant was served and the complaint was filed 10 days before the term. Judgments become liens ou personal property from the time the execution is delivered to the officer. They are lieus ou real estate from time of rendition, and remain a lien for 7 years if execution is issued withiu 1 year from eutry of judgment. But unless execution is issued thereon within 1 year, the judgment will cease to be a lieu on real estate. The lien will abate in 7 years, and no execution shall issue thereafter uuless judgment be revived. A judgment may be revived by *scire facias* or an action of debt within 20 years next after the date of the judgment. Executious issued ou Justice Court judgments are returnable in 70 days; iu the other Courts, in 90 days. Real estate is, in all cases, sold without appraisement to the highest bidder. The real estate of a debtor must be exhausted before personal property can be seized under execution, but ou Justice Court executions only personal property can be taken. But when a transcript of a Justice's judgment is filed in the Circuit Court, the judgment has all the force and effect of a judgmeut of that Court. There is, properly speaking, no stay of execution iu Illinois. The debtor often obtaius advantage of a "stay" by turuiug out real estate to be sold under executiou with a view of redeemiug it from sale in 12 months, or by having it redeemed by some other creditor in 15 months. But executions may issue at auy time within 7 years, and is a lien from time it is delivered to the officer. Any person, for a debt, *bona fide* due, may coufess judgment by himself or attoruey duly authorized either iu term time or vacation, without process. Judgments eutered in vacation have like force aud effect, and from the date thereof become lieus iu like manner aud exteut as judgments entered in terui. Amendment to Sections 13, 15, and 19 of an Act in Relation to Courts of Record in Cities in Illinois: Judgments and decrees of City Courts are a lieu upon real estate in such city from the time of their renditiou; aud in the county wherein such City Court is situated, *only* after a certified transcript of same shall have been filed in the office of the Circuit Clerk of the county. Cities haviug City Courts are Altou, Aurora, Canton, East St. Louis, Elgiu, Litchfield, and Mattoon.

JURISDICTION OF COURTS.— Justices' Court jurisdiction is limited to $200. County Courts $1,000. Superior Court of Cook County has unlimited jurisdictiou in that county. Circuit Courts, held in the differeut couuties, have unlimited jurisdiction.

LEASES AND HOW TERMINATED.— A notice iu writing of 60 days is required to terminate a lease from year to year. It may be given at any time within four mouths preceding the last 60 days of the term. If the tenancy be from month to month or for any term less than a year aud the tenant hold over without special agreement, the landlord may maintain action in forcible detainer or ejectment upon 30 days' notice in writing to tenant. In all cases where tenancy is for a fixed period the tenant is bound to quit at expiration of a period and no uotice is uecessary. The required form of notice is:

> You are hereby notified that the lease of your premises terminates on the —— day of ——, and you are hereby notified to quit and deliver up possession of the same to me at that time.

LIMITATION OF ACTIONS.— Actions for slander and libel, oue year; for personal injuries, false imprisonment, malicious prosecution, abduction, seduction, criminal couversation, and penalties, two years; upon uuwritten contracts and upon accouuts and for injury to property, and to recover possession of personal property, five years; upon bonds, notes, bills of exchange, leases, aud other written contracts, ten years; all other actions, including actions on judgments of other States, five years. Seven successive years' possession of real estate, by actual residence, under title from the State or the United States, or iu pursuance of a judgmeut or decree or a sale for taxes; or seven successive years' payment of taxes with color of title and possession; or seven successive years' payment of taxes upon vacant lands with color of title; or twenty years' adverse possession, constitute a bar to action for the recovery of real estate; the time of limitation does not run duriug absence of a defeudant from the State or during a stay by injunction;

cause of action accruing in another State or country, and barred by the laws where accrued, is barred here.

MORTGAGES ON REAL ESTATE.— Every conveyance which shall appear to have been intended as security in the nature of a mortgage, although an absolute conveyance in terms, shall be considered a mortgage. Mortgages or trust deeds must be duly acknowledged and recorded. The husband and wife must join to bar dower. May be foreclosed upon default of any part of principal or interest. When foreclosed in chancery, the mortgagor has one year and his judgment creditors 15 months in which to redeem.

PARTNERSHIPS.— Partners are jointly and severally liable for partnership debts. In actions by or against partners, proof of partnership is not required unless denied. A married woman cannot enter into partnership without husband's consent, unless he has deserted her, or is insane, or confined in penitentiary. Limited partnerships may be formed by partners filing certificate (special partner is liable for only amount of capital invested by him) containing name of partnership, nature of business, names of general and special partners, amount contributed by special partners, duration of partnership, etc. Certificate must be acknowledged and filed in the office of the County Clerk, and be recorded in a book open to the inspection of the public, and the term of the partnership must be published in a newspaper in the county for 6 weeks, as also notice of dissolution if dissolution takes place before the time specified in the certificate.

REPLEVIN.— Will lie whenever any goods or chattels have been wrongfully distrained or taken, or wrongfully detained. Affidavit and bond must be filed.

STATUTE OF FRAUDS.— No action shall be brought whereby to charge an executor or administrator upon a promise to answer any debt or damages out of his own estate, or whereby to charge the defendant upon any special promise to answer for the debt, default, or miscarriage of another person; or to charge any person upon any agreement made upon consideration of marriage, or upon any agreement that is not to be performed within one year from the making thereof, unless the promise or agreement upon which such action shall be brought, or some memorandum or note thereof, shall be in writing, and signed by the party to be charged therewith, or some other person thereunto by him lawfully authorized. No action shall be brought to charge any person upon any contract for sale of lands or any interest in or concerning them for a longer term than 1 year unless such contracts shall be in writing and signed by the person to be charged, or some other person lawfully authorized in writing signed by such party.

INDIAN TERRITORY.

The Indian Territory is divided into three districts, the Northern, Central, and Southern. There is a United States Judge for each District, and one additional Judge who holds Court at such places and times as may be designated by the Court of Appeals. Two terms of Court are held each year at Miami, Vinita, Tahlequah, Wagoner, and Muscogee, in the Northern District; at South McAlester, Atoka, Antlers, and Cameron, in the Central District; and at Ardmore, Chickasha, Pauls Valley, Ryan, and Purcell, in the Southern District. The Court of Appeals holds two terms each year, in January and June, at South McAlester. The Court of Appeals consists of the four United States Judges for the Indian Territory, but no Judge can sit on the hearing of any case that was tried before him in the Lower Court. Each District is subdivided into six Commissioners' Districts, and a United States Commissioner, with the same powers exercised by a Justice of the Peace in Arkansas, is appointed by the Judge of the District for each Commissioner's District. United States Commissioners have exclusive original jurisdiction in all matters where the amount of controversy, exclusive of costs, does not exceed the amount of one hundred dollars, and have concurrent jurisdiction with the District Court where the amount in controversy, exclusive of costs, does not exceed three hundred dollars. Where the amount in controversy, exclusive of costs, exceeds the amount of three hundred dollars, the District Court has exclusive jurisdiction. Appeals may be taken from the United States Commissioners' Courts to the District Court in all matters in which the judgment exceeds twenty dollars. Appeals may be taken from the District Court to the Court of Appeals for the Indian Territory, and from there to the Circuit Court of Appeals for the Eighth Circuit. By a statute applicable to the Indian Territory, where the amount in controversy, exclusive of interest and costs, exceeds one thousand dollars, an appeal is allowed as a matter of right from the Circuit Court of Appeals to the Supreme Court of the United States.

ACKNOWLEDGMENTS.— All instruments which are to be filed for record in the Indian Territory may be proved or acknowledged before any Judge of any Court of Record in the Indian Territory, or any Clerk thereof, before a United States Commissioner of the Indian Territory, or a Notary Public. Outside of the Indian Territory, instruments to be recorded within the Indian Territory may be acknowledged before any Court of the United States having a seal, or before any Court of any of the States and Territories having a seal, or the Clerk thereof, before the Mayor of any incorporated city or town having a seal of office, and before a Notary Public. Outside of the United States, acknowledgments may be made before any Court of any State, kingdom, or empire having a seal, or before any Mayor or chief officer of any city or town having an official seal, or before a United States Consul, or before any officer of any foreign country who by its laws is permitted to take acknowledgments of conveyances of real estate within his own country. The official character of the officer taking the acknowledgment is to be attested by his own seal and not by the seal of the United States Consul. The certificate of acknowledgment should recite that the grantor personally appeared before the officer making the execution and acknowledged that he had executed same "for the consideration and purposes therein mentioned and set forth." No witnesses are necessary to the validity of any instrument properly acknowledged. When an instrument has been executed, but not properly acknowledged, it may be proved, so as to be admitted to record, by two witnesses making affidavit before the proper officer or Court that he saw the grantor subscribe same, or that he had heard the grantor acknowledge that he had executed same for the consideration and purposes therein mentioned and set forth.

ASSIGNMENTS FOR BENEFIT OF CREDITORS.— The laws of Arkansas, as contained in Mansfield's Digest of the Statutes of Arkansas, 1884, are in force in Indian Territory. Preferences can be made; bond of assignee must be given and approved and inventory filed before assignee can take charge of assigned property. Personal property must be sold at public auction within one hundred and twenty days upon thirty days' notice; claims may be filed with assignee any time before final settlement, and participation in assets does not release debtor, unless the deed so provides.

ATTACHMENTS.— The plaintiff in a civil action may have an attachment against the property of the defendant at the commencement of the action, or at any time before judgment, in actions for the recovery of money, upon any of the following grounds, to wit: 1. If the defendant or defendants, or any one of them, is a foreign corporation, or a non-resident of the Territory 2. When a defendant has been absent from the Territory four months. 3. Has departed the Territory with the intent to defraud his creditors. 4. Has left the district of his residence to avoid the service of summons upon him. 5. So conceals himself that a summons cannot be served upon him. 6. Is about to remove, or has removed his property, or a material part thereof, out of the Territory, not leaving enough therein to satisfy plaintiff's claim or the claims of defendant's creditors. 7. Has sold, conveyed, or otherwise disposed of his property, or suffered or permitted it to be sold, or otherwise disposed of, with the fraudulent intent to cheat, hinder, or delay his creditors. 8. Is about to sell, convey, or otherwise dispose of his property with such intent. But an attachment

shall not be granted upon the ground that the defendant is a foreign corporation or a non-resident for any claim other than a debt arising upon contract. Attachment may be sued out whether debt is due or not. Bond is required conditioned that plaintiff will pay all damages sustained by defendant if the attachment is wrongfully issued.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— The law merchant governs bills of exchange and promissory notes, and the general rules of law on these subjects prevail. Three days' grace are allowed, but when a bill of exchange or a promissory note falls due on Sunday or a legal holiday, it must be presented for payment and protest the day before, but notice need not be given until the day after. If a drawee destroy a bill of exchange, or refuse to return same on demand, he is held to have accepted same. Otherwise an acceptance must be in writing.

CHATTEL MORTGAGES —Must be acknowledged before Judges or Clerks of the United States Courts in Indian Territory, United States Commissioner, or Notary Public. They can either be filed or recorded in the offices of the Clerks of the United States Courts. If to be filed only and not recorded, that fact must be indorsed upon them. The Clerks of the United States Courts in the Territory are ex-officio Recorders of Deeds.

COMMERCIAL TRAVELERS.— There is no license fee charged or required.

CONDITIONAL SALES.— Conditional sales relating to mercantile transactions are valid without recording title note or other evidence of sale.

CONTRACTS.— All contracts executed, or executory, entered into by an Indian or any one else within the Territory or elsewhere are valid and enforcible, including leases for one year, except contracts with Indians relating to lands, annuities, or moneys arising out of treaties with the United States. These latter contracts are valid when entered into with certain formalities and approved by the Secretary of the Interior.

CORPORATIONS.— The laws of Arkansas relating to corporations, so far as applicable, are adopted and put in force in the Territory. Foreign corporations are authorized to do business in the Territory, but are required to file a certificate in the office of the Clerk of the United States Court of Appeals for the Indian Territory, in which they shall designate an agent who shall reside where this Court is held, and upon whom service, summons, and other process may be had. The certificate shall state the principal place of business of such corporation in the Territory, and shall be under the hand of the president and sealed with the corporate seal. A failure to comply with this requirement is to invalidate all contracts made by the corporation with citizens of the Territory. To avoid the penalty above mentioned, corporations now doing business in the Territory are given 90 days in which to comply with the law. In regard to banks the law makes the rate of interest on loans not to exceed 10 per cent. per annum, and a like rate for a period of less than a year. In cases of usury the bank is to forfeit the interest only, if usury be pleaded. The law of interest, when no rate is agreed upon, is 6 per cent. per annum.

COSTS.— A non-resident must give a bond for costs to be approved by the Clerk or Commissioner and filed with complaint. At the commencement of any action or proceeding in any of the United States Courts, the plaintiff is required by rule of Court to make cash deposit of ten dollars with the Clerk when the action is instituted in the District Court, and five dollars when instituted before a United States Commissioner with such Commissioner. The United States Marshal requires his fees for service of civil process to be paid in advance. He is entitled to two dollars for service of each summons, ten cents per mile from his office to place where service is made, or expenses in lieu of mileage. Constable is entitled to same fees.

ESTATES OF DECEASED PERSONS.— The United States Court is Court of Probate. Claims must be filed within two years from granting of letters. Cannot be sued on, unless presented to Administrator, and he refuses to allow.

EXECUTIONS.— Sales under execution are made upon a credit of three months, on good security to be approved by the officer making the sale. Executions may be stayed ten days without bond, and ninety days by giving bond.

EXEMPTIONS.— Every unmarried person living in the Indian Territory, not the head of a family, is entitled to exemptions, in addition to his or her wearing apparel, to be selected by himself, to the value of $200. Every married person, or the head of a family, is entitled to exemptions, to be selected by himself, in addition to the wearing apparel of himself and family, to the amount of $500. This, however, is only applicable to actions *ex contractu*. As to frauds and torts there are no exemptions. There is no title to real estate, except in towns that have been platted and appraised under the Act of Congress, known as the Curtis Bill. The country is yet held by the Indian tribes in common. As to the towns where titles have been obtained, the exemptions are the same as in Arkansas, *i. e.*, not exceeding one acre of the value of $2,500, or not less than one-quarter of an acre without regard to value. There are no exemptions from execution for purchase money as long as the property remains in the hands of the original vendee.

INTEREST.— Legal rate is six per cent., but ten per cent. may be charged by contract. Usurious contracts are void and forfeit principal and interest, even in the hands of an innocent purchaser before maturity.

JUDGMENTS.— Execution may be issued on judgments at any time within ten years from the rendition thereof. May be revived for ten years or more by *scire facias* at any time before the expiration of ten years.

LIMITATION OF ACTIONS.— Actions on contracts not in writing, express or implied, open accounts, actions for the injury of goods, and chattels, and actions for the wrongful taking of goods and chattels must be brought within 3 years from the time the cause of action accrues. Actions on promissory notes and other instruments in writing must be brought in 5 years after the cause of action accrues. Actions on judgments must be brought within 10 years after the rendition thereof. Actions which are barred by the statute of limitations may be revived by a partial payment thereon, or by a new promise in writing.

MARRIED WOMEN.— The separate property of married women to be scheduled as provided by law. Failure to schedule leaves the burden of proof on the wife to show the character in which it is held. Females become of age at 18.

MORTGAGES.— For method of proving, see Acknowledgments. Mortgages must be filed or recorded in the District of the mortgagor's residence, or if he is a non-resident, then in the District where the property is located. The lien of a mortgage binds only from the time it is filed or recorded. Actual notice of an unfiled or unrecorded mortgage does not bind a subsequent purchaser. If it is desired to file a mortgage instead of recording same, it must be indorsed: "To be filed but not recorded, Chas. Brown, Mortgagee." Mortgages in the Northern District are filed at Muscogee, in the Central District at South McAlester, and in the Southern District at Ardmore. Chattel mortgages must be renewed within 30 days before the expiration of each year after date of filing.

PARTIES TO SUIT.— Any person, whether Indian, white, or negro, and whether citizen of any Indian tribe, by birth or adoption, or citizens of the United States, can sue or be sued upon any matter within the jurisdiction of the Court.

PROBATE MATTERS.— Where citizens of any tribe within the Territory, leaving estates and being indebted to non-citizens, the Court, by virtue of its chancery jurisdiction, can appoint a receiver and administrator thereon. Where non-citizens die in the nation the Court can exercise the same jurisdiction, and the agent of the five tribes located at Muskogee can administer upon such estates.

PROVING ACCOUNTS.— In suits on accounts, affidavit of the plaintiff that the account is just and correct, and stating the amount due and payable after allowing for all credits and offsets, is sufficient to establish same unless the defendant denies under oath the correctness of the account or a part thereof.

REAL ESTATE.— The title to the lands of the Five Civilized Tribes is being vested in each member of said tribes, and to all property in towns designated as towns by the Government Townsite Commission, the title is in the individual owner, and may be acquired by any person, whether a member of any tribe or a citizen of the United States; it is owned under a patent from the United States, and the real estate laws of the State of Arkansas apply to the same.

REPLEVIN.— Personal property may be replevied in an action at law at any time before judgment. Plaintiff is required to give bond for double the value of the property before the writ will be executed.

STATUTE OF FRAUDS.— That part of the statute of frauds of interest to mercantile houses is that in relation to the enforcement of contracts for the sale of goods. Under the law in force in the Territory no one will be held for any contract for the purchase of any goods exceeding in value the sum of thirty dollars unless he shall have made a payment thereon at the time, or unless he receives the goods or a part thereof, or unless the contract be in writing.

SUPPLEMENTARY PROCEEDINGS.— After return of *nulla bona* on an execution, the plaintiff may bring an action against the defendant, and any other person whom he may have reason to believe has money or property belonging to defendant, to compel a discovery.

VENDOR'S LIEN.— A vendor has a lien for the purchase money on all property while it remains in the hands of the vendee, and upon filing suit for the purchase money, or any part thereof, may have a writ of restitution, without giving bond, directing the officer to take the property and hold same until the termination of the suit, to be then disposed of as the Court may direct.

INDIANA.

ACKNOWLEDGMENTS.— May be acknowledged before any Judge, Clerk of a Court of Record, Notary Public, Justice of the Peace, Auditor, Recorder or Mayor of the City, or before a Commissioner of Deeds for this State, or before a minister, *Charge d'Affaires*, or Consul of the United States in any foreign country. When such acknowledgments are made before an officer having, and attesting under, his official seal, it is sufficient; but if made before an officer having no official seal, such acknowledgment must be certified by a Clerk of a Court of Record of the county in which such officer resides, and attested by the seal of the Court, that the officer was at the time lawfully acting, and that his signature to the certificate of acknowledgment is genuine. Any Notary Public holding his commission from the State of Indiana at the time of signing any certificate of acknowledgment of any deed, mortgage, or other instrument must append to such certificate a true statement of the date of the expiration of his commission.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— A defendant in a civil action may be arrested and held to bail upon affidavit filed, stating plaintiff's claim, and that defendant is about to leave the State to defraud plaintiff, and is removing money or effects which should be applied on the claim. There must also be an undertaking with sufficient sureties, providing against all damages defendant might suffer by the arrest if wrongful. So, also, as to removal from county, in cases before Justices of the Peace, and as to fraudulent concealment or removal of goods, judgment before a Justice having been already obtained, the procedure is substantially the same, except that no bond is required of plaintiff.

ASSIGNMENT LAW, SYNOPSIS.— 1. A creditor in failing circumstances may make a general assignment of all his property for the benefit of his creditors. 2. It must be by indenture, and be filed with the Recorder in 10 days. 3. A copy of assignment to be filed in the Clerk's office within 15 days after its execution. 4. Trustee to file bond in double the value of the estate, and take oath to faithfully carry out his trust. 5. Trustee to give notice of his appointment by publication three weeks successively in some newspaper in the county. 6. Within 30 days after entering upon the duties of his trust the trustee must file complete inventory of all the estate assigned to him, and within 20 days after filing the inventory, cause the property to be appraised. 7. If assignor is a householder he is entitled to have $600 in value of the property set off to him. 8. Trustee must report to the Court within 6 months the amount of moneys, etc., received, list of claims filed against the estate, etc. 9. The Court orders the trustee to turn over all moneys in his hands to the Clerk, who will distribute the same to the creditors. 10. All claims filed with the trustee must be sworn to. The affidavit must state that the claim is just and lawful, and no part of the same for usurious interest, or if so, what part. 11. At the end of one year the trustee shall make a final report, when, if approved, he may receive his discharge from the trust.

COLLECTION.— In general. A claim, debt, or demand for less than $200 may be collected in a Justice's Court. The Circuit Courts are unlimited. Arrest for debt is not allowed except in cases of actual fraud. Attachment is allowed against non-residents and debtors concealing themselves so that service cannot be had on them when the debt is due. Parties to the suit, or interested therein, are competent witnesses. Costs of suit must be secured in advance, or suit dismissed in Circuit Court if plaintiff is a non-resident of State, or in Justice's Court if plaintiff is a non-resident of the county. Costs not required to be secured in other Courts. At least 10 days in Circuit Court and 3 in Justice's Court must intervene between summons and judgment. In Justices' Courts execution may issue, unless stayed, in 4 to 10 days after judgment. A transcript of the Justice of the Peace judgment, filed in Circuit Court of any county, is a lien on debtor's real estate in said county. A judgment is a lien on personalty only, from the time execution comes into the hands of the officer.

COMMENCEMENT OF SUIT.— In the Circuit and Superior Courts, the action is commenced by filing the complaint, and causing a summons to be issued and served on the debtor, 10 days before the first day of term, or it may be commenced by 10 days' notice within term time. Judgments can be obtained before a Justice of the Peace in 3 days. Summons must be served on debtor 3 days before the time fixed for trial. In suits upon open account, plaintiff should file with his complaint an itemized bill and an affidavit stating the account is due, correct, and wholly unpaid. In case of default, no other proof is required to enable plaintiff to obtain judgment.

COMMERCIAL TRAVELERS.— No law exists in this State requiring commercial travelers to take out a license.

CONDITIONAL SALES.— Personal property sold and delivered to a vendee under an agreement that title shall not pass until the purchase money is paid, remains the property of the vendor until the conditions be fulfilled, and upon breach of condition replevin can be maintained. This is so, even against *bona fide* purchasers. There is no law in Indiana, as in some States, requiring the recording or filing in the Recorder's office, or other office, of the conditional contract of sale, or copy thereof. The doctrine in relation to conditional sales does not, however, apply to or govern such sales where manufacturers or wholesale dealers sell to a retailer, or other dealer, for the apparent or implied purpose of resale by him, but in such cases the condition is void as against purchasers from such retailer or other dealer.

CORPORATIONS.— The State constitution prohibiting special legislation, corporations can only be formed under general statutes. The general statutes provide for the formation of corpo-

rations for a great variety of purposes, including manufacturing and mining, *buying and selling merchandise and conducting mercantile operations*, sinking and operating gas and oil wells, etc., etc., and other business purposes generally. The mode of creation consists in articles of association, executed by the required number of persons, and filed in the office of the Secretary of State, Recorder or Clerk of the county, as the given statute may direct. When the statutory requirements for organization have been complied with, a statement thereof may be filed in the office of the Clerk of the Circuit Court, which, at the next term, upon proof of such organization, shall enter on record a declaration thereof, and such order is conclusive of the fact. The liability of stockholders varies according to the nature of the corporation in question and the law under which it was organized. In most corporations organized under general statutes, stockholders, having paid for their stock, are not liable for debts of the company. There is a degree of liability in some cases, however; and in most cases stockholders are personally liable for labor and services of employees. They may be sued for their unpaid stock, when the company is insolvent. So a creditor may sue in equity for the appointment of a receiver of an insolvent corporation. The law requires an annual statement in a county newspaper by the directors of every company organized "to carry on any kind of manufacturing, mining, mechanical, or chemical business." Such annual reports shall state the amount of capital, the amount of assessments made and actually paid in, and the amount of existing debts. The law further provides that if any person is misled or deceived by any false representation in such report or by the failure of the officers to publish such report, said officers shall be jointly and severally liable for all damage resulting from such failure or misrepresentation. All foreign corporations for pecuniary profits (excepting railroad, telegraph, and insurance companies which are covered by other Acts) are required to maintain an office in this State and designate an agent or representative in this State on whom service of process may be had; they are prohibited from mortgaging, pledging, or incumbering their property in this State to the injury or exclusion of citizens of this State; they are required to file in the office of the Secretary of State a certified copy of their articles or certificate of incorporation, duly verified and authenticated by the proper authority, and to file in said office a duly sworn statement showing the proportion of the capital stock of the corporation represented by its property located and business transacted in this State, and are required to pay into the office of the Secretary of State incorporation fees and taxes upon the proportion of their capital stock represented by their property and business in Indiana, equal to those required of similar corporations formed under the laws of this State. This fee is one-tenth of one per cent., with minimum of ten dollars. Upon compliance with these provisions the Secretary of State issues a certificate to the corporation authorizing it to do business in the State. Neglect or failure to comply with the requirements of the law may be punished by a fine of not less than one thousand dollars in a proceeding to be instituted by the Prosecuting Attorney in a Court of competent jurisdiction, and in addition to such penalty any foreign corporation failing to comply with the law cannot maintain any suit or action in any Court of this State.

DAYS OF GRACE.— Grace is allowed on sight and demand paper and on time paper. Saturday is not a half holiday. Notes maturing on Saturday are payable the same day. Notes maturing on Sundays and holidays are payable the day before.

DOWER.— The tenancies of dower and curtesy are abolished. The widow takes, in fee simple, one-third of the real estate free from demands of creditors, except that as against creditors where the realty exceeds ten thousand dollars, she takes a fourth only; and exceeding twenty thousand dollars, a fifth only. She is entitled to five hundred dollars out of the personal estate without any accounting whatever, and to occupation of the dwelling and land surrounding it, not exceeding forty acres, for 1 year after husband's death. When there is only one child, and no will, widow and child each inherit one-half. If she marry again, holding real estate by the previous marriage, she cannot alienate it, during coverture, if there be any child of the previous marriage alive, except when such child or children, being over twenty-one years old, join with her and her second husband in the conveyance. A second or subsequent wife takes only a life estate in her husband's lands, if there be a child by the previous marriage and none by such widow. In case the husband leaves a will, making provision for the widow, she takes the provision so made in lieu of her statutory rights, unless within one year after probate of the will in this State, she shall make, acknowledged as a deed, and file in the office of probate, a written declaration of her election to take under the statute. In case of sale on judicial process of real estate of a husband, the wife's interest in the real estate vests and becomes absolute on such sale in the same way, and to the same extent as though the husband had died.

ESTATES OF DECEASED PERSONS.— All proceedings for settlement of decedents' estates is under control of the Circuit Courts, on all claims, whether due or not, a statement thereof must be filed in the office of the Clerk of the County where the estate is pending. If founded upon a written instrument, the original, or a copy, must be filed therewith, and also a statement of all credits to which the estate may be entitled. If secured by a lien, the same may be fully stated, with reference to the record of such lien. The claim will not be received unless verified by affidavit of the claimant, his agent or attorney, that "the claim, after deducting all credits, setoffs, and deductions to which the estate is entitled, is justly due and wholly unpaid." If not filed until after 1 year from publication of notice of appointment of administrator, the claimant will be liable for all costs. If not filed at least 30 days before final settlement of the estate, the claim will be barred, except that heirs, devicees, and distributees of a decedent shall be liable, to the extent of the property received by them from the estate, to any unpaid creditor who, 6 months prior to the final settlement, was insane, an infant, or out of the State — suit to be brought within 1 year of removal of disability, and if upon claim of non-resident creditor within 2 years of the settlement of the estate. When a claim is filed 10 days before a term of Court and is not allowed by the administrator by the last day of said term, it is transferred to the issue docket of the Court for trial at the next ensuing term like any other action; claimants are required to appear in person or by attorney

FRAUDULENT SALE OF STOCK OF GOODS.— Sales of any portion or of an entire stock of merchandise in bulk otherwise than in the ordinary course of trade are fraudulent and void as against creditors whose claims arose from the sale of such portion of such stock, unless the seller and purchaser shall, at least 5 days before the sale, make an inventory showing the quantity and cost price, and unless the purchaser make inquiry of the seller as to the name and residence of all creditors of the seller and amounts owing them, and unless the purchaser shall, at least 5 days before the sale, notify the seller's creditors of the proposed sale, and of the cost price of the merchandise proposed to be sold, and of the price proposed to be paid by the purchaser.

INTEREST.— The legal rate of interest is six per cent., but if a higher rate be contracted for in writing it can be recovered, not exceeding eight per cent. If more than eight per cent. is contracted for, but six per cent. can be recovered. Where interest not exceeding eight per cent. has been voluntarily paid, it cannot be recovered back. Interest on a closed account can be collected from the day an itemized bill is rendered and payment demanded. Judgments cannot bear more than six per cent. interest.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Judgments of the Circuit and Superior Courts are liens on real estate of the defendant in the county for 10 years. Transcripts may be filed in other counties, and thus become liens on lands therein. Judgments rendered by Justices of the Peace become liens on real estate by filing transcripts in the office of the Clerk of the Circuit Court. Judgments by confession may be rendered by

the defendaut's appearing personally in open Court, or upon an affidavit of the defendant filed in Court, stating that the debt is just, due and owing, and that confession is not made for the purpose of defrauding his creditors. Judgment notes are not iu use. Executions issued ou judgments are returnable in 6 months, but the officer is bound to make the money at the earliest possible moment. After judgmeut is rendered the debtor may, by giving sufficient freehold sureties, have a stay of execution on any sum exceeding seventy-five dollars for 6 months. Where the sum is less than seventy-five dollars the stay is not so long. The law further provides that no property shall be sold by virtue of au execution for less than two-thirds of its appraised cash value. The provisions of this law can be waived in notes and other contracts in writing by incorporating the clause, "*Payable without relief from valuation or appraisement laws.*" Executions are liens on personal property from the time the writ comes into the officer's hauds. Iu case of several executions in the hands of different officers, the writ first levied takes precedence, regardless of the time of issue of the several writs.

JURISDICTION OF COURTS.— Justices' Courts have jurisdiction up to $200, in actions on contract or tort, within the township where the debtor resides, or in attachment cases against non-residents. The Circuit Courts and Superior Courts in counties where established have concurrent jurisdiction to an unlimited amount.

LEASES AND HOW TERMINATED.— If the lease be for a definite time it is not necessary that the landlord give a notice to terminate it. It expires at the end of the term and teuant may be evicted without notice. When a tenant is holdiug over uuder lease for a definite time, he is iu for a term equal to the origiual lease and may be evicted at the end of the term without notice. Tenancy is from year to year and may be terminated by 3 months' notice given to teuant prior to the expiration of the year; and when tenancies are by consent of the parties expressed or implied, or from one period to another for less than 3 months' duration, a notice equal to the interval betweeu such periods is sufficient. The statutory form of notice is:

> To Charles Smith:
>
> You are hereby notified to deliver up to me at the expiration of the current year of the tenancy, the possession of the following described premises, situated in —— County, and State of Indiana, to wit, ——, now held of me by you as tenant.
>
> JOHN JONES.

LIMITATION OF ACTIONS.— Actions upon the causes of action hereinafter uamed shall be commeuced within the periods hereinafter named, respectively after the cause of action has accrued and not afterward: On accounts and contracts not in writing, and for use, rents, and profits of real property, aud for injuries to property, damages for detention thereof, for recovering possession of personal property, for relief agaiust frauds, within 6 years; for injuries to person or character, and for forfeiture or penalty given by statute, within 2 years; against any Sheriff, or other public officer, or the sureties on his bond, or a public bond growing out of the doing an act in official capacity, or omission to do any official duty, within 5 years, but action may be takeu against the officer, or his legal representatives, for money collected in an official capacity, and not paid over, at any time within 6 years; for the recovery of real property sold on execution, brought by the execution debtor, his heirs, or any persou claiming under him by title acquired after date of the judgment, within 10 years after the sale; for the recovery of real property sold by executors, administrators, guardians, or Commissiouers of Court, upon a judgment specially directing the sale of property sought to be recovered, brought by a party to the judgment, his heirs, or any person claiming title under a party, acquired after the date of the judgment, within 5 years after the sale is confirmed; upon promissory notes, bills of exchange, and other written contracts for the payment of money, within 10 years; upon contracts in writing other thau those for the payment of money, on judgments of Courts of Record, and for the recovery of the possession of real estate, 20 years. Actions not specially otherwise limited shall be brought within 15 years. Upon mutual open account the action accrues from date of last item proved ou either side; persons under legal disability when cause of action accrues, may bring suit within 2 years after disability removed; periods of non-residence from the State, or absence on public business, shall not be computed in any of the periods of limitation, but when a cause has been fully barred by the laws of the place where the defendant resided, such bar shall be the same defense as though it had arisen in Indiana, provided that these provisions shall be considered to apply only to causes of action arisiug without this State. If a person die having a cause of action, suit may be brought at any time after the expiration of the time limited, within 18 months after his death; no acknowledgment or promise shall be evidence of a new or continuing contract, whereby to take the case out of the operation of limit fixed by the statute unless the same be contained in some writing signed by the party to be charged thereby. Nor shall the acknowledgment or promise of one jointly bound with another render such other liable. The effect of part payment is, however, not taken away or lessened by the provisious as to an acknowledgment or promise not being effective unless in writing signed by the party to be charged, but part payment is only *prima facie* evidence of a new or continuing contract, and may be rebutted by other evidence. Auy indorsement or memorandum made upon auy instrument of writing by or on behalf of the party to whom the payment shall purport to be made, is not effective to take the case out of the operation of the statute.

PARTNERSHIPS.— Are general or limited. In a general partnership each member (except minors) is jointly and severally liable for all the debts of the firm. Limited partnerships for the transaction of mercantile, mechanical, or manufacturing (but not insurance) business may be formed by three or more persons. The firm name shall in no case contain the name of a special partner. The special partner shall contribute to the common stock a specified sum in cash, and shall not be liable for any debts of the partnership, except for some violation of their rights and duties as special partners. No such partnership shall be deemed to have been formed until all the partners shall sign, acknowledge, and have recorded in the Recorder's Office of the county where their principal place of business is located, a certificate containing the name or firm under which such partnership is to be conducted, the full name and residence of all general and special partners, amount of capital contributed by each special partner, the general nature of their business, and when the partuership is to commence and terminate. A copy of said certificate shall be published for six successive weeks immediately after such registry in a newspaper published in said county; but if no paper is published in said county, then in a newspaper in the State nearest thereto; aud if said publication is not made, the partnership shall be deemed general. The business shall be conducted by and iu the name of the general partners and if the special partners take part in, or allow their uames to be used in the business, they become liable as general partners. The capital stock shall not be reduced during the continuance of the partnership. The Courts have decided that a partnership cannot conduct a retail liquor business, and the purchase price of liquors sold to such partnership cannot be collected.

REAL ESTATE.— Deeded to husband and wife is held in entirety, and no judgment against either is a lien upon it, and a mortgage given upon it, to secure debt of husband, although signed by both husband and wife, is void, and on the death of one the survivor takes the whole. Real estate is conveyed by deed in writing, subscribed by the grantor or by his attorney in fact. The joint deed of husband and wife conveys the laud of the wife. A quit claim deed passes all the interest the grantor could convey by deed of bargain and sale. Parol leases not exceeding three years are good. Mortgages must be in writing executed in the same manner as deeds. Deeds and mortgages and leases for more

than 3 years must be recorded in the Recorder's Office of the county where the land is within 45 days, or they are void as to subsequent interest holder for value; to entitle any such instrument to be recorded, it must be acknowledged by the grantor; an acknowledgment may be taken by any Judge or Clerk of the Court of Record, Justice of the Peace, Auditor, Recorder, Notary Public, or Mayor of the city in this or any other State, or before any Commissioner appointed in any other State by the Governor of this State or by any Minister, *Charge d'Affaires*, or Consul of the United States in any foreign country. If the officers have an official seal no further certificate is necessary. Assignments of a mortgage must be on the record or must be acknowledged and recorded.

STATUTE OF FRAUDS.— No action shall be brought in any of the following cases: 1. To charge an executor or administrator upon any special province, to answer damages out of his own State; 2. to charge any person, upon any special promise, to answer for the debt, default, or miscarriage of another; 3. to charge any person, upon any agreement or promise made in consideration of marriage; 4. upon any contract for the sale of lands; 5. upon any agreement that is not to be performed within one year from the making thereof unless the promise, contract, or agreement upon which such action shall be brought or some memorandum or note thereof shall be in writing, and signed by the party to be charged therewith, or by some person thereunto by him lawfully authorized, excepting leases not exceeding three years. The consideration need not be expressed therein. Part performance of such agreements takes them out of operation of the Statute. No action shall be maintained to charge any person by reason of any representation made concerning the character, conduct, credit, ability, trade, or dealings of any other purpose unless the same is in writing, and signed by the party to be charged. No contract for the sale of goods for the price of $50 or more shall be valid, unless the purchaser shall receive part of such property or give something in earnest to bind the bargain or in part payment unless some note or memorandum thereof is in writing and signed by the party to be charged.

STATUTE OF LIMITATION.— Claims against estates of deceased persons, 1 year. Injuries and wages, 2 years. Accounts and book debts, 6 years. Notes and bills, 10 years. Judgments, 10 years; real estate, 20 years. Specialties, i. e., instruments of writing under seal, such as bonds, deeds, mortgages, contracts, etc., which are not only written, but are signed, sealed, and delivered by the party bound by them, 20 years.

IOWA.

ACKNOWLEDGMENTS.— Deeds, conveyances, or other instruments in writing, by which real estate shall be conveyed or encumbered, within this State, must be acknowledged before some Court having a seal, or some Judge or Clerk thereof, or some County Auditor or his Deputy, or Justice of the Peace within the county, or Notary Public within the county of his appointment or in an adjoining county in which he has filed with the Clerk of the District Court a certified copy of his certificate of appointment; if made out of the State, but within the United States, before a Judge of some Court of Record or officer holding the seal thereof, or some Commissioner appointed by the Governor of this State to take acknowledgment of deeds, or some Notary Public, or Justice of the Peace; and when before a Judge or Justice of the Peace, a certificate under the seal of the Clerk or other proper certifying officer of the Court of Record or of the County or District or of the Secretary of State of the State or Territory within which such acknowledgment was taken under the seal of his office, of the official character of said Judge or Justice, and of the genuineness of his signature, shall accompany such certificate of acknowledgment; if made without this State and within any other State, Territory, or District of the United States, also before any officer of such State, Territory, or District authorized by the laws thereof to take the proof and acknowledgment of deeds and certified by the certificate of the State or Territory in which such officer resides under the seal of such State or Territory, or a certificate of a Clerk of Record of such State or Territory in the county in which such officer resides or in which he took such proof or acknowledgment under the seal of such Court, stating that the officer was at the time of taking such proof or acknowledgment duly authorized to take acknowledgments and proof of deeds of lands in said State, Territory, or District, and that said Secretary of State or Clerk of Court is well acquainted with the handwriting of such officer, and that he verily believes that the signature affixed to such certificate of proof or acknowledgment is genuine; if made without the United States, before any Ambassador, Minister, Secretary of Legation, Consul, vice-Consul, *Charge d'Affaires*, Consular Agent, or any other officer of the United States in a foreign country who is authorized to issue certificates under the seal of the United States, said instrument may also be acknowledged or proved before any officer of a foreign country who is authorized by the laws thereof to certify to acknowledgments of written documents, but the certificate of acknowledgment by the foreign officer must be authenticated by one of the above named officers of the United States, whose official written statement that full faith and credit is due to the certificate of such foreign officer shall be deemed sufficient evidence of the qualifications of such officer to take acknowledgments and certify thereto and of the genuineness of his signature and seal, if he have any. The certificate of acknowledgment must contain the title of the Court or person before whom it was taken, that the person making the acknowledgment was personally known to the officer to be the identical person whose name is affixed as grantor, or that such identity was proven by at least one credible witness, naming him, and that such person acknowledged the execution of the instrument to be his voluntary act and deed. Proof of the due and voluntary execution and delivery of the deed or other instrument may be made before any officer authorized to take acknowledgments by one competent person other than the vendee or other person to whom the instrument is executed, in the following cases: 1. If the grantor dies before making the acknowledgement; 2. if his attendance cannot be procured; 3. if having appeared, he refuses to acknowledge the execution of the instrument. Acknowledgments may be made by attorneys in fact.

In the case of corporations or joint stock associations: On this —— day of —— A. D. ——, before me appeared A. B., to me personally known, who, being by me duly sworn (or affirmed), did say that he is the president (or other officer or agent of the corporation or association) of (describing the corporation or association), and that the seal affixed to said instrument is the corporate seal of said corporation (or association), and that said instrument was signed and sealed in behalf of said corporation (or association), by authority of its board of directors (or trustees), and said A. B. acknowledged said instrument to be the voluntary act and deed of said corporation (or association). (In case the corporation or association has no corporate seal, omit the words "the seal affixed to said instrument is the corporate seal of said corporation (or association), and that," and add, at the end of the affidavit clause, the words, "and that said corporation (or association), has no corporate seal.") (In all cases add signature and title of the officer taking the acknowledgment.)

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— There can be no arrest in civil actions or imprisonment for debt, except in case of fraudulent disposition of property and in proceedings supplemental to execution, where there is danger that the defendant will leave the State, or conceal himself.

ASSIGNMENT LAW, SYNOPSIS.— "Assignment for Creditors," is known as the general assignment act for this State. No general assignment is valid unless for the benefit of all creditors alike. In case of assignment for the benefit of all the creditors, their assent is presumed. The deed or article of assignment must be in writing, and the debtor shall annex thereto an inventory under oath of his estate, and also a list of his creditors and the

amount of their respective demands, but such inventory shall not be conclusive as to the amount of his estate, and the assignment vests in the assignee the title to any other property belonging to the debtor at the time of making the assignment not exempt from execution. Assignments must be acknowledged as conveyances of real estate, and recorded in the county where the person making the same resides, and in any other county of the State where he has real property to be assigned thereby. The assignee named by the debtor in his deed of assignment must forthwith file with the Clerk of Court an inventory and valuation of the estate under oath, and give bond to the Clerk for the use of the creditors in double the amount of the inventory and valuation, with sureties to be approved by the Clerk. He must forthwith give notice of the assignment by publication in some newspaper in the county for 6 weeks, and forthwith send notice by mail to each creditor, directed to his usual place of residence, and notifying the creditor to present his claim under oath to him within 3 months thereafter, but time for filing claims may be extended to 9 months. After 3 months from first publication of notice, the assignee must report and file a full list of all creditors who have claimed to be such, with statement of their claims, affidavit of publication, list of creditors, with residence, to whom notice was sent by mail, and the date of mailing duly verified. Objections may be filed to claims by any person interested within 3 months after report of assignee is filed, and on proper notice to the creditor filing the claim, the Court shall hear the case and render judgment, and may allow a jury trial thereon. The Court shall order the assignee to make fair and equal dividends from time to time on all valid claims, and to render a final account as soon as may be. The assignee shall receive such commissions as the Court considers just, and is subject to the orders of the Court or Judge, who may compel him to file reports and execute his duties. No assignment can be declared void for want of any of said lists or inventories. The Court or Judge may compel the debtor to personally appear before him to answer under oath, and he may then be examined as to the amount and situation of his estate, names of creditors and amounts due them with their residence, and may compel him to deliver to the assignee the property embraced in the assignment. Additional property found shall be inventoried and additional security given therefor. Debts not due may be claimed, but a reasonable abatement must be made if they are not drawing interest. Creditors who do not exhibit their claims within 3 months from the publication of the notice do not participate in the dividends, until after payment in full of all claims presented within said time allowed by the Court. The assignee has as full power to sell the property as the debtor had at the time of the assignment, and to sue for and recover everything belonging to the estate and do with it generally whatever the debtor might have done and shall dispose of all personal property and divide the proceeds within 6 months from date of the assignment, and real estate within 1 year unless the Court or Judge for good reason shown shall extend the time. Sales of real estate shall not be made without notice published as in case of real estate sold on execution unless the Court direct otherwise. If an assignee dies before closing his trust, or fails, for 20 days after the making of the assignment, to file an inventory and valuation and give bond, the Court or Judge, on application of any interested person, shall appoint a person to execute the trust, and such person on giving bond shall act as assignee. If any security is insufficient, or an assignee is guilty of wasting or misapplying the estate, the Court may require additional security, or remove the assignee and appoint others, and such other person, on giving bond, shall have full power to perform all duties of assignee, demand and sue for the estate from former assignee, and recover all moneys or property wasted or misapplied from him and his sureties. Taxes and assessments are preferred, so are debts for personal services rendered within 90 days before assignment. Upon application of the creditors ⅔ in number and amount, the Court shall remove the assignee.

COLLECTION.— In general. A claim, debt, or demand for less than $100 may be collected in a Justice's Court; by consent, $300. The District Courts have unlimited jurisdiction. Arrest and imprisonment for debt is not allowed except in cases of fraud and in proceedings supplemental to execution. Attachment is allowed against non-residents, and against debtors in cases of fraud, whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Costs of suit when plaintiff is a non-resident may be secured in advance, in Courts of general jurisdiction, when required or the suit will be dismissed — not in Justices' Courts. It is at least 10 to 20 days between the summons on the debtor and the obtaining of judgment in the District Courts, and 5 to 15 days in Justices' Courts. Execution may issue in any Court after entering of judgment, unless such execution is stayed. The judgment of a Justice of the Peace, of the United States District, and of the United States Circuit Court, when a transcript thereof is filed in the office of the Clerk of the State District Court of the county where rendered, is a lien upon the debtor's real estate in such county. The judgment is a lien upon personal property only upon levy of an execution.

COMMENCEMENT OF SUIT.— The process must be served in Justices' Courts on debtor at least 5 and not more than 15 days, and in the District Court at least 10 clear days before the first day of term. If defendant is served outside of his county, but inside of Judicial District, process must be served 15 clear days — elsewhere there must be 20 days' service for every 1,000 miles or fraction. Service short for first term is good for next term.

COMMERCIAL PAPER.— By statute, instruments by which the maker promises to pay a sum of money in property or labor, or to pay or deliver property or labor, or acknowledge as property, labor, or money to be due to another, are negotiable instruments with all the incidents of negotiability, whenever it is manifest from their terms that such was the intent of the maker; but the use of the technical terms "order" or "bearer" alone will not manifest such intent. Grace is allowed upon negotiable bills, promissory notes, and all bills of exchange, drafts, and orders payable within this State, except those drawn payable on demand, according to the principles of the law merchant. Any bank or mercantile paper falling due on a legal holiday shall be considered as falling due on the succeeding business day.

CONDITIONAL SALES.— No sale, contract, or lease wherein the transfer of title or ownership of personal property is made to depend upon any condition, shall be valid against any creditor or purchaser of a vendee or lessee in actual possession obtained in pursuance thereof without notice, unless the same be in writing, executed by the vendor or lessor, and acknowledged and recorded the same as chattel mortgages. Contracts for the conditional sale, lease, or hire of railroad and street railway equipments and rolling stock in writing must be acknowledged by vendee, lessee, or bailee the same as deeds, and recorded in the office of Secretary of State. Each engine or car so sold, leased, or hired, shall have the name of vendor, lessor, or bailor plainly marked on each side thereof, followed by the word "owner," "lessor," or "bailor," as the case may be.

CONSIGNMENTS.— A fraudulent conversion to one's own use or secretion, with intent to embezzle, or fraudulently convert to one's own use, moneys, goods, or property delivered to him or any part thereof, is larceny. The consignor's civil remedy is barred by statute of limitations in 5 years if the contract is oral, and in 10 years if in writing.

CORPORATIONS.— Previous to commencing any business, except that of their own organization, they must adopt articles of incorporation, which must be signed and acknowledged by the incorporators, and recorded in the office of the Recorder of Deeds of the county where the principal place of business is to be, and, thereafter, and within 30 days from recording the articles of incorporation with the County Recorder the articles of incorporation and certificate of Recorder shall be recorded in the office of the Secretary of State. The articles of incorporation must fix the highest amount of indebtedness or liability to which the corpora-

tion is at any one time to be subject, which must in no case, except in that of risks of insurance companies, exceed two-thirds of its capital stock. A notice must be published for 4 weeks in succession, in some newspaper as convenient as practicable to the principal place of business, containing the name of the corporation and its principal place of transacting business; the general nature of the business to be transacted; the amount of capital stock authorized, and the times and conditions on which it is to be paid in; the time of the commencement and termination of the corporation; the officers or persons by whom the affairs of the corporation are to be conducted, and the times at which they are to be elected; the highest amount of indebtedness to which the corporation is at any one time to subject itself, and whether private property is to be exempt from corporate debts. A failure to comply substantially with the foregoing requisitions, in relation to organizatiou and publicity, renders the individual property of the stockholder liable for the corporate debts. This section as to liability is not deemed applicable to railway company corporations and corporators, and stockholders in railway companies shall be liable only for the amount of stock held by them. Intentional fraud in failing to comply substantially with the articles of incorporation, or in deceiving the public or individuals in relation to their means or liabilities shall subject those guilty thereof to fine and imprisonment, or both, at the discretion of the Court. Any person who has sustained injury from such fraud may also recover damages therefor against those guilty of participating in such fraud. If the indebtedness of any corporation shall exceed the amount of indebtedness permitted by law, the directors and officers of such corporation knowingly consenting thereto shall be personally and individually liable to the creditors of such corporation for such excess. The limit of indebtedness mentioned does not apply to the bonds or other railway securities issued or granted by railway companies of this State to an amount not exceeding $16,000 per mile of single track, standard gauge, or $8,000 per mile of single track, narrow gauge, nor to the debentures issued by any incorporated company, the payment of which shall be secured by an actual transfer of real estate securities for the benefit of the holder of said debentures or bonds, such securities to be at least equal in amount to the par value of such bonds or debentures, and to the first liens upon unencumbered real estate, worth, at least, twice the amount loaned thereon. If the corporation transact business in this State the articles shall fix the principal place of business, which must be in charge of an agent of the corporation, at which place it shall keep its stock and transfer books and hold its meetings. A list of officers and directors shall be filed annually in January with the Secretary of State. Certificates of stock issued or transferred shall have indorsed on the face thereof the amount or par value paid to the corporation, and whether in property or money. Stockholders are not exempt from individual liability to the amount of the unpaid instalments on the stock owned by them, or transferred by them, after the corporate indebtedness was contracted. Stockholders in banking corporations are liable in double the amount of stock held by them. Foreign corporations organized for pecuniary profit other than for carrying on mercantile or manufacturing business are required to file a certified copy of their articles of incorporation, accompanied with a resolution of the board of directors, authorizing the filing thereof and service of process within this State, with the Secretary of State, and obtaining from him a permit to do business, and must pay to the Secretary of State the same fee as required of corporations organized in this State, except corporations transacting business in this State prior to September, 1886. This does not prevent foreign corporations from buying, selling, and otherwise dealing in notes, bonds, mortgages, and other securities, or from enforcing same.

ESTATES OF DECEASED PERSONS.— Executor or administrator must file an inventory of the estate within 15 days from his appointment, and a full report of all his doings every 12 months, or oftener, if the Court require it. The inventory must be filed even though the will does not require it or the heirs waive it. Claims should be proved within 12 months. All claims filed and allowed within 6 months after letters of administration constitute first class, and take priority. The statute contemplates, but does not exact, final closing up of estates within one year, and after that period the administrator is authorized to proceed to pay dividends and otherwise proceed accordingly; but claims may be proved up after a year where there are equitable reasons excusing delay.

INTEREST.— Six per cent. is the legal rate. Parties may agree in writing on any rate not exceeding eight per cent. If a rate of interest is contracted for greater than this, it works a forfeiture of ten per cent. on amount of contract to the school fund, and the creditor can have judgment for the principal sum only without interest or cost.

INTESTATE LAWS.— Widow receives as dower one-third in value of realty, in same proportion of personalty after payment of debts. Husband receives same share in wife's estate. Descent is to children in equal shares and to their descendants. If no issue, half to his parents, or survivor of them, other half to wife. If no wife, whole to his parents. If no parents, their would-have-been portion goes as if they had survived intestate and died in its possession; and so, through ascending ancestors and their issue. Surviving husband and his heirs inherit wife's estate in same manner.

INTOXICATING LIQUORS.— No one for himself or for another shall manufacture or sell any intoxicating liquors, which includes ale, wine, and beer, or own or keep the same for the purpose of sale. Permits, however, are granted to sell intoxicating liquors for pharmaceutical and medical purposes, and for chemical, mechanical, and sacramental purposes. Registered pharmacists, not engaged in keeping hotel, eating houses, saloons, restaurants, or places of amusement, may be authorized by the District Court to sell intoxicating liquors for the purposes above named. The applicant is required to execute a bond to the State in the sum of $1,000, conditioned that he will pay all fines, penalties, damages, and costs that may be assessed or recovered against him for a violation of the law. Before he can sell or deliver intoxicating liquors to any one, a request must be signed by the applicant, stating that he is not a minor, kind of liquors required and the purpose desired, and that they are not for use as a beverage. For cause shown, permits once granted may be at any time revoked. Places where intoxicating liquors are sold contrary to law may be enjoined as nuisances. All payments for or compensation for intoxicating liquors sold in violation of law, shall be held to have been received upon the valid promise and agreement of the receiver to pay on demand to the person furnishing such consideration the amount of such payment. No action shall be maintained for intoxicating liquors or the value thereof sold in any other State or contrary to the law of such State or country or with intent to enable any person to violate any provision of this chapter. Nothing, however, affects in any way negotiable paper in the hands of good faith holders for valuable consideration without notice of any illegality in its inception or transfer. Persons other than those holding permits may sell intoxicating liquors upon the payment of an annual tax of $600, payable quarterly, to the county, provided there shall be filed a written statement, showing consent that intoxicating liquors may be sold in such city, signed by a majority of the voters residing therein voting at the last preceding election, and the person applying shall file with the County Auditor a certified copy of a resolution adopted by the City Council consenting to such sales by the applicant and a written statement of consent from all the resident freeholders holding property within 50 feet of said building where the business is carried on. He must also file a bond with the County Auditor in the sum of $300 conditioned upon the faithful observance of all the laws relating to tax. No sale of intoxicating liquors shall be made to any person whose wife, husband, parent, child, brother, sister, guardian, ward over 14 years of age, or employer, shall by written notice forbid such sales. If the business is to be carried on in a town of less than 5,000 inhabitants, a written statement of consent by 65 per cent. of all voters who voted at the last preceding election is required. In addition to the tax mentioned, cities and towns wherein the liquors are

sold shall have power to levy and collect additional taxes from time to time, adopt rules and ordinances for regulating and controlling such traffic. Such taxes are a first lien on the real estate where the business is conducted, except preëxisting mortgages.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— In the District Court of this State judgments may be obtained at the first term after suit commenced, if undefended, and are liens on the real estate owned by the debtor at the time of such rendition. If the lands lie in the county where judgment was rendered, the lien attaches from its date; and if in any other county, from the time of filing therein an attested copy of the judgment. Executions may issue immediately upon the rendition of the judgment, and are returnable in 70 days from the date of issue. On the judgment debtor entering good and sufficient security on the proper Court Records for the amount of such judgment, interest, and costs — accrued and to accrue — he can have a stay of execution as follows: $100, 3 months; exceeding $100, 6 months. Stay must be taken within 10 days from the date of entry of judgment, and the party taking such stay, if he has been personally served with process, shall not afterward be allowed to appeal. If the judgment is not fully paid at the expiration of the stay, execution may be issued forthwith against the judgment debtors and the sureties. After stay, judgment draws 8 per cent. interest by operation of law. There can be no stay for wages due mechanic or laboring man, nor by a surety on stay bond, nor on judgments rendered on appeal, nor for money received in a fiduciary capacity, nor for the breach of an official duty.

JURISDICTION OF COURTS.— Justices' Court jurisdiction extends to all cases for collection of debt where the amount in controversy does not exceed $100; but by consent of the parties, it may be extended to any amount not exceeding $300. District Courts have unlimited jurisdiction.

LANDLORD'S LIEN.— A landlord shall have a lien for his rent upon all crops grown upon the premises and upon any other personal property of the tenant which has been used on the premises during the term and not exempt from execution for the period of 1 year after a year's rent or rent for a shorter period falls due; but such lien shall not in any case continue more than 6 months after the expiration of the term. The landlord under the above shall acquire a lien for the entire term of the lease upon property of the tenant at the time of the lease and upon all other property by him afterwards brought thereon, except in the event that a stock of goods or merchandise, or a part thereof, subject to a landlord's lien, shall be sold under judicial process or general assignment for benefit of creditors, the lien of the landlord shall not be enforcible against said stock or portion thereof, except for rent due for the term already expired, and for rent to be paid for the use of demised premises for a period not exceeding 6 months after date of sale, any agreement of the parties to the contrary notwithstanding.

LEASES.— For non-payment of rent landlord may always terminate a lease on 3 days' written notice. Tenants holding over become tenants at will, and do not hold under the provisions of the expired lease, unless it is so provided therein. Such tenants may be evicted upon 3 days' notice to quit, if served within 30 days after the expiration of the lease; otherwise it requires a 30 days' notice to quit. If the tenancy be a farm property the lease must terminate before March 1, otherwise the tenant can hold for another year. Notice must be in writing, and no particular form prescribed.

LIMITATION OF ACTIONS.— Accounts, 5 years. Notes, 10 years. Written instruments, 10 years. Judgments, 20 years. Written promises will revive the debt. When a cause of action has been fully barred by the law of another State, it is barred in Iowa.

MORTGAGES ON REAL ESTATE.— Mortgages upon real estate are valid between the parties, but no instrument affecting real estate is of any validity against subsequent purchasers for a valuable consideration without notice unless recorded in the office of the Recorder of the County in which the land lies. They can only be foreclosed by a proceeding in equity and a Court of Record. Upon the rendition of a decree of foreclosure special execution may issue for the sale of the property, which shall be made by the Sheriff of the county in which the land is located. From a sale creditors of the judgment debtor may redeem within 9 months from the date of sale. The judgment debtor may redeem within 12 months from day of sale. During the period of redemption mortgagor is entitled to the possession of the premises.

PARTNERSHIPS.— Limited partnerships for the transaction of business may be entered into by one or more general partners, and one or more special partners, by the parties executing and acknowledging a certificate stating the name of the partnership, names and places of residence, of the general and special partners, who are the general and who the special partners, the sum which the special partners contribute, the time of commencement and termination, and the general nature and place of business of the partnership, and having filed the same together with the oath of the general partners, or one of them, that the sums to be contributed by the special partners have been paid in cash, all of the same must be recorded in the office of the Clerk of the District Court where its principal place of business is situated, and publishing a notice of such partnership, as above, once a week for 6 weeks in two newspapers in the senatorial district in which the business is to be conducted. The names of the general partners only can be used in the business. The special partner is liable only for the amount contributed to the business, but he may not draw out any part of the money contributed, or take any part in the management without incurring liability as a general partner.

REPLEVIN.— An action for the recovery of specific personal property may be brought in any county where the property or some part thereof is situated. The petition must be verified and if the plaintiff desires immediate delivery of the property must give to the defendant a bond equal to twice the value of the property sought; conditioned that he will appear at the next term of Court and return the property if a return be awarded, but defendant, if successful, may elect to take a money judgment.

SUPPLEMENTARY PROCEEDINGS AFTER EXECUTION.— Upon the return of an execution unsatisfied in whole or in part, the owner of a judgment is entitled to an order for the appearance and examination of a judgment defendant, such order may be obtained upon proof to the satisfaction of the Court that debtor has property which he unjustly refuses to apply towards the satisfaction of the judgment. Upon appearance of the debtor he may be interrogated as to the amount of his property or the disposition which has been made of it. If under the examination any property is ascertained subject to execution the same may be levied upon.

TRANSFER OF SHARES.— The transfer of shares is not valid except as between the parties thereto, until it is regularly entered on the books of the company, so as to show the name of the person by, and to whom transferred, the numbers or other designation of the shares and the date of the transfer; but such transfer shall not in any way exempt the person making it from any liability of said corporation created prior thereto; and provided, further, that when any shares of stock shall be transferred as collateral security, the transferee may notify the secretary of the corporation whose stock is transferred as aforesaid, and from the time of such notice, and until notice that said stock shall have ceased to be held as collateral security, said stock so transferred and noticed shall be considered as transferred on the books of the corporation which issued said stock without any actual transfer on the books of such corporation of such stock. In such case it shall be the duty of the secretary or cashier of the corporation to which such stock shall have been transferred as collateral security, at once upon its ceasing to be so held, to inform the secretary of the corporation issuing such stock of such fact. The secretary of the company whose stock is transferred as collateral shall keep a record showing such notice of transfer as collateral and notice of discharge as collateral,

subject to public inspectiou ; and provided, further, that no holder of stock as collateral security shall be liable for assessments on the same. The books of the company mnst be so kept as to show intelligibly the original stockholders, their respective interests, the amouut paid ou their shares, and all transfers thereof ; and such books, or a correct copy thereof, so far as the items mentioned in this section are concerned, shall be subject to the inspection of auy person desiring the same.

KANSAS.

ACKNOWLEDGMENT OF DEEDS.— In cases where the acknowledgment is made out of the State it must be made before a Court of Record, a Clerk, or officer having the seal thereof, a Commissioner of Deeds for Kansas, Justice of the Peace, or Notary Public, or before any Consul of the United States resident in any foreign country or port. When the acknowledgment is made before a Justice of the Peace, some Clerk of a Court of Record must certify to his official position.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— There can be no imprisonmeut for debt except in cases of fraud. Upon filing an affidavit that the debtor has removed or begun to remove his property out of the jurisdiction of the Court, with intent to defraud his creditors, or that he has begun to convert his property into money, in order to place it beyond the reach of his creditors, or that he has property or rights in action which he fraudulently conceals, or that he has assigned, removed, or disposed of, or has begun to dispose of his property with intent to defraud his creditors, or that he fraudulently contracted the debt or incurred the obligation for which the suit is brought; and giving security not exceeding double the plaintiff's claim and sworn to, for all damages sustained by defendant if the order is wrongfully obtained, the Clerk issues an order of arrest. The affidavit must state facts that justify belief in existence of one or more of above particulars. The debtor may also be subjected to arrest under proceeding in aid of execution after judgment where it appears that he is about to leave the State or has property which he refuses to apply on the judgment.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Three days' grace are given by law exclusive of national holidays, upon negotiable bills of exchange and promissory notes, except bank checks and sight drafts. The common law is in force as to protests, etc., except that no resident bank, corporation, or citizen shall be liable for protest damages. A negotiable instrument may be transferred after maturity, but it carries with it all the equities which existed against the original holder.

COLLECTIONS.— In general. A claim, debt, or demand for less than $300 may be collected in a Justice's Court. The District Court is unlimited. Arrest for debt is not allowed except iu cases of fraud. Attachmeut is allowed against non-residents, and agaiust debtors in cases of fraud, whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Costs of suit must be secured in advance, or the suit will be dismissed. Personal service of process may be made any time before return day. In service by publication 40 days must elapse from date of first notice before judgment rendered. Execution may issue in any Court after entering of judgment, unless such execution is stayed. The judgment of a Justice of the Peace, wheu an abstract or a transcript thereof is filed in the office of the Clerk of the District Court of the county where rendered, is a lien npon the debtor's real estate iu such county. The judgment is a lien upon personal property only upon levy of an execution.

COMMENCEMENT OF SUIT.— Actions before Justices of the Peace are commenced by summons or by agreement and appearance of parties without summons. Summons is made returnable not less than 3 nor more than 12 days from the time it is issued, and must be served at least 3 days before appearance day. In District Courts suits are commenced by filing the petition, and causing summons to be issued, which must be served within 10 days from its date, except where defendant is a non-resident of the county in which suit is brought, in which case summons must be made returnable in not less than 10 nor more than 60 days from its date.

CONDITIONAL SALES.— Any and all instruments iu writing or promissory notes now in existence or hereafter executed, evidencing the conditional sale of personal property and that retain the title to the same in the vendor until the purchase price is paid in full, shall be void as against innocent purchasers or the creditors of the vendee unless the original iustrument or a true copy thereof shall have been deposited iu the office of the Register of Deeds in and for the county, wherein the property shall be kept, and when so deposited shall be subject to the law applicable to the filing of chattel mortgages ; and any conditional verbal sale of personal property reserving to the vendor any title to the property sold shall be void as to creditors and innocent purchasers for value.

CONSIGNMENTS.— The failure to accouut for goods consigned is punished as an embezzlement, if the iudictment is made within 2 years after the commission of the offense. The consignor's civil action will be barred in 3 years. There is no law on this subject save the common law of bailments and the ordinary statutes concerning embezzlement.

CORPORATIONS.— A general law provides for the creating of all private corporations except banking and insurance. It is the duty of the president and secretary or managiug officer of each corporation for profit, doing busiuess in this State, whether organized under the laws of Kansas or not, except banking, insurance, and railroad corporations, anuually, on or before the first day of August, to prepare and file with the Secretary of State a complete detailed statement of the condition of such corporation on the 30th day of June next preceding. Such statement shall set forth and exhibit the following: 1st, the authorized capital stock ; 2d, the paid up capital ; 3d, the par value and market value per share of said stock ; 4th, a complete and detailed statement of the assets and liabilities of the corporation ; 5th, a full and complete list of the stockholders, with the post-office addresses and number of shares held ; 6th, the names and post-office addresses of the officers, trustees, or directors and managers elected for the ensuing year. No action shall be maintained or recovery had iu any Court of the State hy any corporation doiug business in this State without first obtaining the certificate of the Secretary of State that the statements provided for have been properly made. Failure to file such report within 90 days from the time provided works forfeiture of the charter of domestic corporations and of authority of foreign corporations to transact business in Kansas. Foreign corporations are excepted from the provisions of the act in so far as their right to loan money on mortgage or other securities, or to buy and hold the same, or to foreclose and enforce the same in Courts of this State is concerned ; provided that if more than 20 per cent. of the capital stock of such corporation is held by aliens, it must dispose of real estate so acquired within 3 years after time of acquiring title, with penalty of forfeiting land to State. There is no State or municipal tax upon corporations, either foreign or domestic, as such, the property of the corporation simply being taxed as if it were owned by an individual ; provided that corporations furnishing public utilities, such as gas, street-car service, water, etc., under a franchise granted by a city subsequent to the laws of 1897, are required to pay to the city the net income from such franchise above 6 per cent. per annum of the capital invested as rental for such franchise. It shall be the duty of the president and secretary of any such corporation as soon as any transfer, sale, or change of ownership of any stock is made, as shown upon the books of the company, to at once file with the Secretary of State a statement of such change of ownership, giving the name and address of the new stockholder or stockholders, the number of shares so transferred and the par value and amount paid on such stock. No transfer of such stock shall be legal or binding until such statement is made as provided for in the act. Stockholders in every corporation organized under the laws of this

State, except benevolent, charitable, and railroad corporations, are liable for the amount of their unpaid subscriptions and for an additional amount equal to the face value of the stock owned by them, to be recovered by a receiver who may be appointed at the instigation of a creditor. If any director, cashier, or other officer of a banking institution, with knowledge that it is insolvent or in failing circumstances, shall assent to the reception of deposits or the creation of debts by the institution, he shall be individually responsible for such deposit or debt, at the suit of the depositor or creditor, and it is made the duty of such officers to know the condition of the institution at all times, and if they neglect such duty, they shall be presumed to have knowledge, and shall be responsible accordingly. The same provision is applicable to private bankers, their officers, managers, and agents. The directors of any corporation who pay a dividend when the company is insolvent, are liable for all debts then existing, and for all contracted while they continue in office, but not exceeding the amount of the dividend. When the defendant in any suit is a foreign corporation having a managing agent in this State, service of summons in such suit may be made upon such agent. The Kansas statutes make no practical distinction between foreign and domestic corporations, with the exception of foreign insurance companies, which are only permitted to do business in the State upon complying with the provisions of the insurance law governing them. Foreign railroad corporations may exercise all of the privileges of domestic corporations within the State upon filing copy of charter with the Secretary of State, in which case they become domestic corporations. Corporations may issue preferred stock, provided all of the stockholders assent thereto. Guaranty and surety companies organized under the laws of this or any other State are permitted to execute bonds and undertakings required by the laws of the State or in Judicial proceedings. Before engaging in business, however, every such company must deposit with the Attorney-general of the State a copy of its charter and a statement of its assets and liabilities, showing a paid-up capital of not less than $500,000 in cash or its equivalent; and further, must designate by written power of attorney some citizen of the State as its agent upon whom process may be served. Such corporation must file in the months of January, April, July, and October of each year with the Attorney-general a statement of its business, showing its assets and liabilities. The Legislature of 1889 passed an act against unlawful trusts and combinations in restraint of trade and products, and providing penalties therefor. This act applies to all corporations, whether foreign or domestic and all individuals doing business in this State. It contains the usual provisions against combinations with a penalty of not less than one hundred nor more than one thousand dollars, and imprisonment for not less than 30 days nor more than 6 months, or both, for their violation. It is further provided that any person or corporation injured or damaged by any such arrangement, contract, agreement, trust, or combination, described in the act, may sue for and recover in any Court of competent jurisdiction in the State, of any person or corporation, the full consideration of sum paid by them for any goods, wares, merchandise, and articles included in or advanced or controlled in price by said combination, or the full amount of money so borrowed. Section 5 of the act provides that, when an action at law or suit in equity shall be commenced in any Court of this State, it shall be lawful in the defense thereof to plead in bar or in abatement that the plaintiff or any other person interested in the prosecution of the case is a member or agent of an unlawful combination, as described in sections 1 and 2 of this act, or that the cause of action grows out of such combination, or out of some business or transaction thereof. A statute against trusts is also in force with the usual definitions of what constitute a trust under the statute. Corporations becoming parties to a trust forfeit their charters and franchises, and in addition are denied the right of doing business within the State. All persons and corporations violating any provisions of the trust statute are further punishable on conviction by a fine of not less than one hundred dollars nor more than one thousand dollars, and by imprisonment not less than 30 days nor more than 6 months, and in addition thereto, for each and every day thereafter that such violation shall be committed or continued, shall forfeit and pay the sum of one hundred dollars, which may be recovered in the name of the State of Kansas. All contracts or agreements in violation of the provisions of the act are made void and non-enforceable, and it is made the duty of the Attorney-general to prosecute all violations of the statute. No action shall be maintained or recovery had in any of the Courts of this State by any corporation doing business in this State without first obtaining the certificate of the Secretary of State that the statements provided for in this section have been properly made.

ESTATES OF DECEASED PERSONS.—Claims must be presented within three years from the time of the proving of the will or the appointing of an executor or administrator. The estate as to creditors must be closed up within 3 years. Claims legally exhibited during the first year have preference over those exhibited later, and those exhibited in second year have preference over those exhibited later. Executors and administrators make their settlements annually. Letters testamentary and of administration shall in no case be granted to a non-resident of this State, and when an executor or administrator shall become a non-resident the Probate Court having jurisdiction of the testator or intestate shall revoke the letters. Executors or administrators appointed in any other State, Territory, or foreign country, where none has been appointed in this, may administer in this by filing a copy of appointment and bond and under same rule as if residents here. But if bond not shown to be good, they may be required to give one here. A foreign executor or administrator may sue or collect a debt due from a person found in this State without filing such copy of appointment and bond.

GARNISHMENT.—Debts due from or property in the hands of third parties may be reached by garnishment proceedings after judgment or at any time before judgment in actions upon contracts, judgments, or decrees. Before garnishee summons issues, an affidavit must be filed showing the amount of plaintiff's claim, and that affiant believes that some person, naming him, is indebted to or has property in his possession or under his control belonging to the defendant, and that the defeudant has not property liable to execution sufficient to satisfy plaintiff's demand, and that the indebtedness or property sought to be reached by the garnishment is not exempt. The order of garnishment shall not be issued until an undertaking on the part of the plaintiff has been filed with the Clerk in a sum not exceeding double the amount of the plaintiff's claim, to the effect that the plaintiff will pay the defendant all damages which he may sustain by reason of such garnishment if the order be wrongfully obtained; but no undertaking shall be required where the party or parties defendant are all non-residents of the State or a foreign corporation. After service upon garnishee, he is required to answer under oath, and the plaintiff can, if he desires, take issue upon the answer, in which case the issue shall stand for trial as a civil action. From the time of service upon garnishee he stands liable to the amount of property, money, or credits in his hands, unless the defendant shall, at any time after the complaint is filed, and before judgment, file with the Clerk of the Court an undertaking, executed by at least two sureties, resident freeholders of the State, to the effect that they will, on demand, pay to the plaintiff the amount of the judgment, with all costs that may be recovered against such defendant in the action, not exceeding a sum specified, which sum shall not be less than double the amount demanded by the complaint on file, or in such less sum as the Court shall, upon application, direct. The sureties shall justify their responsibility by affidavit annexed stating a sum which each is worth, in property within this State, over and above all his debts and liabilities and property exempt from execution, the aggregate of which sums shall be double the amount specified in the undertaking. The defendant shall serve a copy of such undertaking, with a notice where and when the same was filed, upon the plaintiff. Within 3 days after the receipts thereof the plaintiff shall give no-

tice to the defendant that he excepts to the sufficiency of the sureties, or he shall be deemed to have waived all objectious to them. The garnishee may pay money owing to the defeudant to the Sheriff or into Court. Garnishments with quite similar but simpler proceedings, and without bonds, may be sued out before a Justice of the Peace upon oath of the claimant that he is otherwise in danger of losing his demand.

INTEREST.— Regular rate 6 per cent. Parties may agree in writing on any greater rate not exceeding 10 per ceut. If more thau 10 per cent. be contracted for, the party forfeits double the sum in excess of that per cent.

INTESTATE.— Dower and courtesy abolished. Oue-half of deceased husband's reality set apart for widow in fee simple, but not if at time of conveyance wife was not nor never had been a resident of the State. Remaining estate descends equally to children or their descendants, the latter taking only parent's share. If no children, or issue of such, whole estate to widow. If no wife nor issue, whole to his parents, or survivors of them. If no parents, disposition is as if they had survived intestate, and had died in possession of their portion. And so through ascending aucestors and their issue. Half-blood iuherits equally with whole-blood. Posthumous children iuherit. Personalty descends same as if it were realty.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Judgment before Justices of the Peace can be obtained generally upon the return day of the summons, though the debtor is entitled to a continuance not exceeding 15 days, upon making oath that there is absent material evidence which he expects to procure withiu that time, aud which he has been unable to procure, and a further continuance, not exceeding 90 days from return day of sumuious, may be procured upon proper application to the Court. In Justice Courts judgments do not create liens upon real estate, but an abstract of any such judgment filed in District Court creates such lieu from date of filing. Executiou may be ordered as soon as judgment is obtained. It is the duty of the justice, without any order, to issue executiou after 10 days from renditiou of judgment. Judgments of Court of Record are lieus on the real estate of the debtor within the county from the first day of the term at which the judgment is rendered, except judgments by confession and judgments rendered at the same term during which the action was commenced which are liens ouly from the day on which the judgment was rendered. A certified copy of the judgment filed in the office of the Clerk of the District Court of any other county makes the judgment a lien on real estate in that couuty from the date of filing said copy. But execution can only be issued from the Court in which the judgment is rendered. Judgments are liens on real estate for 5 years and may be continued by revival of the judgmeut. Executions are made returnable within 30 days when issued by a Justice of the Peace, and within 60 days when issued on a judgment of a District Court. Personal property levied on must be appraised and advertised for at least 10 days, and sold at auction to the highest bidder. There is no stay of execution in the District Court, except where a case is taken to the Supreme Court by proceedings in error, and in such case an undertaking must be given to effect stay of execution. In Justices' Courts, by filing boud, stays of execution are granted as follows: On any judgment for $20 and under, 30 days; over $20 and under $50, 60 days; over $50 and not exceeding $100, 90 days; over $100, 120 days. It is the duty of the Sheriff to at once make return of sale of real estate. If judgment was upon cause of action existing prior to March 17, 1893, the purchaser is entitled to deed upon confirmation. If upon cause of action subsequeut to that date, the purchaser receives a certificate of sale from which the defendaut owner of the real property may redeem at any time within 18 months from the day of sale by payment of the amouut, together with interest and cost and taxes, and such owner shall in the meantime be entitled to possession of the property unless the Court finds that the land has been abandoned, or not occupied in good faith, in which event the period of redemptiou is reduced to 6 months; and all junior lienholders shall be entitled to 3 months to redeem after the expiration of said 6 months. First 12 months' redemptiou period is exclusive to owner. After that any creditor whose claim becomes a lien prior to the expiratiou of the time allowed for redemption of creditors (except creditor under mechanics' lien uot reduced to judgment) may redeem within 15 months from day of sale. Creditors may redeem from each other until expiration of the 15 months from sale. Terms of redemption shall be in all cases the reimbursement of amount paid by the holder of certificate of purchase, added to the amouut of his own lien, with interest and costs, except that senior creditor redeeming from junior is ouly required to pay amount of liens paramount to his own. After expiration of 15 months, creditors can uo longer redeem from each other, but defendant owner may still redeem until 18 months. Upon the expiration of time named, if certificate has not been redeemed, holder is eutitled to deed.

JURISDICTION OF COURTS.— Justices' Courts have jurisdiction of civil cases for the recovery of debts where the amouut claimed does not exceed $300. The jurisdiction of Justices of the Peace in civil actions is co-extensive with the couuty wherein they are elected and reside. And actions against two or more defendants, jointly, or jointly and severally, may be brought before any Justice of the Peace of any county wherein either of the defendants reside or may be summoued; aud the justice may issue summons to the Sheriff of any couuty in the State, and thus bring in all co-defendants who are thus served. And the judgment thus obtained is as valid against such co-defendants as if they all resided iu the same county with the Justice of the Peace. The District Courts are Courts of general origiual jurisdiction in all matters of law or equity, civil and criminal, not otherwise specially provided by law, and have jurisdiction in all cases of appeal or proceedings iu error from inferior Courts and tribunals.

LEASES.— If a lease provide a date for ending a term, no notice to terminate is required. Three months' notice is required to terminate a lease from year to year. Hold-over leases, with consent of landlord, become leases from year to year. In farm leases, where tenant is holding from year to year, or for any indefinite term, a 3 months' notice should be given fixing the termination on the first of March. No particular form of notice is required, but simply to recite that:

> The undersigned, owner of the following described premises ——, hereby notifies you that your tenancy thereof is terminated, and will end on the —— day of ——, 19—.
>
> (*Landlord's Signature.*)

LIMITATION OF ACTIONS.— Actions for recovery of real property sold on execution brought by executiou debtor, his heirs, or persons claiming under hiu, by title acquired, after date of judgment, must be brought within 5 years from date of recording of Sheriff's deed; same as to action for recovery of real property sold by executor, administrator, or guardian; actions by tax-titleholder for recovery of real property sold for taxes within 2 years after date of recording of tax deed, and for purpose of defeating tax deed within 5 years after recording same. Actions for recovery of real property not otherwise provided for, within 15 years; actions for forcible entry and detention, or forcible detention, 2 years; actions upon agreements, contracts, and promises in writing, 5 years; actions upon contracts not in writing, 3 years, and same as to liabilities created by statute other than forfeitures aud penalties; actions for trespass upon real property, taking, detaining, or injuring persoual property, for fraud after its discovery, etc., 2 years. For libel, slander, assault, battery, malicious prosecution, etc., for penalty or forfeiture, unless otherwise provided by statute, 1 year. Upon official and legal bonds geuerally, 5 years. Actious for relief not otherwise provided for, 5 years. Any stipulatiou or agreement for a different period, void. A person entitled to bring action for real property, who is under legal disability when cause of action accrues, may bring his action within 2 years after removal of disability, and in other cases within 1 year, except iu cases of penalty or forfeiture. Judgments become

dormant 5 years after the date of their rendition, or 5 years after the date of the last execution issued thereon. A dormant judgment must be revived in 1 year after it has become dormant, or the right to revive is gone. In any action founded on contract when any part of the principal or interest shall have been paid or an acknowledgment of an existing liability, debt, or claim, or any promise to pay the same shall have been made, an action may be brought in such case within the period prescribed for the same after such payment, acknowledgment, or promise, but such acknowledgment or promise must be in writing, signed by the party to be charged thereby.

MORTGAGES, REAL ESTATE.—A mortgage of real estate to be valid as against subsequent *bona fide* purchasers must be duly acknowledged and recorded in the office of the Register of Deeds of the county where the land is situated, in the same manner as other real estate conveyances. In the absence of stipulations to the contrary, the mortgagor of real property retains possession until the mortgage is foreclosed and Sheriff's deed delivered to the purchaser. Mortgages may be discharged on the margin of the record by the mortgagee or assignee in the presence of the register or by satisfaction entered on the instrument when copied on the margin by the register, or by independent release, duly acknowledged and recorded. Mortgages are foreclosed by suit only in which all the parties in interest and subsequent lienholders are made parties defendant. No real estate within this State shall be sold for the payment of any money in security for which it may have been pledged, except in pursuance of a judgment of a Court of competent jurisdiction ordering such sale. There is a penalty of one hundred dollars for failure to release a mortgage paid in full, to be recovered with a reasonable attorney's fee. Assignments of real estate mortgages must be acknowledged same as deeds and filed for record. Penalty for failure — payment may be made to mortgagee or last assignee of record, provided the mortgagor has no actual knowledge of the assignment.

PARTNERSHIPS.—Limited partnerships may be formed for carrying on any business except banking or insurance. A certificate stating particulars must be made and filed in County Clerk's office, and notice published 4 weeks.

STATUTE OF FRAUDS.—Kansas has a Statute of Frauds common to most of the states.

KENTUCKY.

ALIENS.—An alien subject or citizen of a friendly State may take and hold any personal property, and if a resident of this State may take and hold any lands, for purposes of residence or business, trade or manufacture, for a term not exceeding 21 years, having like rights, remedies, and exemptions touching said property as if a citizen of the United States.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.—A debtor in a civil action can be arrested and held to bail when there is an affidavit of a creditor showing the nature of the debt, that it is just, the amount or value which ought to be recovered, and that affiant believes either that the debtor is about to depart from the State, and, with intent to defraud his creditors, has concealed or removed from the State his property or so much thereof that the process of the Court after judgment cannot be executed; or that the debtor has money or securities for money, or evidences of debt in the possession of himself or of others, for his use, and is about to depart from the State without leaving property therein sufficient to satisfy the creditor's claim. To effect the arrest bond and security must be given. In default of bail the debtor is committed to jail, where he must remain until he pays the debt, gives bail to render himself amenable to the process of the Court, or takes the insolvent debtor's oath.

COLLECTIONS.—In general. A claim, debt, or demand for less than $100 may be collected in a Justice's Court in any county in the State; in Quarterly Courts when less than $200. The Circuit Courts are unlimited (except where a jurisdiction is given exclusively to another Court). Arrest and imprisonment for debt is allowed in cases of fraud. Attachment is allowed against non-residents, foreign corporations, etc., and against debtors in cases of fraud, whether the debt is due or not. Parties to the suit, or interested therein, are competent witnesses. Costs of suit must be secured in advance if the party plaintiff be a non-resident. It is at least 10 to 60 days between the service of summons on the debtor and obtaining of judgment in the Circuit Court, and 5 days in Justices' Courts. Execution may issue in 10 days after entering of judgment, unless such execution is stayed. Judgments are not liens except from date execution is placed in the hands of proper officer. Executions from Justices of Peace are against personalty only.

COMMENCEMENT OF SUIT.—In ordinary proceedings for the collection of debts, the summons must be served 10 days before commencement of the term in the county in which action is brought, and 20 days before commencement of the term, when served elsewhere in the State. In the Jefferson County Circuit Courts summons must be served 20 days before judgment can be taken or answer required, or 30 days if served elsewhere in the State.

COMMERCIAL PAPER.—Bonds, bills, or notes for money or property are assignable so as to vest the right of action in the assignee; but except in case of bills of exchange, not to impair the right to any defense, discount, or offset that the defendant has and might have used against the original obligee or any intermediate assignor before notice of the assignment. Bills of exchange and promissory notes to any person or corporation, payable and negotiable at any bank incorporated under the laws of this State, or organized in the State under any law of the United States, which shall be indorsed to, and discounted by, the bank at which the same is payable, or by any other of the banks in the State as above specified, are governed by the law merchant. The indorser on a promissory note, not put upon the footing of a foreign bill of exchange by having been discounted by a bank in this State, is discharged unless the holder brings suit against the maker with "due diligence" and prosecutes him through insolvency. The only safe definition of the phrase "due diligence" is immediately upon maturity. Sureties are discharged after 7 years, and may compel suit by holder by giving notice, and if suit be not instituted surety will be discharged. Grace is allowed on bills of exchange payable at or after sight or on time; if the third day be Sunday or a holiday the bill or note becomes due the preceding day.

CONSIGNMENTS.—A consignee's failure to account for the goods consigned is a mere breach of trust. The consignor's only remedy is a civil action. It will be barred in 5 years.

CONTRACTS.—A representation concerning the character, conduct, credit, ability, trade, or dealings of another, made with intent that such other may obtain credit, money, or goods, or a promise to answer for the debt, default, or misdoing of another is not binding unless the same be in writing and signed by the party to be charged. A seal or scroll is not necessary to give effect to a deed or other writing (this does not apply where any law requires State or county seal, seal of a Court, corporation or Notary to any writing). All bonds, bills, or notes are assignable so as to vest right of action in the assignee, but except in case of bills of exchange, not to impair any defenses existing between the original parties before notice of the assignment. A person who signs his name on the back of a promissory note is treated as an assignor unless in writing a different purpose is expressed or the note can be legally placed on the footing of a bill of exchange. Promissory notes payable to any person or corporation, and payable and negotiable at any bank incorporated or organized under the laws of this State or of the United States, and indorsed to and discounted by said bank, are placed on the footing of foreign bills of exchange.

CONVEYANCES.—No deed, or deed of trust, or mortgage, of real or personal estate will be valid against a purchaser for a valu-

able consideration without notice, or creditors, until acknowledged or proved, according to law, and lodged for record. Deeds of trust or mortgage take effect in order that same are acknowledged or proved, and lodged for record. Deeds executed in this State by others than married women, may be acknowledged before a Clerk or Notary Public, or proved by two subscribing witnesses, or one witness, who shall prove the attestation of the other, or by two witnesses, that the subscribing witnesses are dead or out of this State, or one so absent and the other dead, and like proof of the signature of one witness and of the grantor. Deeds executed out of this State, and in the United States, by persons other than married women, may be certified under his seal of office by the Clerk of a Court, his Deputy, or a Notary Public, Mayor of a city, or Secretary of State, or Commissioner, to take acknowledgment of deeds, or, by a Judge under the seal of his Court to have been acknowledged or proved before him in the manner hereby required. Deeds executed out of the United States by others than married women, may be certified by any foreign Minister or Consul, or Secretary of Legation of the United States, or by the Secretary of Foreign Affairs, certified under his seal of office, or by a Judge of a Superior Court of the nation where the deed shall be executed, to have been acknowledged or proved before him in the manner prescribed by law. Married women may convey any real or personal estate which they own, or in which they have an interest. The conveyance may be by joint deed of husband and wife, or by separate instrument, in latter case the husband must first convey or have theretofore conveyed. A deed of a married woman to be effectual must be acknowledged before some of the officers named above. Previous to such acknowledgment the officer must explain to her the contents and effect of the deed separately and apart from her husband, and thereupon if she freely and voluntarily acknowledges same and is willing for it to be recorded, the officer shall certify, if deed is made in this State, that it was acknowledged before him and when, but need not state privy examination; if made out of this State certificate must show privy examination, etc., as above set out. Any non-resident married woman may, by agent, convey any interest she may have in real or personal estate in Kentucky, which she could lawfully convey in person, but the conveyance must be made by virtue of a power of attorney, executed and acknowledged as deeds are required to be acknowledged by her.

CORPORATIONS.—Corporations must be incorporated under the corporation law of the State. In addition to its general provisions there are separate articles governing banks, trust companies, insurance, railroads, and building and loan associations. Some of the general provisions are, that 50 per cent. of capital stock must be subscribed before business can be transacted with others than stockholders. Corporations cannot retain a lien to secure a debt on any part of its capital stock except to prevent loss on debt previously contracted. A book shall be kept at principal office containing names, post-office address, number of shares of stock of each stockholder, and time of becoming such, also transfer of stock, number of shares, when, by, and to whom transferred. Stockholders of each corporation shall be liable to creditors for the full amount of the unpaid part of stock subscribed for by them, and no stockholder shall be liable because of being a stockholder for any sum more than to the amount of the unpaid part of stock held by such stockholder of any company, except stockholders in banks, trust companies, guaranty companies, investment companies, and insurance companies, shall be liable equally and ratably, and not one for the other, for all contracts and liabilities of such corporation to the extent of the amount of their stock at par value, in addition to the amount of such stock; but persons holding stock as fiduciaries shall not be personally liable as stockholders, but the estates in their hands shall be liable in the same manner and to the same extent as the property of other stockholders, and no transfer of stock shall operate as a release of any such liability existing at the time of such transfer provided the action to enforce such liability shall be commenced within 2 years from the time of transfer. No transfer of stock releases stockholder from any liability of the corporation existing at the time of the transfer until after expiration of 2 years. No stock or bonds shall be issued except for an equivalent in money, labor done, or property received, at its market price. No corporation can have the benefit of any legislation unless it files with the Secretary of State an acceptance of the provisions of the new Constitution. All corporations, except foreign insurance companies must have a known place of business in this State, and an authorized agent thereat on whom process can be served, a statement signed by the president or secretary must be filed with the Secretary of State, giving name of agent, and location of office, and notifying him of any change made therein, under penalty of not less than $100 nor more than $1,000. Every corporation must paint or print in a conspicuous place on its principal place of business in letters large enough to be easily read, the corporate name and in like manner under it the word "Incorporated"; also, excepting railroads, banks, trust companies, insurance companies, and building and loan associations, upon all printed or advertising matter used by it, under a penalty of not less than $100 nor more than $500. Foreign insurance companies before doing business in this State must file with the Insurance Commissioner a resolution of its Board of Directors, consenting that service of process on its agents in this State, or the Insurance Commissioner, in suits in this State shall be valid service upon the company. Foreign building and loan companies must obtain from Secretary of State certificate to do business in the State for which a fee of $25 is charged; such companies must also obtain from the same source license for each agent, the annual fee being $25. All building and loan associations must file an annual statement with the Secretary of State, and pay an annual license of $10.

COSTS.—Non-resident plaintiffs and corporations, except banks created under the laws of this state, must give bond with surety for costs, if not given, on motion the suit will be dismissed. Every insolvent person suing as an assignee except an indorsee of a bill of exchange or promissory note placed on the footing of a bill of exchange may also be required to give such bond.

COURTS.—Justices' Courts have jurisdiction in civil cases for recovery of money or personal property where the matter in controversy, exclusive of interest and costs, does not exceed $100. Quarterly Courts have a like jurisdiction up to $200. Circuit Courts have jurisdiction in all cases where the amount is over $50, exclusive of interest and costs, also where title to land is involved or in which it is sought to sell same for debt, etc. Appeals may be taken to Circuit Court from judgments of Quarterly Court where the value in controversy, exclusive of interest and costs, is over $25, from Justices' Court to Quarterly Court where it is over $10, and from Circuit Court to Court of Appeals where it is over $200.

ESTATES OF DECEASED PERSONS, ETC.—No action will lie against a personal representative until after 6 months from date of qualification, nor until claim is verified as required by law and payment thereof demanded. Personal representatives have 2 years in which to settle the estate. They may distribute the estate in 9 months after qualification. All demands against decedent's estate must be verified by written affidavit of claimant, if absent from the State by his agent, stating that "the demand is just and has never to his knowledge or belief been paid and that there is no offset or discount against the same or any usury embraced therein." If the demand be other than an obligation signed by decedent, or a judgment, it shall also be verified by a person other than claimant who shall state he believes the claim is just and correct and give the reasons therefor.

EXECUTIONS.—Executions issued 10 days after judgment unless otherwise ordered by the Court are made returnable in not less than 30 nor more than 70 days. Ordinarily judgments for money before execution thereon gets in the hands of the proper officer and executions on such judgments before levy, may be stayed for 3 months by the debtor. Executions bind debtor's estate from time of delivery to the officer to execute.

HUSBAND AND WIFE.—Marriage gives a husband during the life of the wife no estate or interest in the wife's property, real or

personal, owned at the time or acquired after marriage. The wife holds her estate to her separate and exclusive use free from the debts or control of the husband. Her estate is liable for her debts except that the husband is liable for necessaries of the wife furnished after marriage. The wife may by deed or mortgage, the husband joining with her, bind her property therein set apart for the debt, default, or misdoing of another, including her husband. She may take, acquire, and hold property, real and personal, by gift, devise, descent, or by purchase, and she may, as if unmarried, sell and dispose of her personal property. She may make contracts, sue and be sued as a single woman, except she may not make executory contracts to sell, convey, or mortgage her real estate unless her husband joins with her. She may rent her real estate, and collect, receive, and recover in her own name the rents and make contracts for the improvement thereof. A gift, transfer, or assignment of personal property between husband and wife to be valid must be in writing and be acknowledged and recorded as chattel mortgages are required to be, but making and recording such writing will not validate it if fraudulent as to creditors or purchasers. Husband and wife may sell and convey her lands and chattels real, but the conveyance must be acknowledged and recorded as required in chapter on conveyances. After the death of either, the survivor has an estate for life in one-third of all the real estate of which he or she or any one for his or her use was seized in fee simple during coverture unless it has been barred, and an absolute estate in one-half of the surplus personalty. A married woman if of sound mind and 21 years of age may dispose of her estate by will.

INTEREST.— The rate of interest is fixed at 6 per cent., and the contract for more is void. The lender may recover the amount actually loaned with lawful interest. The law does not allow interest on open accounts, unless specific agreement to pay the account at a definite time can be proved.

INTESTATE LAWS.— Surviving husband or wife has life estate in one-third of decedent's reality, unless relinquished during life, and an absolute estate in one-half of surplus personalty of decedent. Realty of intestate decedent descends in parcenary: 1. To his children and their descendants. 2. If none, to his father and mother, a moiety each. 3. If father be dead, mother, if living inherits a moiety, the other going to brothers and sisters and their descendants. If none, then, 4, one moiety to paternal, the other to maternal kindred as follows: (a) To grandfather and grandmother equally, if living; if one be dead, entire moiety to survivor. (b) If no grandfather nor grandmother, to uncles and aunts and their descendants. (c) If none, to great-grandfather and great-grandmother, as in (a) above. (d) If none, to brothers and sisters of grandfathers and grandmothers and their descendants. And so, without end, to nearest lineal ancestors and descendants. 5. If no such kindred to one of parents, hold to kindred of the other. If no paternal or maternal kindred, hold to husband or wife of intestate; or, if either be dead, to his or her kindred, as if she or he had survived intestate, and died entitled to estate. Estates derived from parents by inheritance or gift go back to parents if intestate dies without issue. Collaterals of half-blood inherit only half of that of whole-blood. Posthumous children inherit. Husband takes one-half of deceased wife's personalty, and widow one-half of deceased husband's.

LEASES.— No notice to terminate lease required where the term is certain, or notice to quit is dispensed with. If a tenant fails to quit after having been given notice; or if, when his term expires upon a date certain, he refuses to quit; or if, where the agreement was to dispense with notice, he refuses to quit when landlord demands possession, he shall pay double rent from the time he should have yielded possession. If tenancy be for a year or more, and to expire on a certain day, tenants must quit unless there be a new contract to remain. If tenant holds over without such contract, he acquires no right to remain within 90 days, and landlord may repossess without demand or notice, if he institute proceedings within that time. If landlord takes no steps to repossess within that time, tenant holds for a year; after which the above relation is repeated. If the lease is for less than a year, the above relation exists, except that tenant requires no right within 30 days, and landlord must institute proceedings within that time. If he does not, no proceedings are allowed until after 60 days from end of the term. Thirty days' notice required to end all other kind of tenancies. No particular form of notice required.

LIENS.— Persons who perform labor or furnish material for the improvement in any manner of real estate, or for any fixture or machinery in any building thereon, by contract with or the written consent of the owner, have a lien on the improvements and the land or any interest of the owner therein, to secure the amount thereof with costs. This lien is superior to any encumbrance created subsequent to the beginning of the labor or furnishing the material. The lien if asserted takes effect from the beginning of the labor or for furnishing the material. If the labor be performed or material furnished for a contractor or sub-contractor, no lien will attach unless notice in writing be given to the owner that a lien will be claimed. In such case if the owner is indebted to the contractor or sub-contractor at the time of notice, he must withhold a sufficient amount to satisfy the claim if he owes that much, if not, so much as he owes. If several notices are given, and the owner's indebtedness is not sufficient to pay all, then he shall pay them *pro rata*. If he fails to pay, the property shall be under the lien, but no lien shall exist in favor of such person unless the contractor be entitled to a lien, nor shall any lien exist if security be taken for the labor performed or material furnished. Within 6 months after ceasing to do labor or furnishing material, a statement must be filed in the county Clerk's office of the county in which the improvement is situated showing amount due, all credits or setoffs, if any, a description of the property, name of owner if known, and whether contract was made with the owner, contractor, or sub-contractor, which must be subscribed and sworn to by claimant, or some one in his behalf. The lien will be dissolved unless suit be brought to enforce same within 12 months from time it is filed in Clerk's office. To enforce a contract of this kind against a married woman, it must be in writing; such liens will be valid against a purchaser or creditor. Excepting the captain, the employees on board a steamboat, brig, schooner, sloop, or model barge, have a superior lien on the vessel, fixtures, furnishings, etc., for their wages. Mechanics, tradesmen, and others have a like lien for work, supplies, materials, stores, and provisions, furnished in this State, with priority over all debts except to employees, and over all liens thereafter created. Such liens will not be enforced against purchaser without actual notice, unless suit is brought in 1 year from cause of action, or notice thereof be indorsed or attached to enrolment of vessel. Employees of any railroad, mine, turnpike, canal, or other public improvement company, or of any rolling mill, foundry, or other manufacturing company, which has assigned, or come into the hands of any officer for the benefit of creditors and persons who have furnished supplies or material for carrying on such business, have a lien upon the property involved in such business, the accessories connected therewith, and the interest in the real estate used in carrying on such business. The lien is superior to any mortgage or encumbrance thereafter created, and shall be for the whole amount due employees, or for materials or supplies. A like lien shall attach if company suspends, sells, or transfers such business, or if the property be taken in attachment, or execution, so that the business is stopped or suspended. Suit to enforce lien must be filed within 60 days from date of assignment, or date property goes into the hands of a receiver, etc., or be filed within that time with person authorized to receive and report claims.

LIMITATION OF ACTIONS.— Civil actions shall be commenced within the following periods after the cause of action has accrued: Actions upon contracts in writing, official bonds, or upon a judgment or decree of any Court, must be brought within 15 years, on judgments, the time dating from the last issue of execution; also all actions for the recovery of real estate, and no disability

whatever can extend the time longer than 30 years. Actions upon contract, express or implied not in writing, for trespass on real or personal property on bills of exchange, drafts, or upon a promissory note placed on the footing of a bill of exchange, upon accounts between merchants or their agents, or relief upon the ground of fraud or mistake, must be brought within 5 years. Actions upon merchants' accounts for goods sold to consumers shall be brought in 2 years, the time to be computed from the first day of January next after the goods are sold and charged. (By statute all written contracts, such as notes, etc., are raised to the dignity of sealed instruments.)

PARTNERSHIPS.— General partnerships are formed under the general law, and the liability of partners is general. Limited partnerships, which are rare, may be formed under a special statute, which should be consulted before any one engages in such business. Under this statute a partner may limit his liability.

PROCESS.— In an action against an individual residing in another State, or a partnership association or joint stock company, the members of which reside in another State, engaged in business in this State, the summons may be served on the manager or agent of, or person in charge of, such business in this State, in the county where the business is carried on or in the county where the cause of action occurred. Service of summons in an action against a private corporation may be had upon the chief officer or agent who may be found in the State, or may be served in the county wherein the action is brought upon the corporation's chief officer or agent who may be found therein. If the defendant operate a railroad it may be served upon the passenger or freight agent stationed at or nearest the county seat of the county in which the action is brought.

STATUTES OF FRAUD.— No action will lie to charge any person: (1) For a representation or assurance concerning character, conduct, credit, trade, or dealings of another, made to enable such other to obtain credit, money, or goods; (2) upon a promise to pay a debt contracted during infancy; (3) upon the promise of a personal representative to answer for debt of decedent out of his own estate; (4) upon a promise to answer for debt, default, or misdoing of another; (5) upon any agreement made in consideration of marriage; (6) upon any contract for sale of real estate, or any lease for more than 1 year; (7) upon any agreement not to be performed within 1 year from making, unless the promise, etc., be in writing, signed by the party to be charged, or by his authorized agent; but the consideration need not be expressed in the writing.

LOUISIANA.

ACKNOWLEDGMENTS.— Before a Commissioner of Louisiana, or a Notary Public of any State or Territory, or the District of Columbia, certified under his hand and seal, or other officer authorized by law to take depositions in the State where he resides — the latter to have his official character certified by Secretary of State or by a Louisiana Commissioner.

ARREST AND IMPRISONMENT FOR DEBT.— The writ of arrest only serves to secure the person of the debtor to answer the suit, and as it does not otherwise secure the debt, is of little practical value.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Three days' grace allowed on bills of exchange and promissory notes, or other negotiable obligations, but not on sight bills, or orders for money, on demand. Negotiable obligations are payable on first legal day following last day of grace, when such last day is a day of public rest. The following are legal holidays or days of public rest: Sundays, the 1st and 8th of January, 22d of February, Good Friday, 3d of June, 4th of July, 1st of November, 25th of December, Thanksgiving Day; and, in the Parish of Orleans, Mardi-Gras, and the 1st Monday in September; and Saturday after 12 o'clock noon in cities and towns whose population shall exceed 15,000, where Saturday is, as to negotiable paper, considered entire as a holiday. In computing delay allowed for giving notice of non-acceptance or of non-payment of bills of exchange, promissory notes, or other commercial paper, legal holidays and half Saturdays are not counted. Any persons receiving any check, promissory note, bill of exchange due, or payable, or presentable for acceptance on any half holiday Saturday, may present the same for payment or acceptance, as the case may be, on the succeeding secular or business day.

COMMENCEMENT OF SUITS.— Suits in the District Courts are begun by petition, copy thereof to be served, with citation, on defendant personally, on his authorized agent, or at his residence in his absence. Defendant has 10 days to answer or otherwise plead, failing which, plaintiff may enter default, and on third judicial day thereafter make proof and have judgment. In suit on open account, affidavits to correctness thereof before any competent officer, make competent proof in confirming default. Pleadings in Justices' Courts, in other than the Parish of Orleans, are oral; but in the corresponding City Courts in the Parish of Orleans pleadings are written.

COMMERCIAL TRAVELERS.— The Constitution of 1879 prohibits any political corporation from imposing any greater license tax than is imposed by the General Assembly for State purposes. The New Orleans ordinance of Dec. 24, 1879, imposed a license tax on commercial travelers of $10 per week, but the General Assembly, by Act of April 10, 1880, fixed the State tax at $25 per month. The Commercial Travelers' License has been declared unconstitutional by the Supreme Court of the State.— (Simmons Hardware Co. *vs.* Sheriff, 39 La. Ann. 48.)

COMMUNITY OF ACQUESTS AND GAINS.— Unless by previous contract to the contrary, every marriage creates a community of property between the spouses. All property acquired by either spouse during the marriage, except by inheritance or donation, or by reason of personal injuries to the wife not resulting in death, belongs to the community, whether acquired in the name of one spouse or the other, subject, however, to the right of the wife to prove affirmatively that property in her name was purchased with her separate money. The husband is the head of the community, and may alienate its property, for consideration, without the consent of his wife. On the death of either spouse, and the payment of the debts of the community, the residuum is equally divided — one-half going to the survivor, the other half to the heirs of the deceased — subject, however, to the usufruct in the survivor, during widowhood, in the share of the deceased. If the deceased has disposed of his property by will, such usufruct does not exist.

CONDITIONAL SALES.— Sales of personal property on the instalment or credit plan, conditioned that, in event of non-payment of any instalment, the vendor may enter and take possession, are not provided for by law, except as to sewing machines and pianos, as to which such entry and taking are forbidden under penalty. The Courts usually hold such sales as absolute.

CONFESSION OF JUDGMENTS.— Service of citation shall not be waived, nor judgment confessed, by any document under private signature executed prior to the maturity of the obligation sued on.

CONSIGNMENTS.— The failure of a consignee to account for moneys received for consigned property is not the subject of criminal prosecution, unless, by the terms of the consignment he was without authority to mingle such moneys with his own.

CORPORATIONS.— Previous to 1888 it was not lawful for any private corporation to engage in commercial, commission, brokerage, stock jobbing, exchange, or banking business. By the Act No. 36 of 1888, three or more persons may, by complying with the terms of law, form a corporation for the purpose of carrying on any lawful business, except stock jobbing. The capital stock shall be not less than $5,000. The word "limited" shall be the last word in the name of such corporations, and the name of the corporation, with the word "limited" added, in letters easily legible, is required to be displayed on the outside of the place of business,

and all notices, advertisements, publications, bills of exchange, promissory notes, checks, orders for money, bills of lading, invoices, receipts, letters, and other writings used in the transaction of the business of such corporation, shall bear the name of the corporation, with the word "limited" added, under liability of making the party omitting the same, or knowingly acquiescing in such omission, liable for any indebtedness, damage, or liability arising from such omission. The liability of stockholders is limited, otherwise, to the amount of their subscription. Creditors have, in general, same remedies against corporations as against individuals. Foreign, as well as domestic corporations, are prohibited from doing any business in the State without having one or more known places of business, and an authorized agent or agents in the State, upon whom process may be served. Foreign corporations, companies, and associations, may be licensed and taxed by a mode different from home corporations. Licenses shall be on a graduated system, but, as well as taxation, shall be uniform as to all such corporations, companies, and associations transacting the same kind of business. Corporations cannot engage in any business not expressly authorized by their charter, or incidental thereto, or take or hold real estate for longer than 10 years, except such as may be necessary and proper for their legitimate business and purposes; or issue stock or bonds except for labor done, or money, or property actually received, and fictitious issues of stock are deemed void and render the corporation liable to forfeiture of charter. Corporations duly organized in this State may now do a trust banking business, and may accept and execute trusts or agencies of any and every description, and may be appointed executor, administrator, syndic, receiver, curator, tutor, trustee, or assignee. District Courts may appoint receivers to a corporation: 1. At the instance of any stockholder when the corporation has been legally dissolved, and the appointment is requested by a majority in amount of the stockholders; but this not to affect the right of liquidation in accordance with the charter. 2. At the instance of any stockholder or creditor when the directors or officers are grossly mismanaging the business, committing acts *ultra vires*, wasting, misusing, or misapplying its property or funds, or when its property is abandoned; when stockholders fail to elect, or officers neglect or refuse to serve, so that there is no one to take charge of and conduct its affairs; or when the corporation is adjudged not organized according to law, or pursuing any business contrary to law. 3. At the instance of a creditor having final judgment, on return of execution *nulla bona*; or when property has been seized under judicial process by fraud or collusion of corporation, its officers and any creditor; or when the directors by resolution have declared the corporation unable to meet its obligations as they mature, and that a receiver is necessary to preserve and administer its assets for benefit of all concerned. 4. At the instance of a mortgage or privilege creditor, when the property on which the mortgage or privilege rests is inadequate to its satisfaction, and the directors or officers are wasting or misapplying its property to the injury of such creditor; or such creditor has foreclosed, and the property is of such a character that its administration, pending proceedings, is necessary to fully preserve same and protect the rights of the creditor. 5. At the instance of a stockholder, when a majority are violating the charter rights of the minority and putting their interests in imminent danger; and, 6, at the instance of a creditor, residing in the State, as to the property actually in the State, of a corporation domiciled out of the State, for any of the causes above mentioned.

ESTATES OF DECEASED PERSONS.— Estates of deceased persons are administered in the Parish of Orleans, in the Civil District Court; in other parishes, in the District Courts. All suits against successions are brought in Court where succession is opened. Successions are administered by executors, administrators, curators, and tutors of minor children, and in the Parish of Orleans vacant successions, as well as testate successions, where for any cause the testamentary executor cannot act or where there is no surviving husband or wife, or heir, present or represented in the State who is qualified to assume and claims the right of such administration, by the public administrator. Debts of successions paid on filing of tableau and its due advertisement and approval by the Court.

INTEREST.— Legal rate, 5 per cent. per annum, conventional interest, expressed in writing, may be as high as eight per cent. Debts bear legal rate of interest from maturity only, unless otherwise stipulated. Compounding of interest is not lawful. The full face of a promissory note, or other written obligation to pay money, is recoverable although it may include a greater rate of interest or discount than 8 per cent. per annum.

INTESTATE LAWS.— Dowery is agreed upon and settled prior to marriage, and cannot be settled nor increased during marriage. Intestate's estates descend: 1. To children in equal portion and by heads in the same degree; by roots, when all or some inherit by representation. 2. Father and mother, sisters and brothers, one-half in equal parts to father and mother; other half to sisters and brothers; if one parent be dead, his or her share to brothers and sisters; if no brothers nor sisters, whole to surviving parents or parent. Half-blood inherits only half of whole-blood portions. 3. Ascendant estates go in equal shares to paternal and maternal lines. Ascendants inherit the money they may have settled as dower. 4. To nearest collaterals. 5. Surviving spouse. 6. If no heirs, to State. Necessitous survivor of rich husband or wife has right to marital portion, usually a fourth, where no children, or less than three; if more than three, then a child's share.

JUDGMENTS, EXECUTION, AND STAY OF EXECUTION.— If, in District Court, before final judgment on default, defendants put case at issue, it must be tried in its turn on the docket. Judgment is signed, after 3 judicial days from rendition, unless new trial is applied for. In cases appealable, either party is allowed 10 days from signature, exclusive of Sundays for suspensive appeal. A judgment operates as a mortgage on real estate from date of its registry in the office of the recorder of mortgages of the parish where the real estate is situated. Execution issues at any time after judgment is final, and is returnable in 30 or 70 days. Execution is stayed only by a suspensive appeal. Appeals allowed after the 10 days above, and within a year from signature of judgment do not stay execution. Appeals from City Courts of New Orleans to Court of Appeals of the Parish of Orleans; and from Justices' Courts to District Courts in all other parishes, restricted to no amount; they must be taken within 3 days to stay execution, but without stay may be taken within 10 days in the Parish of Orleans, or within 1 year in other parishes.

JURISDICTION OF COURTS.— Justices' Courts, and in New Orleans, City Courts, have jurisdiction where the amonnt claimed does not exceed $100, exclusive of interest. District Courts have concurrent jurisdiction with Justices' Courts when the amount in dispute exceeds $50 and is not more than $100, except in the Parish of Orleans, and District Courts throughout the State have exclusive jurisdiction where the amount in dispute exceeds $100, exclusive of interest. Appeals from judgments of the District Courts lie to the Courts of Appeal and to the Supreme Court of the State, to the Courts of Appeal when the matter in dispute or fund to be distributed exceeds $100 and does not exceed $2,000, exclusive of interest; to the Supreme Court, when such matter in dispute, or fund, exceeds $2,000.

LANDLORD'S LIENS.— The landlord has for rent due and to become due a privilege in the nature of a pledge on all personal property in the leased premises; but on the property belonging to the sub-lessee only to the extent of the latter's indebtedness; being in arrears for rent justifies provisional seizure to enforce landlord's privilege for rent. If he lease in on a building used in whole or part for mercantile purposes, the privilege extends, in case of the failure or death of the lessee, for a term of 1 year only from such failure or death, save that, as to the purchaser of the unexpired lease, the privilege extends, except in case of his failure or death, to its termination.

LIMITATION OF ACTIONS.— PRESCRIPTION — *Of one year:* Fees of Justices, Notaries, and Constables; instructors in arts and sciences, for lessons given by the month; innkeepers, and such others, for lodging and board; liquor dealers, selling less quantities than one quart; workmen, laborers, and servants, officers and crews of vessels, for wages; claims for freight money, for material for constructing, equipping, and provisioning vessels; actions for delivery of effects shipped on vessels; for damages to merchandise on board vessels; for damages for injury or destruction to crops; to recover damages for torts. *Three years:* Claims for rent charges and annuities, alimony, hire of movables and immovables, money lent, salaries of officers, clerks, secretaries, and teachers who give lessons by the year or quarter; of physicians, surgeons, and apothecaries; of Court officers and attorneys, for fees and costs; accounts of merchants, by wholesale or retail, and all other accounts. This prescription only ceases from the time there has been an account acknowledged, in writing, a note or bond given, or an action commenced. *Of five years:* Actions on bills of exchange and promissory notes, reckoning from the date of maturity for nullity or recision of contracts. *Of ten years:* On contracts; on all judgments for money, whether rendered within or without the State reserving to owner of judgment the right to have the same revived at any time before prescription has run. *Of thirty years:* All actions for immovable property, or for an entire estate, as a succession. Prescription may be waived by the debtor after the same is acquired, but the waiver must be in writing.

MINORS.— May be emancipated when above eighteen years of age, and thus authorized to do all acts as fully as if arrived at twenty-one.

PAROLE EVIDENCE.— Not competent to prove acknowledgment of promise to pay a judgment, in or out of the State, after prescription has run; or of a deceased person to pay, in order to take a debt out of prescription; or a promise to pay the debt of a third person; or any debt, evidenced in writing, when prescription has already run. The competent proof must be in writing. (See also "Limitation of Actions.")

PLEDGES.— Pledges of personal property, except promissory notes, stocks, obligations, and claims on third persons, are required to be in writing. Promissory notes, bills of exchange, bills of lading, stocks, bonds, or written obligations of any kind are pledged by simple delivery and notice thereof to the debtor, if the claim or obligation is not negotiable. Delivery is essential.

PROOF OF CLAIMS.— Claims sent to Louisiana for collection must contain full name and surname and the domicile of creditor and debtor. If creditor or debtor is a partnership, the full names and surnames of its members; if a corporation, its full name and the name of the State under the laws of which it is organized, and of its domicile, and the full name and surname of its president. Statements of account must be carefully itemized, and credit duly shown, and should be sworn to before a Notary Public. If a writ of attachment or sequestration is to issue, the creditor must give above particulars and must make immediate arrangements through bank or other persons to procure a solvent surety in the parish where the writ is to issue to the amount of one-third over and above the claim. A deposit of $25 to cover costs should also be remitted at once, where the claim is over $100, and $10 where it is less than $100.

RECORDING OF LIENS.— No mortgage or privilege on real estate shall affect third persons, unless registered in the office of the parish recorder where the property is situated, except privileges for expenses of last illness, or for taxes. Privileges on personal property exist without registration, except in cases specially provided by the Legislature.

RESPITE.— A respite is a proceeding by which a debtor, unable at the moment, to satisfy his debts, obtains a delay from his creditors. This respite is voluntary, when assented to by all the creditors, and may be effected without resort to Court. It is forced, when obtained by judicial authority, on the consent of the majority of the creditors, in number and amount present and voting at a meeting of the creditors, held before a Notary, under an order of the Judge. Absent creditors, unless otherwise represented, are represented by an attorney appointed by the Court. The property of the debtor remains in his possession during the delay granted. The delay in a forced respite can never exceed 3 years. If the creditors refuse the respite, when applied for, a surrender of property follows as a matter of course. If the debtor asks for a remission of a portion of his debts, only those are bound by such request as voluntarily grant it. Special mortgage and priviledged creditors, minors for balance of account due by their tutor, and wives for their dotal rights, and for the right of reclaiming their property, are not bound by proceedings for forced respite. The creditors, opposing the respite, but obliged to abide by the will of the majority, may require security of the debtor, that the property left in his possession shall not be alienated, or if so, that its proceeds shall be used in paying the debts existing at the time the respite was obtained. And if any debtor having obtained a respite shall fail or neglect to furnish, when required by the order of Court, the security hereinbefore provided for, within 10 days from the date of such order, or shall fail or neglect to make payment to his respective creditors, according to the terms of his respite, any interested creditor may, by rule taken in the respite proceedings, compel him to make surrender of his property to his creditors.

SEQUESTRATION.— Writ issues in all cases where plaintiff has a lien or privilege on property, when he apprehends that it will be removed out of the State before he can have the benefit of his mortgage, and will make oath of the facts which induced his apprehension and when one party fears that the other will conceal, part with, or dispose of the movables in his possession, during the pendency of the suit. The petition must be accompanied by affidavit and bond for such sum as the Court shall determine with surety of one good and solvent person residing within the jurisdiction of the Court.

SYNOPSIS OF THE INSOLVENCY LAWS.— The *cessio bonorum*, or surrender of property, is the relinquishment made by the insolvent debtor of all his property to his creditors. It is made in the Courts, and includes all the debtor's property not exempt from execution. It is voluntary when made at the instance of the debtor, and forced when made at the instance of one or more creditors in cases provided by law. Any creditor on return of execution "no property found," may file petition for force surrender, upon the allegation, duly sworn to, that he has reason to believe that the debtor has property or assets that may be made available to his creditors. Whereupon, if, at a meeting of creditors, called by the Court, before a Notary, a majority of creditors in number and amount shall so determine, a surrender is ordered. The creditors can refuse a voluntary surrender only in cases of fraud. The surrender gives the creditors the right to sell at public auction, on terms fixed by the creditors, and under order of Court, the property of the debtor. After payment of debts and expenses, any surplus is restored to him. The creditors receive the benefit of all revenues subsequent to the surrender. *The surrender discharges all debts placed on the debtor's schedule*, filed in Court, on the consent of a majority of his creditors in number and amount. If such consent is refused, any creditor may force a subsequent surrender, on showing that the debtor has acquired property more than is necessary for his maintenance; but in such case the creditors having claims arising since the first surrender are entitled to priority of payment. The creditors are represented by a syndic, chosen by a majority in number and amount, voting at the meeting of creditors, held by order of Court, before a Notary. The syndic gives bond, exceeding by one-fourth the value of the property surrendered, unless relieved from so doing by two-thirds of the creditors in number and amount. Creditors residing outside the State, and having no attorney therein, are, so far as an attorney is necessary, represented by one appointed by the Court. Creditors may be represented by proxies at all meetings or in other proceedings. When sales are made, mortgage or privileged creditors have right to have so much of it sold for cash as will satisfy their claims. Any creditor may

make a charge of fraud against the debtor, including "any kind of fraud to the prejudice of the creditors." Unjust advantages and preferences given within one year, anticipations of payment, purchasing of property for cash and selling same without paying the vendor, or putting the same beyond the reach of the vendor; failing to pay over money collected or received for another; and making any conveyance, transfer, mortgage, or pledge to prejudice of complaining creditor, are all presumptive evidences of fraud. Preparatory to a dividend an account is filed by the syndic in Court showing the funds in his hands, the names of and amounts due to each creditor, and the distributive share of each, whether mortgage, privileged, or ordinary. Notice of such account is published for 10 days, and opportunity for opposition thereto given by any complaining creditor during that time.

Congress having enacted a uniform system of bankruptcy throughout the United States, the State insolvency laws are in abeyance.

VENDOR'S LIEN, OR PRIVILEGE.— The lien in favor of the vendor of personal property, when the same is delivered in this State, exists so long as such property remains the property of the purchaser, and the action of the vendor not operated against by the statute of limitations. In case of the death or insolvency of the purchaser, the vendor may have such property sold separately and apart from the mass of property left by the estate or surrendered by the insolvent. This privilege is lost when the property ceases to belong to the purchaser, or in case of his death, or insolvency, should the same be sold confusedly with the mass. A vendor outside the State selling property to a person in Louisiana, may preserve his vendor's lien by so consiguing the goods that they do not become the property of the vendee until after their arrival in this State. This may be accomplished by shipping the goods to an agent or third person in Louisiana, who either makes delivery, or by taking a bill of lading in the name of such vendor and indorsing thereon that the goods shall be delivered to the vendee, naming him, on arrival in good order and condition and on payment of charges, or by coupling any condition that shows intention to retain ownership till the property is delivered. Under these forms of shipment the goods are at the risk of the vendor until delivery.

WAREHOUSE BUSINESS AND RECEIPTS.— Upon obtaining a specified certificate from the Clerk of District Court, and giving a bond for $5,000 approved by the Court, an individual, firm, or corporation may become a public warehouseman. A warehouse receipt cannot be issued under the provisions of the statute by such public warehouseman except upon actual previous delivery to him of the goods receipted for. Such warehouse receipt shall be negotiable and transferable by indorsement in blank, or special, and delivery, the same as bills of exchange or promissory notes, and the transferee thereof shall be considered as the owner of the property, subject only to the warehouse lien for storage, and other charges, provided that if said receipt is stamped "not negotiable" it shall not be subject to said provisions, and provided that such receipt shall not be issued by said warehouseman for his own property without actual sale thereof. The act does not apply to private warehouses. Wherever goods or merchandise remain on storage in warehouse for 1 year, and charges thereon have remained due for 6 months, the warehouseman, upon 30 days' notice to parties storing, and, thereafter, 10 days' general advertisement, may sell said goods at public auction. A factor cannot pledge the merchandise of his principal by warehouse receipt for his own debt without the authority of his principal. Parties who have borrowed money on the faith of warehouse receipts shall file their affidavits with the pledges that such property is theirs, or that it is the property of some party for whom they are acting as agent or in any other fiduciary capacity, and that said party is indebted to them in an amount equal in value to the value of the property pledged.

MAINE.

ACKNOWLEDGMENTS.— Can be made before any magistrate, Notary Public, Justice of the Peace, or Commissioner of Deeds for the State of Maine. While a certificate of a Clerk of Record to the acknowledgment taken by a Justice of the Peace, or other official, is not required, it is in all cases recommended.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— Debtors about to leave the State may be arrested by special writ upon affidavit of the creditor of his belief that the debtor is about to depart and reside beyond the limits of the State, and to carry with him means of his own more than necessary for his immediate support; and that at least $10 is due on the claim. No arrest can be made on execution in the first instance, but the debtor may be summoned before a magistrate and compelled to disclose his property, as formerly when arrested. If debtor fails to entitle himself upon disclosure to benefit of the oath he may then be arrested on the execution.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— No days of grace are allowed on any bills of exchange or promissory notes which are payable within this State, except when the same are drawn payable at sight. Promissory notes for the payment of money, to order or bearer, are negotiable. Demand and notice are necessary to bind indorsers. The maker and indorser *cannot* be sued in one action.

COMMENCEMENT OF SUIT.— Service of writs returnable to a Municipal Court or trial justice must be made at least 7 days before the return day. In all other Courts the service must be at least 14 days. In all cases where defendant is a corporation service must be made at least 30 days before the return day.

CONDITIONAL SALES.— The agreement must be in writing, and must be filed substantially as a chattel mortgage is filed.

CONSIGNMENTS.— The consignee's failure to account for the consigned goods is a breach of trust simply. The consignor's remedy is a civil action, which will be barred in 6 years.

CORPORATIONS.— For business and manufacturing purposes are created under general laws. No report of their financial condition is required, but an annual return, giving a list of all officers, must be made to the Secretary of State. Original stockholders, *i. e.*, those who take the stock from the corporation who have not paid in full for their stock, are liable to creditors of the corporation for the amount unpaid. This liability does not run with the stock, and subsequent holders incur no risk.

ESTATES OF DECEASED PERSONS.— Administration of the estate of a deceased person may be granted at any time within 20 years after his decease. No suit can be maintained against the executor or administrator of an estate unless commenced within 18 months after notice is given by him of his appointment, except when assets come to his hands after that time, and then an action may be commenced within 4 years after the receipt thereof, proper notice being first given.

INTEREST.— Six per cent. There is no limit of the rate of interest which may be fixed by contract.

INTESTATE LAWS.— Dower and courtesy abolished, and instead widow or widower gets by descent one-third of the decedent's realty in fee. Intestate's estate, excepting wild lands, descends: 1. One-third to widow, balance to issue; if no issue, half to widow; if no kindred, whole to widow. Same as to widower, in wife's estate. 2. Remainder, including wild lands, and if no widow or widower, to children in equal shares and to their issue. If no children, to his lineal descendants of like degree; if not, according to right of representation. 3. If no issue, to father and mother in equal shares. 4. If no issue nor father, one-half to mother. If no issue nor mother, one-half to father. In either case, other half to brothers and sisters, or their children or grandchildren by representation. 5. If no issue, father, brothers, nor sisters, to mother. If no issue, mother, brothers, nor sisters, to father. In either case to exclusion of children of deceased brothers and sisters. 6. If none of above, to next of kin in equal degree; when claiming through different ancestors, to those of nearest ancestry. 7. Estate of unmarried minor, derived from his parents, descends to

MAINE

MARYLAND

MASSACHUSETTS

MICHIGAN

MINNESOTA

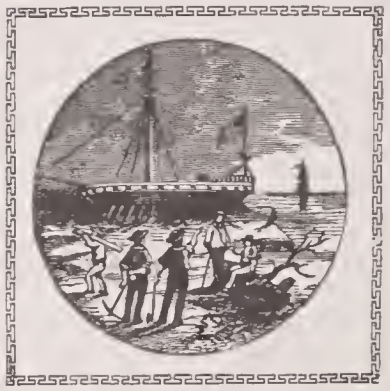
MONTANA

MISSISSIPPI

MISSOURI

NEBRASKA

NEVADA



NEW HAMPSHIRE

NEW JERSEY

NEW MEXICO

NEW YORK

NORTH CAROLINA

NORTH DAKOTA

OHIO

SEALS OF THE STATES AND TERRITORIES

other children of same parent, and to issue of those deceased. 8. When no widow, widower, or kindred, estate escheats to State. Half-blood inherits equally with whole-blood of same degree. Personalty descends by same rules as realty, subject (1) to allowance to widow; (2) if issue and widow, latter takes one-third; if no issue, one-half; if no kindred, the whole. Same as to widower.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— In cases not litigated, judgment may be obtained in all Courts at the term to which the writ is returnable, but not before 10 days has expired, except by agreement of the parties, and except in trial, Justice and Municipal Courts, where judgment is rendered on the return day. In litigated cases either party is entitled to a trial at the next term of the Court after the one at which the suit is entered. Execution may be taken on the day following the date of rendition of judgment, unless stayed for some special cause, and is returnable within 3 months after its date.

JURISDICTION OF COURTS.— Justices' Courts, $20. Superior Court, in Cumberland and Kennebec counties, has exclusive jurisdiction (except real actions) from claims of $20 to those in which the amount does not exceed $500, and concurrent jurisdiction with the Supreme Judicial Court in actions for debt above $500. Supreme Judicial Court has unlimited jurisdiction in all actions except those within the exclusive jurisdiction of Justices' Courts or the Superior Courts of Cumberland and Kennebec counties.

LEASES.— At the end of the term of the written lease landlord may enter without notice and dispossess tenants; but must give 30 days' notice where tenant is one at will, holding without a written lease, said notice to expire on rent day, when, within 7 days after its expiration, landlord must bring suit for repossession by eviction.

LIMITATION OF ACTIONS.— All actions of debt founded on contracts, not under seal, except judgments of some Court, all actions for arrears of rent, all actions of assumpsit, all actions of replevin, must be commenced within 6 years after the cause of action accrues. Actions on judgments of any Court in this State and any Court of Record, on contracts under seal, on evidences of debt issued by a bank, on witnessed promissory notes, for granting probate or administration, and for the recovery of lands, 20 years. Actions to recover land sold by license of Court, 5 years; against executors or administrators, 18 months from date of appointment, except in cases where new assets come to their hands after that time, and then action is barred in 4 years after appointment; against sureties, on a recognizance, or against persons charged as trustees, and actions of debt on poor debtor bonds, 1 year. Actions against officers for negligence or misconduct, 4 years. Actions for the enforcement of mechanics' liens on buildings and land, 90 days; on vessels, 4 days. In actions for balance due on open account current, the cause of action is deemed to accrue at the time of the last item proved. The time of any defendant's residence out of the State is deducted from the computation. Minors, prisoners, insane persons, and those absent from the State when the cause of action accrues, may sue within the limited time after the disability is removed.

SYNOPSIS OF THE INSOLVENCY LAWS.— An insolvency law substantially like the National Bankruptcy Law of 1867 in its course of procedure was enacted by the Legislature of 1878. Inasmuch as the Bankruptcy Act of 1898 supersedes the action of all State insolvency laws, we omit any statement of its provisions.

MARYLAND.

ACKNOWLEDGMENTS.— Acknowledgments of instruments relating to land may be taken within the State before a Justice of the Peace or Judge of the Orphans' Court for the county or city in which the land, or any part of it, lies, or before a Justice of the Peace for any other county or city in the State, provided his official character be certified by the Clerk of the Circuit Court for his county, or the Superior Court of Baltimore city, under his official seal; or before any Notary Public, or before any Judge of a State Court. They may be taken without the State but within the United States before any Judge of any Court of the United States, or of any State Court having a seal, or before any Notary Public, or any Commissioner of this State to take acknowledgment of deeds. They may be taken without the United States before any Minister, Consul-General, Consul, Deputy-Consul, vice-Consul, Consular Agent, or Consular officer of the United States, or before any Notary Public or Commissioner of this State to take acknowledgment of deeds. Bills of sale or chattel mortgages may be acknowledged before any officer authorized to take acknowledgment of deeds. The seal of the officer taking the acknowledgment, or of his Court, if he be a Judge, should be affixed in all cases. No separate examination of a married woman is required.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— No days of grace allowed on promissory notes executed subsequent to June 1, 1896. Instruments made prior to that date bear 3 days' grace, except when payable at sight. The general Act regulating the law of bills and notes recently passed by the legislatures of New York, Connecticut, and other States has also been enacted in Maryland. A protest is *prima facie* evidence of the fact stated in it.

COMMENCEMENT OF SUIT.— When suit is brought before a Justice of the Peace, a summons is issued for the debtor, which is made returnable at a certain day, usually 5 or 10 days after issue, and the case is ready for trial on that day if the debtor appears; but if he does not appear, then a day is fixed not less than 6 nor more than 14 days therefrom, at which time, if he fails to appear, creditor is entitled to an *ex parte* trial. When suit is brought in the Circuit Court for any of the counties, it is only necessary to give the Sheriff sufficient time before Court sits to serve the summons. It is prudent, however, to have a week. Suits in these Courts stand for trial at the second term after they are brought. In Baltimore city, the second Monday in every month is a return day for process, and if creditor suing there makes affidavit to claim, it compels debtor to plead under oath, or suffer final judgment upon plaintiff's motion made any time after 15 days from the return day to which defendant was summoned. If plaintiff makes no affidavit, or defendant files plea under oath, the case stands for judgment or trial at the return day next succeeding that to which defendant is summoned. In the United States Circuit Court the first Monday of every month is a return day for writs and original process, to which suits may be brought in like manner as to the return days of the State Courts in Baltimore city, the practice and proceedings of the latter having been substantially adopted by the Federal Court.

CONDITIONAL SALES OF PERSONAL PROPERTY.— On delivery of exclusive possession to the vendee of personal property, the vendor cannot maintain, against purchasers in good faith from such vendee, any rights arising out of any conditions of his sale of which such purchasers had no notice at the time of their purchase.

CONSIGNMENTS.— The failure of a consignee to pay over the avails or proceeds received by him for any goods consigned to him, less his proper charges, within 5 days after receiving the money or its equivalent from the purchase of said goods and demand made therefor by the person entitled to receive the same, is *prima facie* evidence to establish the conversion of said goods. For the conversion to his own use or the fraudulent hypothecation by a factor or other consignee of goods consigned to him for sale, he may be prosecuted criminally.

CORPORATIONS.— Since 1867, are usually created under a general law, which requires the president and a majority of the trustees, within 30 days after the payment of the last instalment of the capital stock, to file in the Clerk's office, a sworn statement, showing the amount of the stock, and of all property received in payment of stock, and the extent to which such payments have been made in property. No penalty is prescribed for a failure to

file the report. The corporation is also required to make in the first week of January and July, annually, a detailed statement of its affairs, verified by the oath of the president and treasurer, showing its assets and liabilities, and to record the same in a book kept at the principal office of the corporation. Persons owning 5 per cent. of the stock, upon presenting to its chief financial officer a written request for a sworn statement of its affairs, embracing a particular account of its liabilities and assets in minute detail, are entitled to have such a statement delivered to them within 20 days, and in default thereof, may recover from such officer a penalty of $50, and also $25 for every day until it is delivered. Directors who declare a dividend when the corporation is insolvent, or that will diminish the capital stock, are liable for all existing debts, and for all that are contracted while they continue in office. A director who objected to declaring the dividend, may be relieved from the penalty, if before the payment of the dividend he records in the Clerk's office a certificate of his objection. Stockholders are liable for their unpaid subscriptions only, and any creditor may enforce that liability for his own benefit.

Foreign Corporations stand upon the same footing with domestic corporations, except that when doing business in this State process may be served upon any of their agents anywhere in the State in suits brought against them by any resident of this State or by any plaintiff when the cause of action arose in this State or the subject of the action is situated in this State, and in cases where they have no agent who can be found in this State, then process against them in such cases may be served upon the person who was their last agent in this State. No foreign insurance company is allowed to transact business in this State until it has complied with the provisions of sections 124 and 125 of Article 23 of the Code, which requires it to file with the insurance Commissioner a copy of its charter duly authenticated by the Secretary of State or other proper officer of the State or county by which it is incorporated, and also a power of attorney authorizing some citizen of this State resident therein to accept service of process, or its agent or attorney, in all suits brought against it in the Courts of this State, also a statement of its financial condition on the 31st day of December next preceding, under oath of its president or vice-president, with that of the secretary or actuary, also the appointment of a general agent of the company for the State and a list of its agents authorized to transact business for it in this State. It is also required to file and annually renew a certificate from the insurance Commissioner or chief financial officer of its State that it has deposited with him the sum of $100,000 in gold or good securities, to be held for the benefit of its policy holders, provided that any such foreign company not having any such deposit in its own State or county may make it with the Treasury of Maryland in the manner provided by law for companies organized under the laws of the State. By Act, 1898, c. 270, no corporation of any other State or country (excepting telephone, banking, insurance, railroad, electric light, construction, oil, or pipe companies) is allowed to transact business in this State without first filing with the Secretary of State a certified copy of its charter, accompanied by a deposit fee of $25, and a sworn statement by its president setting forth the amount of its capital stock, its assets and liabilities, the character of business it proposes to carry on in this State, and the address of a resident agent upon whom all legal process issued from the Courts of this State against it may be served, and after July 1, 1898, no such corporation is entitled to maintain any action either at law or equity in any of the Courts of this State until the provisions of this Act shall have been complied with by it.

ESTATES OF DECEASED PERSONS.— Twelve months are allowed an executor or administrator to close estate, but the Orphans' Court has discretion to allow further time.

EX PARTE PROOF OF FOREIGN INSTRUMENTS OF WRITING UNRECORDED.— Any instrument at writing not required by law to be recorded, which has been executed in another State or country, may be given in evidence in any Court of this State, if proved by the affidavits of the subscribing witnesses thereto, or any of them, and in cases where there were no subscribing witnesses, or all the subscribing witnesses are dead, by the affidavit of any credible witness to the handwriting of the maker or the subscribing witnesses thereto — provided, that if suit be brought on any such instrument in this State, the plaintiff shall make affidavit at the first imparlance term that the whole debt appearing to be due thereon, or such part as he shall state in in his affidavit, remains unpaid.

EX PARTE PROOF OF OPEN ACCOUNTS.— The payment or delivery of any money, or the delivery and sale of any merchandise, or any work done or services rendered or other things properly chargeable in accounts, the price of the goods, the value of the work done, or services rendered, and an assumption by the debtor to pay for the same, may be proved in evidence before any Court in this State by the affidavit of any disinterested witness — provided, that the plaintiff bringing suit for the same in this State shall make oath on or before the first day of the trial term of the Court, that he believes the money, goods, wares, etc., charged in the account annexed to his affidavit were *bona fide* delivered as charged, or that the work or services charged in said account were *bona fide* done and rendered as therein charged and that he has received no payment or satisfaction therefor, except credits given in said account, and that the balance charged is justly due. Any of the foregoing affidavits may be taken in the State or county where the instrument was executed or the goods sold or delivered, before a Commissioner of Maryland, or a Notary Public, and certified by his seal, or may be made before any officer of the State or county where made, authorized to administer an oath, with a certificate under seal of the Governor, Chief Magistrate, or a Notary Public of such State or county, that the officer before whom such oath was taken had authority to administer it, and that it was duly made before him. The proof thus made is not conclusive, but has the same authority and effect as oral testimony given in open Court. If the amount due upon the account sued upon does not exceed $50, it may be proved by the affidavit of the plaintiffs alone, or any one of them.

INTEREST.— Six per cent. per annum; no higher rate is allowed. To take advantage of usury, the debtor must tender the principal and legal interest. The contract is only invalid for the *excess* of interest charged or taken. Usurious interest once paid cannot be recovered after principal debt has been paid.

INTESTATE.— Widow entitled to common law dower in lands held by equitable as well as legal title in husband at any time during coverture; but purchase-money or other lien on same remains paramount. Husband acquires by marriage an estate for life in one-third of lands owned by wife at date of marriage, purchase money or other means remaining paramount. Wife cannot, by conveyance, bar her husband's estate. Descent is: 1. To children and their descendants. 2. If none, to father, if estate descended from him. 3. If no father, to brothers and sisters of the blood of the father, and their descendants. 4. If none, to paternal grandfather. 5. If none, to his descendants and their descendants, in equal degree. 6. If none, to father of such grandfather; if none, to the descendants of the father of such grandfather in equal degree; and so, passing to next lineal male paternal ancestor or to his descendants in equal degree. 7. If no paternal ancestor or descendant, to intestate's mother. 8. If none, to her descendants of equal degree equally. 9. If no mother nor her descendants, to maternal ancestors and descendants, same as above respecting paternal ancestors. 10. If intestate die without issue, and estate came from his mother, it goes back to her. 11. If no mother, to brothers and sisters of blood of the mother, equally, and to their descendants. 12. If none, to grandfather on part of the mother. 13. If none, to his descendants of equal degree, equally. 14. If none, to father of such grandfather, and his descendants. And so on, passing to next male maternal ancestor, and descendants. 15. If no such maternal ancestor nor descendants, to father of intestate. 16. If no father nor his descendants, to paternal ancestors and their descendants, same as before to maternal ancestors. 17. If es-

tate is vested in intestate by purchase and there be no children nor descendants of such, it descends to intestate's brothers and sisters of whole-blood, of equal degree, equally, and to their descendants. 18. If none of whole-blood, to those of half-blood.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— When suit is brought before a Justice, the case can be tried on the return day of the summons, if debtor appears, but if he does not appear, then a day is fixed, not less than 6 nor more than 14 days therefrom, at which time, if he fails to appear, creditor is entitled to an *ex parte* trial and judgment. Suits in the Circuit Courts stand for trial at the second term after they are brought. Judgments of a Court of Record are liens upon the real and leasehold estate of the debtor in the county wherein the judgment is rendered for 12 years from the date of their rendition. Executions may be issued immediately on judgments obtained in Justices' Courts, but debtor may stay the execution for 6 months, at any time within 60 days, by confessing judgment and giving security for the payment of the debt and costs, which is termed superseding. In suits before the Circuit Court (in the counties) stay is allowed to the first Thursday of the ensuing term, where judgment is given or obtained at the second term after defendant has been summoned, and an additional stay of 6 months more may then be obtained by superseding as above within 2 months thereafter. In the city of Baltimore execution may issue as soon as judgment is obtained, and defendant may obtain a stay of 6 months by superseding. Executions by attachment or fi. fa. may be issued at any time within 12 years after the date of a judgment, or after the expiration of stay thereon.

JURISDICTION OF COURTS.— Justices' Courts jurisdiction is $100. The Superior Court of Baltimore city, Court of Common Pleas, and the Baltimore City Court have jurisdiction when the sum exceeds $100. Circuit Courts, in the several counties, have concurrent jurisdiction with the Justices' Courts where the sum exceeds $50 and exclusive where it exceeds $100.

LEASES AND HOW TERMINATED.— In written leases the terms govern as to notice. In Baltimore, landlord must give 90 days' notice in order to terminate a lease from year to year, and tenant must give 30 days' notice. If the lease be for a month, or any less period than a year, and tenant continues to occupy after its expiration, he holds for the term of the expired lease, and landlord must give 30 days' notice to terminate. So, 30 days' notice is required to terminate a tenancy at will or sufferance. In estates from year to year, in the State, outside of Baltimore, both landlord and tenant must give 6 months' notice in writing. In estates by sufferance no notice is required. Estates at will require immediate notice. Such notice is sufficient as to form if it is in writing and makes the intention of either landlord or tenant plain. It must be properly served.

LICENSES.— Any person (except the grower, maker, or manufacturer), desiring to sell goods, wears, etc., in this State, must take out a license, for which he shall pay a tax based on the value of his stock, viz.: For any amount for less than $1,000, $12; $1,000 to $1,500, $15; from $1,500 to $2,500, $18; from $2,500 to $4,000, $22; from $4,000 to $6,000, $30; from $6,000 to $8,000, $40; from $8,000 to $10,000, $50; from $10,000 to $15,000, $65; from $15,000 to $20,000, $80; from $20,000 to $30,000, $100; from $30,000 to $40,000, $125; if over $40,000, $150. License to be taken out in the name of the house represented, upon the oath of the applicant or his agent. Fine for non-observance $20 to $100.

LIMITATION OF ACTIONS.— Accounts and notes are barred after 3 years; sealed instruments and judgments after 12 years. A verbal promise will revive a debt barred by the statute of limitations.

SYNOPSIS OF INSOLVENCY AND ASSIGNMENT LAWS.— The State insolvent law, passed in 1880, provides that any person, being insolvent, may apply by petition to the Circuit Court of the county where he resides, or to the Court of Common Pleas of Baltimore City, offering to give up all his property for the benefit of his creditors, and filing a schedule of the same, with a list of all debts due by and to him, all verified by affidavit. The Court then appoints a preliminary trustee, to whom the insolvent conveys all his property, except the necessary wearing apparel and bedding of himself and family, and such other property as may be exempted by law from execution. A meeting of the creditors is then called, at which they prove their claims and elect, subject to the approval of the Court, a permanent trustee, to whom the property of the insolvent is then turned over by the perliminary trustee. At this meeting the insolvent must attend and answer all questions put by any of his creditors concerning his assets and liabilities. The Court then fixes a day for the insolvent to appear and answer such interrogatories or allegations as his creditors may propose or allege against him, of which day at least 1 month's notice shall be given to his creditors, in such manner as the Court shall direct. Should no cause to the contrary then be shown, the insolvent is granted a discharge from all debts and contracts made before filing the petition. A discharge will not be granted to any person who has conveyed, concealed, or disposed of his property to defraud or delay creditors, or who has within a year before filing his petition — by conveyance or assignment — given an undue preference to any of his creditors. All preferences given when the debtor has no reasonable expectation of being exempted from liability to execution, without petitioning for the benefit of the insolvent law, are considered undue and improper, and are void as against the trustee in insolvency. Estates of insolvents are distributed under the order of the Court according to the principles of equity, and no creditor may acquire a lien by execution or attachment levied after the filing of the petition, except against property omitted from the insolvent's schedule. No person can apply a second time for the benefit of this law within 2 years after his prior discharge. No deed or conveyance executed or lien created by any banker, broker, merchant, manufacturer, or trader, being insolvent or in contemplation of insolvency, shall be lawful or valid, if the same shall contain any preferences save such as result from operation of law, or for the wages of employees contracted not more than 3 months previous to its execution, and all other preferences shall be void: *provided*, that the party giving such preference shall file his petition in insolvency or be proceeded against under the insolvent law within 4 months after giving the same, and shall become an insolvent. Any person may be proceeded against and declared an insolvent upon petition of any one or more of his creditors whose debts amount in the aggregate to $250; *provided* said petition be filed within 4 months after he has committed any one or more of the following acts of insolvency, viz.:

1. Departing from or remaining absent from this State with intent to defraud his creditors, or concealing himself to avoid service of process upon him for any action for the recovery of a debt; or,

2. Concealing or removing any of his property to prevent the same from being taken under legal process; or,

3. Making any assignment, gift, sale, conveyance, or transfer, of all or any part of his property, with intent to delay, hinder, or defraud his creditors; or,

4. If a banker, broker, merchant, manufacturer, or trader, and being insolvent or in contemplation of insolvency, executing a deed or conveyance giving a preference, or creating a lien giving unlawful preferences, as above stated, or otherwise giving such preferences; or, confessing any judgment or allowing any judgment to be entered against him by any connivance; or, fraudulently stopping or suspending payment of his commercial paper, and failing to resume payment thereof within 20 days.

5. If a banker or broker, failing for 20 days to pay any depositor on demand lawfully made.

A deed, which by its tenor conveys all the property and estate of the grantor to a trustee therein named for the equal benefit of all the grantor's creditors without preference or priority, save as sanctioned by law, will be held valid, even although within 4 months after the execution thereof the grantor should apply for the benefit of the insolvent law, or be adjudicated an insolvent debtor upon the petition of his creditors.

A discharge under the State insolvent law is invalid as against non-resident creditors, unless they have waived their rights by voluntarily becoming parties to and claiming under the insolvency proceedings. Independently of the insolvency law, all fraudulent or voluntary conveyances or transfers of property made without *bona fide* consideration, or for the purpose of defrauding or delaying creditors, are void as against creditors who are such at the time of the making thereof; but any debtor has the right to secure one or more creditors to the exclusion of others by payment or a *bona fide* transfer of property, or he may assign his property for the benefit of his creditors generally, giving a preference to such as shall execute releases of their claim, and *bona fide* conveyances of this description are protected against all persons whomsoever; but such an assignment to be valid must convey *all* the property of the debtor, and in terms dedicate the whole of it for the benefit of his creditors, subject to such preferences as may be declared in the deed, reserving no surplus to the debtor until after all his creditors shall have been fully paid. Every trustee to whom property is conveyed for the benefit of creditors is required to give bond in double the amount of such property, with approved security, conditioned for the faithful performance of the trust reposed in him.

MASSACHUSETTS.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— *Rights of the holder.*— The holder of a negotiable instrument may sue thereon in his own name, and payment to him in due course discharges the instrument. A holder in due course is a holder who has taken the instrument under the following conditions: That it is complete and regular upon its face; that he became the holder of it before it was overdue, and without notice that it had been previously dishonored, if such was the fact; that he took it in good faith and for value; that at the time it was negotiated to him he had no notice of any infirmity in the instrument or defect in the title of the person negotiating it. Where an instrument payable on demand is negotiated an unreasonable length of time after its issue the holder is not deemed a holder in due course. A holder in due course holds the instrument free from any defect of title of prior parties, and free from defenses available to prior parties among themselves, and may enforce payment of the instrument for the full amount thereof against all parties liable thereon.

Liabilities of parties.— A person placing his signature upon an instrument otherwise than as a maker, drawer, or acceptor is deemed to be an indorser, unless he clearly indicates by appropriate words his intention to be bound in some other capacity.

Every person negotiating an instrument by delivery or by qualified indorsement warrants: That the instrument is genuine and in all respects what it purports to be; that he has a good title to it; that all prior parties had capacity to contract; that he has no knowledge of any fact which would impair the validity of the instrument or render it valueless. But when the negotiation is by delivery only the warranty extends in favor of no holder other than the immediate transferee.

Presentment for payment.— Presentment for payment is not necessary in order to charge the person primarily liable on the instrument; but if the instrument is by its terms payable at a special place, and he is able and willing to pay it there at maturity, such ability and willingness are equivalent to a tender of payment upon his part. But except as herein otherwise provided presentment for payment is necessary in order to charge the drawer and indorsers. Where the instrument is not payable on demand presentment must be made on the day it falls due. Where it is payable on demand presentment must be made within a reasonable time after its issue, except that in the case of a bill of exchange presentment for payment will be sufficient, if made within a reasonable time after the last negotiation thereof. Presentment for payment, to be sufficient, must be made: By the holder, or by some person authorized to receive payment on his behalf; at a reasonable hour on a business day; at a proper place as herein defined; to the person primarily liable on the instrument, or, if he is absent or inaccessible to any person found at the place where presentment is made. Presentment for payment is made at the proper place: Where a place of payment is specified in the instrument and it is there presented; where no place of payment is specified, but the address of the person to make payment is given in the instrument and it is there presented; where no place of payment is specified and no address is given and the instrument is presented at the usual place of business or residence of the person to make payment; in any other case, if presented to the person to make payment wherever he can be found, or if presented at his last known place of business or residence. Where the person primarily liable on the instrument is dead, and no place of payment is specified, presentment for payment must be made to his personal representative, if there is any such, and if, with the exercise of reasonable diligence, he can be found; where the persons primarily liable on the instrument are liable as partners, and no place of payment is specified, presentment for payment may be made to any one of them even though there has been a dissolution of the firm; where there are several persons, not partners, primarily liable on the instrument, and no place of payment is specified, presentment must be made to them all. Delay in making presentment for payment is excused when the delay is caused by circumstances beyond the control of the holder, and not imputable to his default, misconduct, or negligence. When the cause of delay ceases to operate presentment must be made with reasonable diligence. Presentment for payment is dispensed with: Where after the exercise of reasonable diligence presentment as required by this act cannot be made; where the drawee is a fictitious person; by waiver of presentment, express or implied. Every negotiable instrument is payable at the time fixed therein without grace. When the day of maturity falls upon Sunday or a holiday the instrument is payable on the next succeeding business day. Instruments falling due on Saturday are to be presented for payment on the next succeeding business day, except that instruments payable on demand may, at the option of the holder, be presented for payment before 12 o'clock Saturday noon, when that entire day is not a holiday. Where the instrument is payable at a fixed period after date, after sight, or after the happening of a specified event, the time of payment is determined by excluding the day from which the time is to begin to run, and by including the date of payment.

Notice of dishonor.— The notice may be in writing or merely oral, and given in terms which sufficiently identify the instrument and indicate that it has been dishonored by non-acceptance or non-payment. It may in all cases be given by delivering it personally or through the mails. Where the person giving and the person to receive notice reside in the same place notice must be given before the close of business hours on the day following; if given at his residence it must be given before the usual hours of rest on the day following; if sent by mail, it must be deposited in the post-office in time to reach him in usual course on the day following. Where the person giving and the person to receive notice reside in different places the notice must be given within the following times: If sent by mail it must be deposited in the post-office in time to go by mail the day following the day of dishonor, or, if there is no mail at a convenient hour on that day, by the next mail thereafter. If given otherwise than through the post-office, then within the time that notice would have been received in due course of mail if it had been deposited in the post-office within the time specified in the last subdivision. Notice of dishonor is not required to be given to the drawer in either of the following cases: Where the drawer and drawee are the same person; where the drawee is a fictitious person or a person not having capacity to contract; where the drawer is the person to whom the instrument is presented for payment; where the drawer has no right to expect or require that the drawee or acceptor will honor the instrument; where the drawer has countermanded payment. Notice of dishonor is not required to be given to an indorser in either of the following cases: Where the drawee is a fictitious person or a per-

son not having the capability to contract, and the indorser was aware of the fact at the time he indorsed the instrument; where the indorser is the person to whom the instrument is presented for payment.

Discharge of negotiable instruments.— A person secondarily liable on the instrument is discharged: By any act which discharges the instrument; by the intentional cancellation of his signature by the holder; by the discharge of a prior party; by a valid tender of payment made by a prior party; by a release of the principal debtor, unless the holder's rights of recourse against the party secondarily liable is expressly reserved; by any agreement binding upon the holder to extend the time of payment, or to postpone the holder's right to enforce the instrument, unless made with the assent of the party secondarily liable, or unless the right of recourse against such party is expressly reserved.

Bills of exchange.— Presentment for acceptance must be made: Where the bill is payable after sight or in any other case where presentment for acceptance is necessary in order to fix the maturity of the instrument, or where the bill expressly stipulates that it shall be presented for acceptance, or where the bill is drawn payable elsewhere than at the residence or place of business of the drawee. In no other case is presentment for acceptance necessary in order to render any party to the bill liable. A bill may be presented for acceptance on any day on which negotiable instruments may be presented for payment under the provisions of sections 72 and 85 of this act. When Saturday is not otherwise a holiday presentment for acceptance may be made before 12 o'clock noon on that day. Presentment for acceptance is excused, and a bill may be treated as dishonored by non-acceptance, in either of the following cases: Where the drawee is dead, or has absconded, or is a fictitious person, or a person not having capacity to contract by bill; where, after the exercise of reasonable diligence, presentment cannot be made; where, although presentment has been irregular, acceptance has been refused on some other ground. A bill is dishonored by non-acceptance: When it is duly presented for acceptance, and such an acceptance as is prescribed by this act is refused or cannot be obtained; or when presentment for acceptance is excused and the bill is not accepted.

Protest.— Where a foreign bill appearing on its face to be such is dishonored by non-acceptance it must be duly protested for non-acceptance, and where such a bill which has not previously been dishonored by non-acceptance is dishonored by non-payment it must be duly protested for non-payment. If it is not so protested the drawer and indorsers are discharged. Where a bill does not appear on its face to be a foreign bill, protest thereof in case of dishonor is unnecessary. The protest must be annexed to the bill or must contain a copy thereof, and must be under the hand and seal of the Notary making it, and must specify: The time and place of presentment; the fact that presentment was made and the manner thereof; the cause or reason for protesting the bill; the demand made and the answer given, if any, or the fact that the drawee or acceptor could not be found. Protest may be made by: A Notary Public, or by any respectable resident of the place where the bill is dishonored, in the presence of two or more credible witnesses. When a bill is protested such protest must be made on the day of its dishonor, unless delay is excused as herein provided. When a bill has been duly noted the protest may be subsequently extended as of the date of the noting.

COMMENCEMENT OF SUIT.— Action as a general rule must be brought in the county or district where some one of the parties lives or has his usual place of business. If neither party lives in Massachusetts it may be brought in any county, except that in trustee process the suit must always be brought in the county where some one of the trustees lives or has his usual place of business. Any action against an executor or administrator may be brought in any county where it could have been brought against the deceased at the time of his death. When one of the parties is a corporation, the action may be brought in the county where the corporation has its usual place of business, held its last annual meeting, or usually holds its meeting, or where the other party lives. Civil actions are commenced by original writs, which are framed to attach the goods or estate of the debtor, and, for want thereof, to take his body; or the writ may be an original summons, with or without an order to attach the goods or estate. Original writs issuing from the Supreme Judicial Court or the Superior Court, must be served 14 days at least, and not more than 3 months, before the term at which they are returnable, and original writs issued by a Municipal or Police Court, or Justice of the Peace, must be served not less than 7, and not more than 60 days, before the day on which they are returnable. A trustee writ issuing from a Police, District, or Municipal Court can be made returnable not more than 30 days after its date. The service of a trustee writ upon one of several partners named as trustees will be sufficient if they are described as co-partners. Service on the trustee must be made at least 7 days before the return day. Writs against municipal corporations must be served 30 days at least before the return day. If the plaintiff is a non-resident the writ must be indorsed by a responsible person as security for costs.

CONDITIONAL SALES.— When a sale of personal property is made on condition that the title to the property sold shall not pass until the price is paid in full, and the vendor takes from the vendee possession of the property for failure to comply with such conditions, the vendee shall have the right, at any time, within 15 days after such taking, to redeem the property so taken by paying to the vendor the full amount of the price then unpaid, together with interest and all lawful charges and expenses due to the vendor. This section shall not apply to any sale made before the 28th day of April in the year 1881. All contracts for the sale of furniture or other household effects made on condition that the title to the property sold shall not pass until the price is paid in full, whether such contract be in the form of a lease or otherwise, shall be in writing, and a copy thereof shall be furnished the vendee by the vendor at the time of such sale; and all payments made by or in behalf of the vendee, and all charges whether in the nature of interest or otherwise as they accrue, shall be indorsed by the vendor or his agent upon such copy if the vendee so requests. If the vendor fails to comply with any of the provisions of this section through negligence, his rights under such contract shall be suspended while such default continues; and if he refuses, or wilfully or fraudulently fails to comply with any of such provisions he shall be deemed to have waived the condition of such sale. The vendor before taking possession of such furniture or effect for non-compliance with the terms of such contract of sale, shall furnish the vendee or other person in charge of such furniture or effects an itemized statement of account showing the amount then due thereon; and shall make a demand in writing for the balance then due at least 30 days before taking possession; and the 15 days above provided shall not begin to run until such statement is furnished and such demand made, and until the 30 days above named have expired, provided the vendee or other person in charge can be found by the vendor by the exercise of reasonable care and diligence. And in all cases where 75 per centum or more has been paid upon the contract price by the vendee upon default in the conditions of the lease by the vendee, after the expiration of the 15 days as now provided by law, for the vendee's equity of redemption, the goods so forfeited shall be sold by the vendor at public auction when the vendee or his legal representative shall request in writing the vendor so to do, and the sale shall be duly advertised in one of the principal newspapers published in the city or town where the goods are situated, or if there is no such paper, in one of the principal newspapers published in such county, notice to be published at least 3 days prior to the time of the sale, and the balance of the price of said sale, after deducting the balance due the vendor on the contract price and the actual expenses of the auction sale, shall be paid to the vendee or his legal representatives, and in case the vendor refuses or neglects to sell as provided herein, the right to redeem shall not be deemed to have been foreclosed.

CONSIGNMENTS.—Any agent who has authority to dispose of goods for his principal, and who has also authority, derived from his business or otherwise, to mix the proceeds with his own money, is not held to have embezzled by misappropriating the funds so held. If the agent has merely authority to sell specific goods, receive the proceeds, and remit the specific funds received to his principal, a fraudulent conversion of them is embezzlement, and he may be indicted. The consignor may sue for conversion, or on contract, according to circumstances, and obtain an attachment of any property that may be found.

CORPORATIONS.—For manufacturing and business purposes are generally created under general laws, but occasionally by special charter. Every such corporation shall annually make and file in the office of the Secretary of the Commonwealth within 30 days after the date fixed in its by-laws for its annual meeting next preceding the date of such certificate, or within 30 days after the final adjournment of said meeting, but not more than 3 months after the date so fixed for said meeting, a certificate signed and sworn to by its president, treasurer, and at least a majority of its directors, stating the date of holding such meeting, the amount of capital stock as it then stands fixed by the corporation, the amount then paid up, the name of each shareholder and the number of shares standing in his name, and the assets and liabilities of the corporation, in such form and with such detail as the Commissioner of Corporations may require or approve. In the case of corporations having a capital stock of over one hundred thousand dollars, such certificate shall be accompanied by a written statement made under oath by an auditor, to be selected by a committee of three stockholders, who are not directors, selected at the annual meeting of the stockholders, stating that the certificate aforesaid represents the true condition of the affairs of said corporation as disclosed by its books at the time of making such audit; and said sworn statement made by said auditor shall be attached to and form a part of said certificate and shall be filed by such auditor with said certificate in the office of the Secretary of the Commonwealth; but if less than three stockholders exist outside of the directors, then the employment of such auditors shall be made by the directors of such corporation. Every such auditor shall be sworn to the faithful performance of his duties by some Justice of the Peace or other magistrate authorized to administer oaths or affirmations; evidence of such appointment and qualification shall be filed in the office of Commissioner of Corporations. This provision applies also to the annual certificates of foreign corporations hereinafter mentioned. The president, directors, and other officers shall be liable for the debts of a corporation, for signing any certificate required by law, knowing it to be false; and for debts contracted before the original capital is paid in, and certificate of such payment filed according to law. Every foreign corporation having a usual place of business in Massachusetts is required annually, in March, to make and file in the office of the Secretary of the Commonwealth, signed and sworn to by its president, treasurer, and a majority of its directors, a certificate, stating the amount of stock as it then stands fixed by the corporation, the amount paid in, and the assets and liabilities of the corporation in such form as the Commissioner of Corporations may approve. Every such Massachusetts corporation which omits to file such certificate shall forfeit two hundred dollars to the Commonwealth, and its president, treasurer, and directors, for the time being, shall, in addition, be jointly liable in a like sum. A Court of Equity, at the instance of the Attorney-general, may enjoin the prosecution of the business of the corporation until such sums are paid and the proper returns filed. When a corporation fails for 2 successive years to make such annual statements, it may be dissolved by a decree of Court upon the application of the Commissioner of Corporations, after notice to all parties concerned and a hearing. In the case of foreign corporations the penalty for omitting to file the annual statement above mentioned, such corporation shall forfeit not less than five dollars, nor more than ten dollars for each and every day for 15 days after the first day of April, and not less than ten dollars, nor more than two hundred dollars for each and every day thereafter while such omission continues, to be recovered by an information brought in the Supreme Judicial Court in the name of the Attorney-general; and upon such information the Court may issue an injunction restraining the further prosecution of the business of the corporation named therein until the sums so forfeited are paid with interest and costs, and until the returns required are made; and upon any information brought as aforesaid, any Justice of the Supreme Judicial Court may issue a preliminary injunction restraining such corporation from the further prosecution of its business within the Commonwealth during the pendancy of said suit. It is provided, however, that the Commissioner of Corporations shall notify in writing any such corporation of its failure to file such statement, which notice shall contain a copy of the provisions relating to these penalties. Every Massachusetts corporation and every foreign corporation doing business within the State is required upon an increase of its capital stock, within 30 days after the payment or collection of the last instalment thereof, to file a certificate of the amount of such increase and the fact of such payment, signed and sworn to by its president, treasurer, and at least a majority of its directors in the office of the Secretary of the Commonwealth; every such corporation is required 30 days after reduction of its capital stock is voted to file in the office of the Secretary of the Commonwealth a copy signed and sworn to by its Clerk of the vote or votes authorizing such a reduction. For omission to file such certificates the same penalties may be enforced as in the case of an omission to file an annual statement. The president and directors shall be jointly and severally liable for the debts and contracts of the corporation in the following cases: 1st, for making, or consenting to, a dividend when the corporation is, or is thereby rendered insolvent, to the extent of such dividend; 2d, for debts contracted between the time of making, or assenting to, a loan to a stockholder and the time of its payment, to the extent of such loan; 3d, when the debts of a corporation exceed its capital stock, to the extent of such excess existing at the time of the beginning of a suit against the corporation. It is further provided that the capital stock of a corporation may be paid in by conveyance of property at a fair valuation to the corporation by the stockholder, and, in such case, a sworn certificate of the facts shall be signed by the president, treasurer, and directors, and filed with the Secretary of the Commonwealth. In case such property was not taken at a fair valuation, the officers signing the certificate shall be liable for the debts and contracts of the corporation. In case of foreign corporations, however, where the capital stock is paid in by conveyance to the corporation of property real or personal the officers, members, or stockholders of such corporation are jointly and severally liable for its debts and contracts if said property is not valued and taken at a fair valuation, but only those officers or stockholders who participate in the conveyance or taking of such property at an unfair valuation and the stockholders who have received their share with the knowledge of said fact are liable for such debts. This liability of the officers, as stated above, and the liability of the stockholders, as stated below, is enforced by a bill in equity filed by one creditor in behalf of all, after a judgment has been recovered against the corporation and it neglects for 30 days after demand upon execution to pay the amount due with officers' fees or to exhibit to him real or personal estate of the corporation subject to be taken on execution sufficient to satisfy the same and the execution is returned unsatisfied. Stockholders in a corporation shall be jointly and severally liable for the debts and contracts of the corporation: 1st, for the payment of all debts existing at the time when the capital is reduced, to the extent of the sums withdrawn and paid to stockholders; 2d, in certain cases corporations can issue *special* stock which shall be subject to redemption at par after a fixed time, and upon which the corporation shall pay a fixed half yearly dividend. Holders of such stock are in no event to be liable for the debts of the corporation beyond their stock, but when such stock is created, the general stockholders shall be liable for all debts and contracts

until the special stock is fully redeemed; 3d, the stockholders are liable for all sums due to operatives for services rendered within 6 months before demand made upon the corporation and its failure to pay. The above stated liability of officers, directors, and stockholders except where otherwise stated applies to both Massachusetts and foreign corporations doing business within the State. Any one who pays more than his share of said judgment can claim contribution from the others. There are no unusual methods by which one creditor can gain priority over another. When a receiver is appointed, he distributes the assets of the corporation ratably among those of the creditors who prove their claims in the manner directed in the order of the Court appointing the receiver. If a balance remains after payment of the debts, the receiver distributes it among the stockholders. No corporation is allowed to do business until all its capital stock is paid in, and stockholders and purchasers of stock with knowledge are liable for debts of the corporation contracted before the capital is paid in, to the extent of their unpaid subscriptions. Every foreign corporation shall, before doing business within the State, appoint in writing the Commissioner of Corporations its attorney, on whom all processes in actions may be served. A fine of five hundred dollars is imposed on every officer who fails to comply with this requirement, and on every agent who does business in the State before such appointment is made. But if such appointment is not made, no foreign corporation can be sued unless it has property within the State. Whenever a corporation fails to dissolve an attachment on its goods within 14 days from the return day of the writ in a civil action against it, or when it makes a conveyance of property in defraud of creditors, any creditor whose debt is over one hundred dollars may petition such corporation into insolvency. When one creditor wishes to file a bill in behalf of all against the stockholders, the Clerk or other officer in charge of the records of the corporation shall, on request of the creditor, furnish a list of all the stockholders and officers of the corporation who were such at the time of the commencement of the suit on which judgment was recovered. If the Clerk refuses to give such list, or gives a false list, he shall be liable for double the amount of the damage occasioned thereby. Every corporation established under the laws of Massachusetts if requested in writing by any stockholder thereof shall not less than 30 days and not more than 60 days prior to the annual meeting of stockholders, cause, within 15 days, to be made and filed in the office of the Secretary of the Commonwealth a complete list of the stockholders as of the sixtieth day prior to the time so fixed with the place of residence and the number of shares belonging to each stockholder. As a penalty for the neglect to file such list all corporations shall forfeit a sum not exceeding one thousand dollars, and the treasurer and other officers whose duty it is to make such certificate shall in addition be liable to a like sum for each omission or neglect. All corporations organized under the laws of Massachusetts may take advantage of the laws relating to composition with creditors in insolvency, but no officer or stockholder of a corporation applying for its discharge in composition shall be released from any of the personal liability above stated. But when such corporation applies for its discharge from its debts any creditor may file a bill in equity in behalf of himself and other creditors of the corporation against it, and all persons who were stockholders therein at the time of the filing of the petition in insolvency by or against the corporation or against all the officers liable for its debts and contracts for the recovery of the sums due from the corporation to himself and the other creditors for which the stockholders or officers may be personally liable, setting forth the nature of his claim and the grounds upon which it is expected to charge the stockholders or officers personally. In such a bill it shall not be necessary to allege or prove any judgment against the corporation or the return of an execution unsatisfied. If the ground upon which it is expected to charge the officers of the corporation is an excess of debts above the capital stock the extent of such excess shall be taken to be that existing at the time of the filing of the petition in insolvency. If at the time of the filing of the offer in composition by any corporation a suit is pending against such corporation, on behalf of a creditor who would be entitled to enforce a liability against the officers or stockholders, the plaintiff in such suit may change his action to a bill in equity in the form above stated. If the ground upon which it is expected to charge the officers of the corporation is an excess of debts above the capital stock, the extent of such excess shall be taken to be that existing at the time of the beginning of said suit. Any corporation taking advantage of the composition law must, at the time of the filing the schedule of assets and liabilties, file a schedule of all its officers and stockholders who were such at the time of the filing of the petition in insolvency by or against the said corporation, with the holdings of stock at such time.

ESTATES OF DECEASED PERSONS.—An executor or administrator cannot be held to answer to the suit of a creditor of the deceased within the first year after his giving bond for the discharge of his trust, nor after 2 years from that time, provided he complies with the law, unless assets come into his hands after the expiration of 2 years, or the first action fails from defect in form in the proceedings and a new action is brought within 1 year after the termination of the original action or the right of action accrues after 2 years. When two or more persons are liable on a joint contract, and one dies, his estate is liable as if the contract were joint and several. It is provided that if the Superior Court on a bill in equity brought after the expiration of 2 years from the date of the filing of the executor's or administrator's bond, is of opinion that justice and equity require it, and that the debtor is not chargeable with culpable neglect in not prosecuting his action within the 2 years, it may give judgment against the estate of the deceased, but such judgment shall not affect any prior distribution. Where property comes into the hands of the executor or administrator after 2 years from the time of the filing of his bond has expired, suit must be brought within 1 year from the time the creditor receives notice of the same and within 2 years after the executor or administrator actually receive the property. When a right accrues after 2 years from the time the executor or administrator files his bond, the claim should be presented to the Probate Court at some time before the estate is finally administered. The administrator will then be ordered to retain a sum sufficient to pay such claim, but any one interested in the estate may give a bond for the payment of the same. Action must then be brought against the administrator or the sureties on the bond to pay, in case such is given, within 1 year after the claim is payable. If the administrator dies, resigns, or is removed, and a new administrator appointed, all claims that were not barred prior to the termination of the previous administration may be sued within 2 years after the date of filing of the bond of the new administrator. All actions survive the death of a party thereto and may be brought or continued against the executor in the same manner as against the deceased had he lived, except that in actions of tort only the real damage suffered can be recovered.

INTEREST.—Six per cent. is the legal rate of interest when there is no agreement for a different rate but any rate of interest may be received or contracted for between the parties, provided however that no greater rate than 6 per cent. can be recovered in any suit unless the agreement to pay the same is in writing, and provided also that all loans for less than $1,000 may be discharged on payment of principal sum actually borrowed with interest at 18 per cent. and not exceeding five dollars for all expenses; but lender may have at least 6 months' interest at that rate if loan paid within that time. No bond of a corporation shall bear more than 7 per cent.

INTESTATE LAWS.—Widow's dower is substantially as at common law. Realty descends in equal shares to issue of same degree, otherwise by right of representation. If no issue, to father and mother, or to survivor. If no issue, father, or mother, to brothers and sisters and their issue, equally, if of same degree, otherwise by representation. If none of above, to next of kin in equal degree, according to civil law. If no widow, husband, or kindred, it escheats to the State. Husband has courtesy in wife's land, if there has been issue born to them. If no issue he has es-

tate for life in half her lands. If no issue surviving her, then to $5,000 fee. If no kindred, he takes whole estate. Wife takes fee of $5,000, if husband leave no issue, and also life estate in half his other realty; but may elect to take dower instead of such life estate. Personalty of deceased wife goes to husband, if no issue; if issue, half to him, balance descending as realty. Personalty of intestate husband descends as realty, except that if there is a widow and issue, she takes a third; if widow and no issue, then $5,000 and half of excess over $10,000; if widow and no kindred, she takes all.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Judgment is issued as of the last day of the term in which it is rendered, unless there is an express order of the Court for the entry thereof on some other day. Judgment upon default may be entered up at any time after 4 days from the day of default. No judgment without a previous attachment constitutes a lien upon either real or personal property of debtor. Executions cannot issue till after 24 hours from the entry of judgment, and are returnable in 60 days from their date. Except as above, or by special order of the Court, there is no stay of execution.

JURISDICTION OF COURTS.— Municipal and Police Courts have original and exclusive jurisdiction when the debt does not exceed $100. The Supreme Judicial Court has original and concurrent jurisdiction with the Superior Court, in actions for recovery of debt, to the amount of over $4,000 in Suffolk County, and over $1,000 in the other counties of the State. Superior Court has jurisdiction where the amount claimed exceeds $100. Municipal Court of the city of Boston has jurisdiction concurrently with the Superior Court in the county of Suffolk, in actions where the debt exceeds $100, but does not exceed $2,000, provided one or more of the defendants resides or has his usual place of business in the city of Boston. The other Municipal, District, and Police Courts throughout the State have, as a rule, concurrent jurisdiction up to $300.

LEASES AND HOW TERMINATED.— Determination of an existing lease is governed by its contents, except where there is breach of its covenants. If tenant holding over, he is entitled to notice equal in length of time to the period between rent days; but if rent be payable at periods of 6 months, he is entitled to 3 months' notice. The notice provides that tenant shall deliver quotations at the end of the quarter, month, or week of the tenancy, which shall begin next after the date of the notice. In case of breach of covenant — as failure to pay rent — 14 days' notice is required. The usual procedure for obtaining possession is by a writ of ejectment.

LIMITATION OF ACTIONS.— The following actions may be commenced within 6 years next after the cause of action accrues, and not afterwards: 1st, actions of contract founded upon contract or liability not under seal, expressed or implied, except such as are brought upon a judgment or decree of some Court of Record of the United States, or of this or some other of the United States; 2d, actions for arrears of rent, except upon leases under seal; 3d, actions of replevin, and all other actions for taking, detaining, or injuring goods or chattels; 4th, actions of tort, with certain exceptions. None of the foregoing provisions shall apply to any action brought upon a promissory note signed in the presence of an attesting witness, if the action is brought by the original payee or his executor or administrator; nor to an action brought upon bills, notes, or other evidences of debt issued by a bank. If a person entitled to bring any of the actions before mentioned is, at the time the cause of action accrues, within the age of 21 years, disabled by marriage, insane, or imprisoned, he may bring the actions within the times respectively limited, after the disability is removed. Personal actions on contracts not limited as above must be brought within 20 years after the action accrues. If at the time when any cause of action mentioned in this paragraph accrues against a person, he is out of the State, the action may be commenced within the time herein limited therefor, after he comes into the State; and if, after a cause of action has accrued, the person against whom it has accrued is absent from and resides out of the State, the time of his absence is not to be taken as part of the time limited for the commencement of the action. But no action shall be brought by any person whose cause of action has been barred by the laws of any State while he has resided therein.

SYNOPSIS OF ASSIGNMENT LAWS.— The debtor may make a common law assignment of all his property for the benefit of his creditors to any party whom he may think fit, provided he makes no preference, and such assignment will be sufficient to pass his property to the assignee as soon as a majority in number and value of the creditors assent thereto; but such an assignment is an act of insolvency which will enable any creditor to the amount of one hundred dollars to petition the debtor into insolvency under the insolvent law. The usual remedy of a creditor who does not approve such an assignment for the benefit of creditors is to refuse to come in, and then, if his claim is for more than one hundred dollars, to petition the debtor into the insolvency Court as provided by the insolvency laws. A refusal to come into a common law assignment will not bar the creditor, but if the assignment is assented to by a majority in number and value of the creditors, it becomes good in so far as to cause the property assigned to be divided among those of the creditors who do come in, and those who stay out will fail to get any benefit therefrom. A recent practise in cases of these assignments is for a creditor immediately upon notice of the assignment to trustee the assignee. Probably this method secures a good attachment of all the property of the debtor in the hands of the assignee, over and above enough to satisfy in full those who at the time of the service of the trustee process had come into an assignment, provided, of course, that afterward the assent of a majority in number and value of the creditors is obtained.

MICHIGAN.

ACKNOWLEDGMENTS.— When an instrument in writing is acknowledged out of this State it may be done before any Judge of a Court of Record, Notary Public, Justice of the Peace, Master in Chancery, or other officer authorized by the laws of such State to take the acknowledgment of deeds therein, or before any Commissioner appointed by the Governor of Michigan for that purpose. Unless the acknowledgment be taken before a Commissioner for Michigan or before a Notary Public having a seal, the instrument should have attached thereto a certificate of the Clerk of a Court of Record of the county or district within which such acknowledgment was taken, under the seal of his office, that the person whose name is subscribed to the certificate of acknowledgment was, at the date thereof, such officer as he is therein represented to be; that he believes the signature of such person subscribed thereto to be genuine, and that the instrument is executed and acknowledged according to the laws of such State, Territory or District.

AFFIDAVITS AND DEPOSITIONS.— Affidavits and depositions may be taken in other States before any officer competent to administer oaths, and may be used in this State, when accompanied by a certificate of the Clerk of a Court of Record, under its seal, of the authority of such officer. In litigated cases the depositions may be taken upon stipulation between the parties litigant, or upon reasonable notice served on behalf of the party in whose favor the deposition is to be taken, upon the opposite party or his attorney.

ASSIGNMENT LAWS.— 1. Does there exist in this State a separate distinct assignment, insolvency, or Bankrupt Law? — A. Yes.

2. Does the law in this State permit the debtor to make a preferential assignment? — A. It does not.

3. Can conveyance or transfer of property be made immediately anterior to assignment and still be held valid? — A. Yes, if no fraud exists — such conveyances are suspicious, and not looked upon with favor.

4. Can a debtor in this State obtain a discharge from his obligations without the unanimous consent of creditors, and under what circumstances?—A. He cannot.

5. Does the acceptance of a dividend from an estate under assignment in this State discharge the debtor?—A. No.

6. What is the position of creditors who do not come into an assignment, should one be made?—A. They are required to prove their debts within 90 days after service of notice of the assignment, in default of which the distribution of the estate will be made without reference to claims not proven.

We give in full the law of 1879, as amended in 1889.

SEC. 1. All assignments commonly called common law assignments for the benefit of creditors shall be void, unless the same shall be without preferences as between such creditors, and shall be of all the property of the assignor not exempt from execution, and unless such instrument of assignment or a duplicate thereof, an inventory of the assigned property, a list of the creditors of the assignor, and a bond for the faithful performance of the trust by the assignee, shall be filed in the office of the Clerk of the Circuit Court of the county where such assignor resides, or if he is not a resident of this State, then of the county where the assignee resides; if neither are residents of this State, then of the county where the assigned property is principally located, within 10 days after the making thereof; such assignment shall convey to the assignee all property of the assignor, not exempt from execution, and all rights legal or equitable of said assignor: Provided, That no such assignment shall be effectual to convey the title to the property of the assignor to the assignee until such bond shall be executed, filed with and approved by said Clerk; and provided further, That no attachment or execution levied upon any assigned property of such assignor, after such assignment, and before the expiration of the time provided herein for filing such bond, shall be valid, or create any lien upon such property. The Court shall, upon the petition of a majority in number and value of the unsecured creditors who have proved their claims, remove any assignee and appoint such person assignee, as the creditors so petitioning shall designate. In case of such removal, the assignee so removed, his executors or administrators, shall make and execute to the new assignee all deeds, conveyances, and assurances, and do all other lawful acts requisite to enable him to recover and receive all the estate, and the Court may make all orders which the Judge thereof shall deem necessary or expedient to secure the proper fulfillment of the duties of any former assignee, and the rights and interests of all persons interested in the estate. The removal of an assignee shall in no way release him from performing all things requisite on his part for the proper closing up of his trust, and the transmission thereof to his successor, nor affect his liability or that of his surety on his bond.

SEC. 2. Such assignment shall be acknowledged before some officer authorized to take acknowledgments. Such inventory shall be a detailed statement, as near as may be, of the general description, value, and location of all the property and rights assigned. When such assignment shall be made by one or more persons engaged in business, and the assigned property consists wholly or partly of goods, wares, merchandise, materials, fixtures, and furniture, or any of them, used in such business, such inventory shall also contain as near as may be reasonably practicable, a statement of the original cost of such goods, wares, merchandise, fixtures, and furniture, in addition to the general description, value, and location hereinbefore mentioned. Such list of creditors, shall, as far as the assignor can state the same, contain the name and post-office address of each, with statement of amount due as near as may be, over and above all defenses, the actual consideration for the debt, and when contracted, and all securities and the value thereof held by each, any, and all of such creditors of such assignor, in the penal sum of at least double the value of the assigned property as shown by such inventory, and shall be conditioned for the prompt and faithful administration of the trust by the assignee, and be signed by the assignee and sufficient sureties, which sureties shall justify their responsibility before such Clerk, or a Circuit Court Commissioner, under oath, and shall testify that they are worth in the aggregate, over and above all exemptions and incumbrances and debts, the penal sum of said bond, and which justification shall be indorsed on said bond.

SEC. 3. Every such assignment shall confer upon such assignee the right to recover all property or right or equities in property which might be reached or recovered by any of the creditors of such assignor; and every assignee shall, upon completing an inventory of the property, as in this act provided, advertise the property and assets of every name, nature, and description of the assignor for sale, by publishing in a newspaper published in the county in which the business of such assignor was carried on, a notice, fixing a time and place for the sale of such assets, which shall be not less than 10 days nor more than 20 days from the date of giving such notice. At the time and place mentioned, the property of the assignor shall be offered for sale at public auction, and the inventory prepared by the assignee under this act shall, at such time and place, be exhibited to intending purchasers. The entire property may be sold together in one parcel or separately, as a majority in interest of the creditors may request; and in case no such request is made, then as the assignee may deem proper, and for the best interests of all parties concerned; and if, at the time of such sale, any creditors or other person present shall bid or offer to bid a sum equal to at least one-half the value of such property as shown by the inventory, then the sale shall not be postponed, but the property shall be sold to the highest bidder; but in case a sum not equal to 50 per cent. of the value as shown by the inventory, shall be bid or offered to be bid, then the assignee may postpone the sale thereof for a period not exceeding 30 days, and at the time of such postponement shall give public notice thereof. All sales shall be made for cash.

SEC. 4. Every assignee and receiver shall, within 10 days after receiving such trust, give notice personally or by mail to each such creditor thereof, and within 90 days thereafter make and file with such Clerk proof of such service. The notice served shall require all creditors to prove their debts within 90 days thereafter, by proof of claim to be filed in said Clerk's office, or in default thereof, the assignee or receiver will proceed to distribute said estate as soon as practicable—but not within 10 days thereafter, without reference to claims not proven when dividends are paid. At least 10 days before the making of any dividend, said assignee shall serve personally or by mail, upon each of the creditors whose names appear in the schedule of creditors, and upon each of those who shall have filed claims, a complete list of all creditors who have filed proof of claims. Such list shall contain the name and post-office address of each creditor, with statement of amount claimed. No claim shall be entitled to any dividend unless the same shall be contained in a list of creditors served as aforesaid. The assignee shall retain in his hands a sum sufficient to provide for all contested claims, and for all claims the proofs of which have been filed, but which are not contained in a list of creditors sent out by the assignee. No dividend shall be paid on any claim while a contest is pending thereon.

SEC. 5. Such assignees, within 3 months after receiving such trust shall file a report in said Clerk's office of the condition of said estate, containing a statement of all property whatsoever received by him, and the disposition made thereof, and of all moneys received, disbursed, and on hand, and have attached thereto, vouchers for all expenditures, and shall quarterly thereafter make like report of all matters of said trust since the preceding report, and he shall also as soon as practicable after receiving said assignment, cause an appraisement of all such property to be made by two disinterested competent persons under oath, and cause the same to be filed with said assignment.

SEC. 6. In case there shall be any fraud in the matter of said assignment or in the execution of said trust, or if the assignee shall fail to comply with any of the provisions of this act, or fail or neglect to promptly and faithfully execute said trust, any person interested therein may file his bill in the Circuit Court in chancery of the proper county for the enforcement of said trust, and the Court

in its discretion may appoint a receiver therein, and the Court shall have power to order the summary examination before himself or a Circuit Court Commissioner of any party or witness, at any stage of said cause relative to the matters of said trust, and enforce attendance, and the giving of testimony therein, in the same manner as in the trial of causes in such Circuit Courts in chancery.

SEC. 7. Every proof must be sworn to, and it must state the actual amount unpaid and owing, the actual consideration thereof, when the same was contracted, and when the same has become or will become due; whether any and what securities are held therefore; whether any and what payments have been made thereon; that the sum claimed is justly due from the assignor to the claimant; and that the claimant has not, nor has any other person for his use, received any security or satisfaction whatever other than that by him set forth.

SEC. 8. Every assignee or receiver may contest any claim filed as aforesaid. Every creditor desirous of having a claim contested may, by writing, request the assignee or receiver to contest such claim. The service of such request shall operate to stay the payment of any dividend upon such claim until the further order of the Court. If the assignee or receiver, upon being so requested, shall decline or neglect to institute such contest, such creditor may, by petition verified by the oath of some one having knowledge of the facts, and showing sufficient reasons therefor, obtain an order from said Circuit Court in chancery, requiring such assignee or receiver to institute such contest.

SEC. 9. Every contest in relation to any claim filed as aforesaid, shall be instituted by serving personally, or by mail, a notice upon the creditor filiug such claiu, stating that such claiu will be contested. Upon proof of such service being filed with the Clerk of said Court, the Clerk shall enter such contest upon the law side of said Court as a cause in the name of such creditor against said assignor. The Circuit Court of said county shall proceed to the trial of said cause in the same manner as in other suits at law, allowing a jury if demanded, and shall have power to cause pleadings to be filed, and to allow new or amended ones, if necessary; and the Court shall have the same power over the verdict of a jury, and shall render judgment thereon as in other suits at law, except that no execution shall be awarded or issued in favor of the claimant. The costs, or any part thereof, may be awarded to either party, as the Court may deem just and right under the circumstances. Whenever costs are awarded to the creditor, they shall be taxed and shall be paid by the assignee, out of the assets in his hands, if he have sufficient for that purpose. The amount of the claim as finally adjudicated, after allowing a proper sum for interest to or from the time of making a dividend upon the other claims, shall be the amount upon which a dividend shall be computed.

SEC. 10. No allowance shall be made to any assignee or receiver, for his compensation as such assignee, or for disbursements or expenses, until after he shall have served personally, or by mail, upon each of the creditors whose names appear in the original schedule, and upon each of those who have filed claims, a notice that he intends to make application for such allowance. Such notice shall contain a statement of such disbursements and expenses, and of the amount intended to be applied for as compensation, and of the time when such application will be made, which time must not be less than 10 days from the service of such notice.

SEC. 11. The Circuit Court in chancery of the proper county shall have supervisory power of all matters, questions, and disputes arising under such assignment, except as otherwise provided in this act, and may, on the application of the assignee or any person interested, make all necessary and proper orders for the management and disposition of the assigned property, the distribution of the assets and avails, the recovery of all property claimed by third persons, and to prevent any fraudulent transfer or change in the property or effects of the assignor, or the allowance or payment of any unjust or fraudulent claims out of his estate, and may from time to time require new bonds and sureties, who shall justify as herein provided, and the Judge of said Court may, on the application of the assignee or of any creditor, at all times require the assignor, upon reasonable notice, to appear before him and submit to an examination on oath upon all matters relating to the disposal of his property, to his trade and dealings with others, and his accounts concerning the same, to all debts due or claimed from him, and to all other matters concerning his property and estate, and the due settlement thereof according to law, which examination may be at the request of any party to the proceedings, reduced to writing, and when so reduced shall be forthwith filed, with other papers relating to said assignment, in the office of the County Clerk of said county. And such Judge, or Commissioner, may in the same manner, at any time before the final settlement of the accounts of the assignor, require the attendance of the assignee, or any other person as a witness, and examine him upon oath as to all matters appertaining to the estate of the assignor or the administration of said trust; *provided*, That the Judge before whom such proceedings are had, shall make such order in the premises in regard to costs as he shall deem meet and proper.

SECTIONS 1 AND 3 AS AMENDED IN 1895:

SEC. 1. That all assignments commonly called common law assignments, for the benefit of creditors, shall be void unless the same shall be without preferences as between such creditors, and shall be of all the property of the assignor not exempt from execution, and unless such instrument of assignment, or duplicate thereof, an inventory of the assigned property, a list of creditors of the assignor, and a bond for the faithful performance of the trust by the assignee, shall be filed in the office of the Clerk of the Circuit Court of the county where said assignor resides, or, if he is not a resident of this State, then of the county where the assignee resides, if neither are resident of this State, then of the county where the assigned property is priucipally located, within 10 days after the making thereof. Such assignment shall convey to the assignee all property of the assignor not exempt from execution, and all rights, legal or equitable of said assigiior: provided that no such assignment shall be effectual, to convey the title to the property of the assiguor to the assignee until such bond shall be executed, filed with, and approved by said Clerk; and provided further, that no attachment or execution levied upon any assigned property of such assignor after such assignment, and before the expiration of the time provided herein for filing such bond shall be valid or create any lien upon such property. The Court, or Circuit Judge at chambers only, may upon petition of any creditor, and for cause shown, remove any assignee and appoiut such person as assignee as to the Court may seem for the best interest of the creditors and the assigned estate: provided, notice of such application shall be given by the person so applying to the assignor and each of the creditors who have filed proof of claim as the Court or Judge thereof may direct. In case of such removal, the assigiiee so removed, his executors or administrators, shall make and execute to the new assignee all deeds, conveyances, and assurances, and do all other lawful acts requisite to enable him to recover and receive all the estate, and the Court may make all orders which the Judge thereof shall deem necessary or expedient to secure the proper fulfillment of the duties of any former assignee and the rights and interests of all persons interested in the estate. The removal of an assigiiee shall in no way release him from preforming all things requisite on his part for the proper closing up of his trust and the transmission thereof to his successor, nor affect his liability or that of his surety on his bond.

SEC. 3. Every such assignment shall confer upon such assignee the right to recover all property, or right of equities in property which might be reached or recovered by any of the creditors of such assignor; the assigned property and assets of every name, nature, and description shall be sold at public auction, or at private sale, as the Circuit Court in Chancery, or the Circuit Judge at chambers only, of the proper county, on application to it for such purpose, may direct; and such property and assets shall be sold in one parcel, or separately, or may be disposed of in such manner as such Court or said Judge at chambers may deem for the best interests of the assigned estate, provided, however, that all sales shall

be for cash. And within 10 days after the completion of the inventory of the assigned estate, it shall be the duty of the assignee to apply to the Court, or the Circuit Judge at chambers only, for an order or direction as to the disposition of the assigned assets or estate. Such application shall be by petition in writing, stating what, in the opinion of the assignee, is the most advantageous method of affecting such disposition, and notice thereof of not less than 5 nor more than 20 days shall be given by mail to the creditors whose names appear upon the list of creditors on file in the Clerk's office. And proof of such service thereof by affidavit shall be made and filed in the office of said Clerk prior to the day fixed for such hearing. It shall be the duty of every assignee to close his trust, if practicable, within 1 year from the date of the assignment; but the Court, or Circuit Judge at chambers only, shall have power for any good reason, and upon cause shown, to extend the time allowed for that purpose for such further period or periods as may be reasonably necessary. But in case of application for any such extension, notice thereof shall be given by mail or otherwise, as the Court or said Circuit Judge at chambers may direct, to each creditor who has filed proof of claim or whose name appears in the list of creditors filed in the Clerk's office, and all such creditors shall have the right to appear and be heard with reference thereto. And it is further provided, that the powers conferred upon a Circuit Judge at chambers by this act shall not be exercised by any Circuit Court Commissioner.

Approved May 8, 1895.

BILLS OF EXCHANGE AND PROMISSORY NOTES.—The usual days of grace are allowed on all commercial paper not payable on demand. A *bona fide* purchaser of negotiable paper is not affected by its being usurious. The signing, or indorsement, of a promissory note by a married woman with her husband is void unless the proceeds go directly to her, or for the benefit of her individual property.

COMMENCEMENT OF SUIT.—In Justices' Courts summons may be returnable in not less than 6 nor more than 12 days from the date of its issue; if, however, the plaintiff is a non-resident the summons *may* be returnable in not less than 2 nor more than 6 days from the date of its issue. If the defendant is non-resident the summons *must* be made returnable in not less than 2 nor more than 6 days from the date of its issue. In suits commenced in the Circuit Court by non-resident plaintiffs, security for costs must be filed by such plaintiff in the case, and if such suit is begun by declaration, a simple indorsement on the declaration by some responsible person as surety is sufficient.

CONDITIONAL SALES.—The Supreme Court has decided that agreements of conditional sale, providing that title shall remain in the vendor, are valid.

CONSIGNMENTS.—If a consignee, holding under written instructions or agreement, "purposely and intentionally" diverts or misapplies the goods, contrary to the terms of the writing, he is guilty of felony, and, upon conviction, may be fined not over $2,000, or imprisoned not over 3 years, or both. The prosecution must be begun within 6 years after the offense. The consignor's civil action must be brought within 6 years after the misappropriation is discovered. Consignors should make their consignments under written agreements or instructions.

CORPORATIONS.—For manufacturing and business purposes (except the manufacture of salt), are all created under a general law. A report, signed by a majority of the directors, and verified by the secretary's oath, must be filed, annually, in January, in the office of the Secretary of State, and a duplicate in the county Clerk's office. It must state the amount of capital stock, and the amount actually paid in; the amount invested in real estate, and that in personal property; the amount of debts and the amount of credits of the corporation; the name of each stockholder, and the number of shares held by each; and also such other information as the Secretary of State shall require. If any of the directors shall wilfully neglect or refuse to make such report, they shall each be liable for all the debts of the corporation, and subject to a penalty of $25, and in addition hereto, the sum of $5 for each and every secular day after the 1st of March, in each year, during the pendency of such neglect or refusal. In case of dissolution or sale of all the property and franchises of the corporation, it is the duty of the last board of directors, within 30 days, to give notice to the Secretary of State and County Clerk, signed by a majority of such directors, subject to same penalties, in case of neglect, as provided in case of neglect to make annual reports. If capital stock shall be withdrawn and refunded to the stockholders before the payment of all debts of the corporation, the stockholders shall be jointly and severally liable to any creditor to the amount of the sum refunded. If the directors declare and pay a dividend when the corporation is insolvent, or any dividend the payment of which would render it insolvent, *knowing* it to be insolvent, or that such payment would render it so, the directors assenting thereto shall be jointly and severally liable for all debts due from such corporation at the time of paying or declaring such dividend. If any corporation shall violate any of the provisions of the statute, the directors ordering or assenting to such violation shall be jointly and severally liable, at the suit of creditors of the corporation, for all debts contracted after such violation, to the extent of three times the amount paid in on the stock standing in the name of such directors. Stockholders are personally liable for debts of the corporation due to manual laborers. Actions to recover for subscriptions not paid up, can be brought only by the corporation or by a receiver. No creditor, except by ordinary processes against the tangible property of the corporation, can obtain priority over other creditors. Besides the corporations created under the statute above mentioned, there are "Partnership Associations Limited," created under L.L. 1877, Act 191. Such an association may be formed by three or more persons for any lawful business. Their principal office or place of business must be established and maintained within this State. The capital subscribed by the parties forming the association is alone liable for the debts of the association. A statement showing names of the members, the amount of capital subscribed by each; the total amount when and how to be paid; the character of business; name of the association, with the word "limited" added as a part thereof; duration (not to exceed 20 years), and names of the officers, must be recorded in the office of the Register of Deeds of county where principal office is to be located. The members are not liable under any judgment, decree, or order against or for any debt or engagement of the association, except to the extent of subscriptions to capital not paid up, and for wages for labor. The word "limited" shall be the last word of the name of every such partnership association, and the full name must be legibly painted or affixed outside of every office in a conspicuous position, and must be mentioned in all advertisements and in all writings used in the transaction of business. The omission of the word "limited" renders each and every member liable for any indebtedness, damage, or liability arising therefrom. Dividends may be declared at any time provided the capital stock is not thereby impaired, and any member consenting to a dividend which shall diminish or impair the capital stock, is liable to any person injured thereby to the amount of such diminution or impairment.

ESTATES OF DECEASED PERSONS.—The time in which an executor or administrator shall close an estate is within the option of the Probate Court, but shall not exceed 4 years. The time in which claims must be appointed and proven is within the option of said Court, but shall not be less than 6 months nor to exceed 2 years.

GARNISHMENT.—The statute authorizes writs of garnishment to issue from any Court in any case wherein plaintiff or his attorney files an affidavit of indebtedness, and that he has good reason to believe any party has money, property, or effects in his hands belonging to the defendant. The person summoned as garnishee, from the time of the service of such summons, shall be deemed liable to the plaintiff in such suit to the amount of the

property, money, and effects in his hands or possession, or under his control, or due from him to the defendant in such suit. When the defendant is a householder the law especially exempts 80 per cent. of any sum due the defendant or his family for personal labor, but in no case shall more than $30 of such indebtedness be exempt, and in all cases at least $8 shall be exempt. In case the defendant is not a householder having a family 40 per cent. of such indebtedness is exempt but not more than $15 or less than $4. The garnishee defendant shall not be deemed a witness for the plaintiff, and his answers shall not be conclusive of the truth of the matters therein set forth, but upon trial the plaintiff may introduce evidence to contradict and controvert the truth of said answers or disclosures. In this action debts not due may be reached, also contingent liabilities, being cases where the actual amount of the garnishee's liability is undetermined between himself and the principal defendant; also property held by the garnishee defendant by any conveyance of transfer of title that is void as against the creditors of the principal defendant. Disclosures of garnishees are obtained, (1) By affidavit of the garnishee, (2) he can be served with written interrogatories which he answers under oath before an officer authorized to administer oath, (3) and by oral examination before the Judge of Court or Circuit Court Commissioner. An affidavit for garnishment after judgment in the original suit stands as the declaration against the garnishee defendant, and his default in pleading thereto can be entered as in ordinary cases.

INTEREST.— Legal interest is 5 per cent. Parties may agree in writing for any rate not exceeding 7 per cent. If the contract sued on bears more than 6 per cent., then the judgment, when rendered, will bear the same rate as the contract or obligation sued on. The penalty for taking usurious interest is a forfeiture of the entire interest.

JUDGMENT, EXECUTION, REDEMPTION, AND STAY OF EXECUTION.— Judgment is rendered in Justices' Courts on return day of the summons, unless the cause is then adjourned. If either party requests an adjournment, and the time cannot be agreed upon, the Justice can adjourn the case for 6 days. No lien is had upon real estate until a levy is actually made, and no levy can be made on real estate unless the execution issue from the Circuit Court. After sale of real estate under execution, the person against whom the execution was issued, his devisee or his heirs, executors, or administrators, or the purchaser of his right of redemption, may redeem the premises sold, after payment of the sum of money bid on the sale, with interest, at any time within 1 year from the time of sale. Executions issued from Justice Court are returnable in 60 days. Executions issued from Circuit Court cannot be made returnable in less than 20 days. The issue of execution on a judgment obtained in Justice Court, may be stayed upon the defendant's filing with the Justice, within 10 days from the rendition of judgment, security in writing with one or more sufficient sureties satisfactory to judgment creditor or Justice, for the payment of the judgment, interest, and costs within 4 months from commencement of suit, where judgment exclusive of costs does not exceed $50, and in 6 months where judgment is over $50. Execution may be levied on real estate upon a judgment obtained in Justice Court by filing a transcript of such judgment in the Circuit Court, which gives to such judgment the force and effect of a judgment originally obtained in the Circuit Court.

JURISDICTION OF COURTS.— In civil cases, Justices' Courts have original jurisdiction when the debt does not exceed $100, and concurrent jurisdiction with the Circuit Court when the debt does not exceed $300, except in Detroit where the limit is $500. In cases of tort, replevin, trover, trespass, etc., the jurisdiction of the Justice's Court is limited to $100. Circuit Courts have jurisdiction when the debt exceeds $100. The Superior Court of the city of Grand Rapids has original and coucurrent jurisdiction with the Circuit Courts in all civil actions where the debt or damages exceed $100, and in which the defendants, or one of them, shall have been served with process in the said respective cities.

LIMITATION OF ACTIONS.— On accounts and notes, actions cannot be brought unless within 6 years from time they were due, or from the time the last payment of principal or interest was made. Sealed instruments and judgments of Courts of Record, 10 years, Justices' judgments, 6 years. The statute of limitations must be pleaded specially. No person shall bring or maintain any action for the recovery of any lands, or the possession thereof, or make any entry thereupon, unless such action is commenced or entry made within the time herein limited therefor, after the right to make such entry, or to bring such action, shall have first accrued to the plaintiff, or to some person through whom he claims, to wit: 1st, Within 5 years, where the defendant claims title to the land in question, by or through some deed made upon a sale thereof, by an executor, administrator, or guardian, or by a Sheriff, or other proper ministerial officer under the order, judgment, decree, or process of a Court, or a legal tribunal of competent jurisdiction within this State, or by a Sheriff upon a mortgage foreclosure sale. 2d, Within 10 years, where the defendant claims title under a deed made by some officer of this State, or of the United States, authorized to make deeds upon the sale of lands for taxes assessed and levied within this State. 3d, Within 15 years in all other cases.

PROOF OF OPEN ACCOUNT.— In all actions in any of the Courts of this State, on an open account or account stated, if plaintiff, or some one in his behalf, shall make, and cause to be served upon defendant, with a copy of the declaration or process in the cause, an affidavit of the amount due, over and above all legal set-off, and annex thereto, an itemized bill of said account, such affidavit shall be deemed *prima facie* evidence of such indebtedness, unless defendant shall make affidavit denying the same, and serve on plaintiff, or his attorney, with his plea in the cause.

PROOF OF PARTNERSHIP.— In any suit in any of the Courts of this State, wherein it is necessary to prove the co-partnership of any firm or association, plaintiffs may serve upon the defendant, with a copy of the declaration or process, an affidavit stating that plaintiffs were the persons comprising such partnership at the time the cause of action accrued, and such affidavit shall be *prima facie* evidence of such existence of such partnership, unless defendant shall file with his plea an affidavit denying it. The *full Christian* name of each partner must be given.

Special Partnerships.— Special partners are liable only for amount subscribed and paid in, unless they take active part in management of business.

Limited Partnerships.— All liability should be signed or authorized by at least 2 members or a member duly authorized by vote to incur same.

TRUSTS, (IN RESTRAINT OF TRADE).— The Act of the legislature of 1889 provides that "All contract and combinations made or assented to between any parties capable of making a contract or agreement which would be valid in law or in equity, the purpose of which shall be to limit, restrict, or regulate production, enhance, control, or regulate the market price, or prevent free competition, shall be void," and every such contract or combination is declared to be a criminal conspiracy, punishable by fine and imprisonment. If made outside this State, they are declared void here. Carrying such contracts, etc., into effect is declared also a crime, and other fines and imprisonments are imposed. Michigan corporations violating the act forfeit their charters. Agricultural products and labor societies are excepted from its operation. This is not expressly repealed by the Act of 1899, which last defines such trusts to be "a combination of capital, skill, or art," "to create or carry out restrictions in trade or commerce," "to limit or reduce the production, or increase or reduce the price of merchandise or any commodity," "to prevent competition in manufacturing" of same, or "to fix any standard or figure whereby its price to the public or consumer shall be in any manner controlled or established," etc. These are declared to be unlawful for two or more persons, firms, partnerships, corporations, or associations. It is made the duty of the Attorney-general to institute suits by quo warranto, and for forfeiture of franchises and privileges of corpora-

tions, foreign and domestic, and against foreign corporations by injunction. For violations, any principal, manager, director, agent, servant, or employer, etc., "shall be punished by a fine of not less than $50 nor more than $5,000 nor be imprisoned not less than 6 months, nor more than 1 year, or by both." Each violation constitutes a separate offense. The character of a trust or combination may be established by proof of general reputation. In addition, a penalty of $50 a day is provided for each day the violations are continued; also, "that the provisions hereof shall be held cumulative to each other, and to all other laws in any way affecting them now in force in this State." "It is unlawful to issue or to own trust certificates," or "to place the management or control of such combination in the hands of any trustee or trustees, with intent to limit or fix the price, or lessen the production and sale of any article of commercial use or consumption, or to prevent, restrict, or diminish the manufacture or output." Penalties — fines $50 to $1,000. "Any person injured by trust may sue and recover double damages."

MINNESOTA.

ACKNOWLEDGMENTS.— Within this State acknowledgments may be taken by Judges of the Supreme and District Courts and Courts of Probate, the Clerks of said Courts, members of the Legislature, Notaries Public, Justices of the Peace, Registers of Deeds, Court Commissioners, and County Auditors within their respective jurisdictions; where the officer taking the acknowledgment has an official seal he must affix the same to the instrument acknowledged. The form of ackuowledgment by a natural person acting iu his own right shall be as follows:

State of ——— } ss.
County of ——— }

On this —— day of ——, 19—, before me personally appeared ——— to me known to be the person described in, and who executed the foregoing instrument, and acknowledged that he executed the same as his free act and deed.

In the case of a natural person acting by attorney:

State of ——— } ss.
County of ——— }

On this —— day of ——, 19—, before me personally appeared ——— to me known to be the person who executed the foregoing instrument in behalf of ——— and acknowledged that he executed the same as the free act and deed of said ——.

In the case of a corporation or joint stock association:

State of ——— } ss.
County of ——— }

On this —— day of ——, 19—, before me appeared ——— to me persoually known, who, being by me duly sworn (or affirmed), did say that he is the president (or other officer or agent of the corporation or association), of (naming corporation or association) and that the seal affixed to said instrument is the corporate seal of said corporation (or association), and that said instrument was signed and sealed in behalf of said corporation (or association), by authority of its board of directors (or trustees), and said ——— acknowledged said instrument to be the free act and deed of said corporatiou (or association).

If the corporation or association has no seal omit the words in reference thereto, and add at end of acknowledgmeut "and that said corporation (or association) had no corporate seal." Acknowledgments without the State, and within the United States, may be taken before the Chief Justice and Associate Justices of the Supreme Court of the United States, the Judges or Justices of the Supreme, Superior, Circuit, or other Court of record of any State, Territory, or District within the United States; the Clerks of the several Courts above mentioned, and Notaries Public, Justices of the Peace, and Commissioners appointed by the Governor of this State for such purpose; but no acknowledgments taken by any such officer shall be valid unless taken within some place or Territory for which he shall have been elected or appointed to such office, or to which the jurisdiction of the Court to which he belongs shall extend. Unless the officer taking the acknowledgment has an official seal and affixes the same to the ackuowledgment, there shall be appended to or indorsed on the instrument acknowledged, a certificate of the Clerk or other proper certifying officer under the seal of his office, that the person whose name is subscribed to the certificate of acknowledgment was at the date thereof, such officer as he is therein represented to be, that he is acquainted with the handwriting of such person, and that he verily believes the signature subscribed to the certificate of acknowledgment to be genuine. Where an acknowledgment is takeu by a Justice of the Peace, the certificate of the Secretary of State or Territory in which the acknowledgment is taken shall be a sufficient authentication. Instruments executed in any foreign couutry may be executed according to the laws of such country and ackuowledged before any Notary Public therein, or before any Minister Plenipotentiary, Minister Extraordinary, Minister Resident, *Charge d'Affaires*, Commissioner, or Consul of the United States appointed to reside therein. The instrument should have indorsed thereon or attached thereto a certificate of a Minister Resident, *Charge d'Affaires* or Consul of the United States appointed to reside in such country, that such instrument is executed and ackuowledged according to the laws of such country. If the forin of ackuowledgment given for iustrumeuts executed in this State is used, and the instrument is properly witnessed, the execution thereof will be good, whether or not it is in accordance with the laws of the couutry where the instrument is executed. Except as hereinbefore stated, no instrument is entitled to record unless there shall be two witnesses thereto.

ACTIONS.— A summous in the District Court must be served 20 days before judgment can be entered, and this Court has original jurisdiction of all actious. Municipal Courts have been established iu this State and have jurisdiction of actions on contract involving not more than five hundred dollars, the practise therein being similar to that in the District Court, the priucipal difference being that all summons, notices, etc., shall be returnable in one-half the time provided for in the District Court, and that these Courts shall have no equity jurisdiction. Justices of the Peace have jurisdiction of actions involving not more than $100. A Justice's summons may be made returnable auy time from 6 to 20 days.

ALIENS.— No person who is not a citizen of the United States, or who has not lawfully declared his intention to become such citizen, can acquire, hold, or own real estate in this State, except lots or parcels of land not exceeding 6 lots of 50 feet frontage by 300 feet in depth each, or in lieu thereof, a parcel or tract of land of equal size, within and forming a part of the platted portion of any incorporated city in the State, and also such lauds as may be acquired by devise or inheritance, or such as may be acquired, held, or obtained in good faith in the ordinary course of Justice in collection of debts, or such as may be held as security for indebtedness. This provision does not apply to actual settlers upon farms of not more than 160 acres of land.

APPEALS.— The Supreme Court is the highest Appellate Court in the State. Appeals go direct to this Court from both District aud Municipal Courts.

BILLS OF EXCHANGE, DRAFTS, AND NOTES.— Due on a Sunday or holiday, are payable upon the next preceding business day. Where a promissory note is payable upon demand, an indorser thereon cannot be held unless demand of payment is made at or before the expiration of 60 days after the date of the note, but any act, neglect, or other thing which, by the rules of law and customs of merchants, is deemed equivalent to a presentment and demand on a uote payable at a fixed time, or which would dispense with such presentment and demand, if it occur at or within said term of 60 days, shall be deemed a dishonor thereof, and shall authorize the holder of such note to give notice of the

dishonor to the indorser, as upon a presentment to the promissor, and his refusal or neglect to pay the same. Promissory notes made payable to a fictitious person, shall, if negotiated by the maker, have the same effect and be of the same validity as against the maker and all persons having knowledge of the facts, as if payable to bearer. On all bills of exchange payable at sight or at a future day certain, within this State, and all negotiable promissory notes, orders, and drafts, payable at a future day certain, within this State, in which there is not expressed stipulation to the contrary, grace is allowed in like manner as it is allowed by the custom of merchants on foreign bills of exchange, payable at the expiration of a certain period after date of sight, but days of grace are not allowed on any bill of exchange, note, or draft payable on demand.

BILL OF SALE.— Every sale made by a vendor of goods and chattels in his possession or under his control, and every assignment of goods and chattels, unless the same is accompanied by an immediate delivery and followed by an actual change of possession of the things sold and assigned, is presumed to be fraudulent and void as against the creditors of the vendor or assignor, or subsequent purchasers in good faith, unless those claiming under such sale or assignment make it appear that the same was made in good faith, and without any intent to hinder, delay, or defraud such creditors or purchasers. Every assignment of a debt, except debts evidenced by an instrument in writing, subscribed by the party obligated and delivered to the assignee at the time of the transfer is presumed void as against creditors of the assignor unless such assignment is in writing and is filed with the Town Clerk, Village Recorder, or City Clerk, of the town, village, or city in which the assignor resides. The burden is on those claiming under such assignment to make it appear that the same was made in good faith and for a valid consideration. Such assignment need not be acknowledged. A sale of any portion of a stock of merchandise otherwise than in the ordinary course of trade, or a sale of an entire stock of merchandise in gross is presumed fraudulent and void as against creditors of the seller unless the seller and purchaser shall at least 5 days before the sale make a full detailed inventory showing the quantity and as far as possible the cost price to the seller of each article included in the sale; and unless such purchaser shall at least 5 days before the sale, in good faith make full, explicit inquiry of the seller as to the names and places of residence or business of all creditors of the seller; and unless the purchaser shall at least 5 days before the sale, in good faith notify or cause to be notified personally or by registered mail each of the seller's creditors of whom he has knowledge, or can with exercise or reasonable diligence acquire knowledge, of said proposed sale, and of the cost price of the merchandise to be sold, and of the price proposed to be paid therefor.

CONDITIONAL SALES.— Every note or other evidence of indebtedness, or contract, the conditions of which are that the title or ownership to the property for which such note or other evidence of indebtedness or contract is given remains in the vendor, shall be absolutely void as against the creditors of the vendee, and as against subsequent purchasers and mortgagees in good faith, unless the note, or other evidence of indebtedness or contract, or true copies thereof, or, if said contract is oral, then a memorandum expressing the terms and conditions thereof be filed. Every such note, or other evidence of indebtedness or contract, or copy thereof, shall be filed in the town, city, or village where the vendee resides at the time of the making thereof, or in case the vendee is not a resident of the State, then in the town, city, or village where the property is situated. In each town such instrument must be filed in the office of the Town Clerk thereof, and in the several cities and villages in the office of the Recorder, Clerk, or other officer, in whose custody the records are kept. Every note or other evidence of indebtedness or contract so filed is held and considered to be full notice to all persons of the existence and conditions thereof, but ceases to be notice after the expiration of 1 year from the day upon which the instrument or the last instalment of the sum secured becomes due.

CORPORATIONS.— Stockholders in banks incorporated under the laws of the State are individually liable for the debts of the bank in an amount equal to the amount of stock owned by them, and such liability continues for 1 year after any transfer or sale of stock. Stockholders in other corporations (except those organized for carrying on any kind of mechanical or manufacturing business), are liable for corporate debts to the amount of stock owned by them. Stockholders in corporations organized for the purpose of carrying on any kind of manufacturing or mechanical business are liable only for the unpaid instalments, if any, upon their stock. No foreign corporation doing business in this State shall have, possess, or exercise any rights, privileges, or immunities not possessed by domestic corporations, but shall in all respects be deemed to be a domestic corporation and entitled to all the rights, privileges, and immunities of domestic corporations. There is a statute which provides that any foreign corporation which shall on a cause of action arising in this State commence suit in a United States Court, or where a suit on such cause of action is commenced against it shall attempt to remove the same to a United States Court, shall be liable to a fine of not less than $100, nor more than $10,000, and forfeits all right to transact business within this State. It has not, however, yet been passed on by the Courts of this State, nor by the Courts of the United States. A corporation not created by or under the laws of the United States or some State or Territory thereof cannot acquire, hold, or own real estate in this State except acquired by devise or in the ordinary course of justice in the collection of debts or such as may be held as security for indebtedness, exceeding 6 lots of 50 feet frontage by 300 feet in depth each, or in lieu thereof, a parcel of land of equal size within and forming a part of the platted portion of any incorporated city. No corporation or association, more than 20 per cent. of the stock of which is or may be owned by any person or persons, corporation or corporations not citizens of the United States, shall hereafter acquire any real estate in this State. The above provisions do not abridge the right of such corporations to hold lands acquired by process of law in the collection of debts or by any procedure for the enforcement of any mortgage, lien, or claim thereon. Every foreign corporation for pecuniary profit, before it shall be permitted to transact any business in this State or to continue business therein if already established, or to acquire, hold, or dispose of any property within this State or sue or maintain in any action in any of the Courts of this State, shall have and maintain a public office or place of business in this State for the trasactiou of its business and shall appoint an agent in the county in which such office is located, duly authorized to accept service of summons or process and upon whom such service may be made in any action to which such corporation may be a party. A duly authenticated copy of such appointment shall be filed in the office of the Secretary of State. Every such foreign corporation now or hereafter doing business within this State shall file with the Secretary of State a duly authenticated copy of the charter or certificate or articles of incorporation together with a sworn statement showing the proportion of the capital stock of said corporation represented by its property located and business transacted in this State for the year immediately preceding; and such corporation shall be required to pay into the State Treasury the sum of fifty dollars for the first $50,000 or fraction thereof of such proportion of capital stock, and five dollars for each additional $10,000 or fraction thereof, and at like rate for any increase thereof. Upon compliance with these provisions the Secretary of State issues a certificate that said corporation has complied with the laws of this State and is authorized to do business herein, and such corporation shall thereupon enjoy the benefits of this act for the period of 30 years unless its corporate existence is sooner determined under the laws of the State by which it was created. Any such foreign corporation failing to comply with the conditions of this act is subject to a fine of $1,000 and cannot maintain any action in any Court of this State. This act does not apply to corporations engaged in an exclusively manufacturing business in this State, nor to drummers or traveling salesmen soliciting business in this State for non-resident corpora-

tions, nor to corporations engaged only in the business of loaniug money or investing securities in this State.

DEEDS.— In order to entitle a deed to record it must be properly acknowledged and must have two witnesses. It must also have indorsed thereon certificates by the proper officers that all taxes and assessments levied on the property conveyed have been paid. Deeds are recorded in the offices of the Register of Deeds of the county in which the property conveyed is located. The use of private seals upon deeds and all writteu contracts has been abolished.

DEPOSITIONS.— Whenever the testimony of any person within or without this State, or in any other portion of the United States, is wanted in any civil action or proceeding iu any Court of this State, the same may be taken by and before any officer authorized to administer an oath in the State or Territory or District of the United States in which the testimony of such person may be taken, upon notice to the adverse party of the time and place of takiug same. Such notice shall be in writing and shall be served so as to allow the adverse party sufficient time by the usual route of travel, allowing one day for each 100 miles of distance between the place of service of the notice and the place of taking such testimony, and one day for preparation, exclusive of Sundays. If so stated in the notice the examination may be adjourned from day to day. The examination shall commence at the time stated in the notice or within one hour thereafter. Each witness shall before testifyiug be sworn by the officer to testify to the truth, the whole truth, and nothing but the truth relative to the cause specified in the notice. The testimony shall be written by the officer. Either party may appear in person or by an agent or attorney and take part in the examination. The testimony of each witness when completed shall be carefully read over by the officer to him, whereupon he may add thereto or qualify the same as he may desire. When the deposition is completed, the witness shall sign his name or make his mark at the end thereof as well as upon each piece of paper on which any portion of his testimony is written. Thereupon the officer taking such deposition shall annex thereto a copy of the notice and a certificate under his hand and official seal (if he have one) stating what office he held and exercised when taking such deposition, and that by virtue thereof he was then and there authorized to administer an oath, and that each witness before testifying was duly sworn to testify the whole truth and nothing but the truth relative to the cause specified in the notice, and that each of such depositions was taken pursuant to such notice, and who, if any one, examined for the parties respectively. The depositions should be returned by mail to the Justice of the Peace before whom the cause is pending, or, if pending in a Probate Court, to the Judge thereof, or, if pending in any other Court of Record, then to the Clerk thereof.

ESTATES OF DECEASED PERSONS.— The Probate Courts in the several counties have jurisdiction of all matters pertaining to the estates of deceased persons. Wills must be signed at the end thereof by the testator or by some person in his presence and by his express direction, and attested and subscribed in his presence by 2 or more competent witnesses. An executor, unless exempted by the provisions of the will, must give a bond in an amouut fixed by the Probate Court for the faithful discharge of his duties. Administration of the estate of any one dying intestate will be granted to the following persons in the order named: 1. The widow or next of kin, or both, as the Judge of Probate may think proper, or such persons as the widow or next of kin may request to have appointed, if suitable and competent to discharge the trust. 2. If the widow or next of kin, or the person selected by them, is unsuitable or incompetent, or if the widow or next of kin neglects for 30 days after the death of the intestate to apply for administratiou, or to request that administration be granted to some person, the same may be granted to one or more of the priucipal creditors, if any such are competent and willing to take it. At the time of granting letters testamentary or of administration, the Court makes an order limiting the time in which creditors may present claims against the estate, which shall not be less than 6 months nor more than 1 year from the date of such order, but the Judge of Probate ou proper proof by affidavit of the executor or administrator that there are no debts against the estate may, limit the time to 3 months. No claim shall be received after the time so limited unless for good cause. The executor or administrator is allowed a reasonable time in which to settle the estate, not exceeding 1 year and 6 months. The Probate Court may upon good cause shown extend the time for the settlement of the estate not exceeding 1 year at a time, unless in the judgment of the Court a longer time is necessary. Wheu any person shall die intestate seized of any lands in this State, and where administration shall not have been granted in this State within 5 years from the death of decedent, any heir or grantee of any heir entitled to any interest in such lands may apply to the Probate Court upon verified petition to determine the descent of such lands, and to assign the same to such persons as may be entitled thereto by law.

GARNISHMENT.— In any action for the recovery of money, if the plaintiff, his agent or attorney, files an affidavit with the Clerk of the Court where the action is pending, stating that he believes that any person (naming him) has property, money, or effects in his hands or under his control belonging to the defendant, or that such person is indebted to the defendaut, and that the value of such property or effects or the amount of such money or indebtedness, if the action is in the District Court, exceeds $25, or if in a Justice or Municipal Court, $10, a garnishee summons may be issued by the plaintiff or his attorney, or a Justice of the Peace, against such person who is thereafter known as the garnishee. The effect of the service of the summons on the garnishee is to attach and bind all the property, money, or effects in his hands, belonging to defendant, and all indebtedness owing by him to defendant at the time the summons is served. A copy of the summons is served ou defendant, and on the return day the garnishee is examined and all property, etc., disclosed in his hands belonging to defendaut at the time the summons was served is retained by him, to await the result of the action, and if judgment is reudered for plaintiff is applied to the satisfaction thereof. Corporations can be required to appear in garnishment, and may do so by such officers as they may appoiut.

INTEREST.— The rate of interest, unless a different rate is contracted for in writing, is 6 per cent., and the highest rate that can be contracted for is 10 per cent. A contract to pay interest not usurious upon interest over due is valid. All contracts shall be at the same rate of interest after they become due as before, and any provision in a contract, note, or other instrument providing for an increase of the rate of interest upon maturity will work a forfeiture of the entire iuterest. Every person who for any loan or forbearauce shall have paid or delivered any greater sum or value than the rate of interest allowed by law may recover from the person who has received the same, or his personal representative, the full amount of interest to be paid. The action must be brought within 2 years. One-half of the amount recovered must be paid to the County Treasurer for the use of the common schools. All bonds, bills, notes, assurances, conveyances, chattel mortgages, and all other contracts and securities, and all deposits of goods, or anything whatever, whereupon or whereby there shall be reserved, secured, or taken any greater sum or value for the loan or forbearance of any money, goods, or things in action that is allowed by law is void, except negotiable papers in the hands of a *bona fide* purchaser for value without notice of the usurious transaction.

JUDGMENTS.— A judgment recovered in any of the Courts of this State may, by filing a transcript thereof, be docketed in the office of the Clerk of the District Court of any county, and from the time of such docketing the judgment becomes a lien on all the real estate of the judgment debtor in such county. This lien continues for a period of 10 years, and may at any time during said time be enforced by execution.

LEASES AND HOW TERMINATED.— If tenant is holding from year to year, under a lease origiually for a year or term of

years, the landlord, in order to terminate, must serve him with a written 3 months' notice in the clear before the end of the year. If tenant is holding from month to month, a 30 days' notice in the clear is required. A 3 months' notice is required to terminate a tenancy at will.

LIMITATIONS.— *Fifteen years*— No action for the recovery of real property or for the recovery of the possession thereof, shall be maintained unless it appears that the plaintiff, his ancestor, predecessor, or grantor, was seized or possessed of the premises in question within 15 years before the commencement of the action. Every action to foreclose a mortgage upon real estate must be commenced within 15 years after the cause of action accrues. *Ten years*— An action upon a judgment or decree of a Court of the United States or of any State or Territory of the United States must be commenced within 10 years. *Six years*— The following actions must be commenced within 6 years: All actions or contracts express or implied, except as above mentioned, an action for a liability created by statute, other than those upon a penalty or forfeiture; an action for trespass upon real property, an action for taking, detaining, and injuring personal property, including actions for the specific recovery thereof; an action for criminal conversation, or for any other injury to the person or rights of another, not arising on obligation, and not hereinafter enumerated; an action for relief on the ground of fraud, the ground of action in such case not to be deemed to have accrued until the discovery by the aggrieved party of the facts constituting the fraud; an action to enforce a trust or compel an accounting, where the trustee has neglected to discharge his trust, or has repudiated the trust relation or has fully performed the same. *Three years*— The following actions must be commenced within 3 years: An action against a Sheriff, Coroner, or Constable, upon a liability by the doing of an act in his official capacity, and in virtue of his office, or by the omission of an official duty, including the non-payment of money collected on an execution; an action upon a statute for a penalty or forfeiture, where the action is given to the party aggrieved or to such parties and the State of Minnesota. *Two years*— The following actions must be commenced within 2 years: An action for libel, slander, assault, battery, or false imprisonment or other tort resulting in personal injury, and an action upon a statute for a forfeiture or penalty to the State. *One year*— An action upon a statute for a penalty given in whole or in part to the person who prosecutes.

MISSISSIPPI.

ACCOUNTS.— Affidavit to itemized account stating that it is correct and due from the debtor, entitles plaintiff to judgment unless counter affidavit is filed. If only certain items are disputed these must be specified. Affidavit must be made by the party or his agent, not by one styled bookkeeper. Affidavit may be made before any Judge of a Court of Record, Clerk of such Court, Justice of the Peace, Notary Public, or Commissioner of this State.

ACKNOWLEDGMENTS.— Acknowledgments or proof in another State may be made before and certified by any Justice of the Supreme Court of the United States, or a District Judge of the United States, or any Judge or Justice of the Supreme or Superior Court of any State or Territory of the Union, or any Justice of the Peace whose official character shall be certified under the seal of some Court of Record in his county, or before any Commissioner residing in such State or Territory who may be appointed by the Governor of this State, or a Notary Public or a Clerk of a Court of Record having a seal of office. The form may be as follows:

———— } *ss.*
———— }

Personally appeared before me a ——— the within-named A. B. who acknowledged that he signed and delivered the foregoing instrument, on the day and year therein mentioned. Given under my hand and official seal, on this —— day of ——.

Acknowledgment in a foreign country may be before any Court of Record, the Mayor, or Chief Magistrate of any city, borough, or corporation, or before any Commissioner of this State, or any Embassy, Foreign Minister, Secretary of Legation, or United States Consul. The certificate shall show the identification of the grantor.

BANKS— Do business under special charters, heretofore granted or now granted under general laws. They are subject to interest and usury laws. Aside from national banks, no system of examination, but every bank is required to report to the State Auditor, and publish sworn statements as to all assets, liabilities, etc., and such statements the Auditor may call for at any time without previous notice.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Protest may be by any Justice of the Peace, or the Mayor or Chief Magistrate of any incorporated town, or by the Clerk of the Chancery or of the Circuit Court, or a Notary Public. Every writing promising to pay money, or acknowledging it to be due, is a promissory note and is assignable. All bonds, obligations, promissory notes, and all other writings for the payment of money or any other thing may be assigned by indorsement, whether made payable to order or not, and the assignee may sue in his own name, but the debtor shall have the benefit of all offsets and other defenses existing previous to notice of assignment. But this does not apply to commercial paper payable to bearer or payable in a State or county where a different rule applies. Domestic bills of exchange of this State for $20 or more, must be protested for non-acceptance or non-payment like foreign bills, and are subject to the same rules and usages, except that they bear no damages. Where a note has been transferred by indorsement, the makers and indorsers must *all* be sued if they live in the State. All bills of exchange and promissory notes are entitled to days of grace, and it is the general opinion that, under this provision, both sight and demand paper would be entitled to grace.

BILLS OF LADING AND WAREHOUSE RECEIPTS.— Made conclusive evidence in the hands of *bona fide* holder as against person or corporation issuing same that the property was actually received. Bank or other person collecting draft with bill of lading attached required to retain the money for 24 hours after delivery of the goods.

CORPORATIONS.— Corporations for every lawful purpose and of kind, except for the construction and operation of a railroad other than street railroads, and the carrying on of an insurance business, are created under the provisions of a general chapter. The charter must be published three weeks in some newspaper in the county where the corporation is to be domiciled, it is then submitted to the Governor, who takes advice as to the constitutionality and legality of the proposed corporation. If approved, the charter is signed by the Governor, and the seal of State is affixed to same. The charter when signed and sealed is recorded in the office of the Secretary of State and also in the office of the Chancery Clerk of the county of the domicile of the corporation. Corporations thus created possess the powers usual and incident to private corporations generally; but their existence is restricted to a period of not more than 50 years. Corporations created as above may hold real and personal property necessary and proper for their purposes, not exceeding two hundred and fifty thousand dollars, manufacturing companies and banks excepted, which may hold property to the amount of one million dollars. Corporations are prohibited from having a secret trust in property to an amount greater than they may legally hold. Corporations violating these provisions forfeit their charter, and also forfeit the excess of property over the limit. Corporations may, however, take a lien on property, real or personal, to a greater amount than they may hold as a security for a debt, if same shall not be held for a longer period than 5 years. Stockholder is individually liable for the debts the corporation contracted during his ownership of the stock for the amount or balance that may remain due or unpaid of the stock subscribed for by him, and may be sued by any creditor of the cor-

poration, and such liability shall continue for 1 year after the sale or transfer of the stock. Directors are liable for the wilful mismanagement of corporations, or for allowing the capital withdrawn by stockholders below the limit fixed by law, while debts exist and are unpaid. When corporations are dissolved the property vests in the stockholders as tenants in common. Corporations existing under the laws of other States or of foreign countries may sue in Mississippi by their corporate names, and are liable to be sued in same way. They have the same rights in the State as non-resident individuals. When creditors proceed against stockholders for the balance of their unpaid stock, they must make all the stockholders who have not paid up and are within the jurisdiction of the Court parties defendant. The Constitution provides that the Legislature may at any time repeal or amend charters granted after November 1, 1890, provided rights of stockholders are not infringed.

Insurance Companies.— It shall not be lawful for an agent of any insurance company, directly or indirectly, to take risks or transact any business of insurance without first procuring a certificate of authority from the Auditor of public accounts; and, before procuring a certificate, the agent shall furnish to the Auditor a statement, under the oath of the president or secretary of the company for which he may act, which statement shall show: 1. The name and domicile of the company. 2. The amount of the capital stock. 3. The amount of its capital stock paid in. 4. The assets of the company, including (a) the amount of cash on hand, and in the hands of agents or other persons; (b) the real estate unencumbered; (c) bonds owned by the company, and how they are secured, with the rate of interest thereon; (d) debts to the company secured by mortgage; (e) debts otherwise secured; (f) debts for premiums; (g) all other securities. 5. The amount of liability due or not due to banks or other creditors by the company. 6. Losses adjusted and paid. 7. Losses adjusted and not due. 8. Losses unadjusted. 9. Losses in suspense waiting for further proof. 10. All other claims against the company. 11. The greatest amount insured in any one risk. 12. The greatest amount allowed by the rules of the company to be insured in any one city, town, or village. 13. The greatest amount allowed to be insured in any one block. 14. A certified copy of the act of incorporation of the company. The above statement shall be filed in the office of the Auditor of public accounts, together with a written instrument, if the company be non-resident, under the seal of the company, signed by the president and secretary, authorizing the agent to acknowledge services of process for and on behalf of the company, consenting that service of process upon the agent shall be as valid as if served upon the company according to the laws of this State, and waiving all claim of error by reason of such services. No agent for a company incorporated under the laws of another State shall do any business in this State, unless his company shall be possessed of at least $150,000 of actual capital, invested in stocks of at least par value, or in bonds or mortgages or real estate worth double the amount for which the same is mortgaged; and the agent must furnish the Auditor with satisfactory evidence of such investment, whereupon the Auditor shall issue a certificate authorizing the agent to transact the business of insurance. The agent of a company incorporated under the laws of a foreign country, besides the requirements above set forth, must furnish the Auditor with satisfactory evidence that his company has invested in stocks of one or more of the States of this Union or of the United States, at at least par value, the amount of $150,000, and that the stocks are held by citizens of the United States. The agent of every insurance company must file in the office of the Clerk of the Chancery Court of every county in which he intends to establish an agency, a copy of the statement above mentioned, with the certificate of the Auditor and a sworn copy of the charter or act of incorporation of the company, which shall be open to public inspection. The statement and evidence of investment must be renewed annually. Provisions exist against the formation of trusts and pools by insurance companies and other corporations.

COURTS.— Justices' Courts twice a month. Process must be served 5 days before Court. Circuit Courts and Chancery Courts are held semi-annually. Process in Chancery Court must be served 5 days before the Court, or 5 days before any rule day. Rule days are held monthly. Attachment, replevin, and mechanics' lien suits in the Circuit Court are triable at the first term, and all other actions on debts or contracts, where process is served 30 days beforehand, are triable at the first or return term. It is, therefore, important for creditors suing in the Circuit Court to bring suit more than 30 days beforehand.

CREDITORS' BILLS.— Bills may be filed in chancery to set aside fraudulent conveyances, sales, or devices, without a judgment, and return of *nulla bona*, and this by creditors whose debts may or may not be due. If the creditor prevails he has a lien from the time of filing the bill, and writs of sequestration may issue when necessary. This mode of proceeding is often more advisable than by attachment, as no bond is required at the commencement of suit, unless a sequestration is desired, and there is no liability in damages as in attachment.

ESTATES OF DECEASED PERSONS.— All claims must be registered within 12 months after the first publication of notice to present claim; provided, that a failure to register claims within 12 months shall not bar the payment as to any surplus that remains after the other debts registered and allowed have been fully paid. Creditors of insolvent estates are paid *pro rata*. If there are partnership debts, partnership property is applied to same, and individual property to individual debts.

INTEREST.— Six per cent. Parties may agree in writing on any rate not exceeding 10 per cent. If usurious interest be stipulated for, the effect is to forfeit all the interest, and it may be recovered by the debtor or his representative, if paid. Local building and loan associations dealing alone with their own members in this State not subject to usury laws.

INTESTATE LAWS.— Dower and courtesy do not exist. Realty and personalty of intestate decedent descends: 1. To children equally, and to their descendants, the latter taking parent's share. 2. If no children nor descendants of such, to brothers and sisters, and their descendants, in equal parts. 3. If none of above, to father, if living; if not, to mother; if both be living, to both in equal parts. 4. If none of above, to next of kin, in equal degree, according to civil law rules. No representation among collaterals, except among brothers and sisters. Kindred of whole-blood in equal degree preferred to those of half-blood in same degree. Widow may, within six months of husband's death, renounce any device or bequest to her in his will, and elect to take her legal share in his estate, as if he had died intestate, except that even if husband left no child nor descendant of such, widow shall be entitled to one-half of husband's realty and personalty. So husband may renounce, and elect, with like effect.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— All judgments are a lien upon all the property of debtor subject to execution, in any county where an abstract of the judgment is enrolled. No stay of execution, except that in Justice's Court execution may be stayed 1 month on sums under $50, and 2 months on sums over $50, with good security. In Circuit Courts, collections can be made in 6 months on judgments obtained therein at the return of the writ; if at the second term, within 12 months. In all actions *ex contractu*, where the defendant is personally summoned more than 30 days before the first day of the term, the cause is triable at the return term. Attachments, replevin suits, and actions to enforce mechanics' liens, are triable at the return term.

JURISDICTION OF COURTS.— Justices' Courts have jurisdiction over all debts and demands of a civil nature where the principal sum shall not exceed $200, exclusive of interest. Circuit Courts have original jurisdiction of all demands over $200 principal. Chancery Courts have jurisdiction of all matters in equity, and of probate matters.

LEASES AND HOW TERMINATED.— Where tenant is holding under a term which expires at a fixed date, landlord need give no notice to terminate lease. Where tenant is holding over under an

expired lease, 60 days' notice would be required to terminate a lease, and also a year to year lease; 30 days' notice, if lease be for half or third of a year; 1 week's notice, if lease be for a month or week, notice must be in writing. No particular form prescribed.

LIMITATION OF ACTIONS.— Open accounts and accounts stated, and all unwritten contracts, 3 years; actions for assault, battery, malicious arrest, slander, and libel, 1 year; notes, bills of exchange, bonds, etc., 6 years; judgments, 7 years. Partial payments are not held in this State to stop the running of the statute of limitations: there must be a new promise in writing to pay.

PERSONAL PROPERTY PURCHASE MONEY. — Where the debt for a sale of personal property is due, and the property is still in the hands of the buyer, the seller, on bringing suit, may make affidavit of the facts, and obtain a writ of seizure, under which the property is taken and sold to satisfy the debt.

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ACKNOWLEDGMENTS.— If taken in Missouri by a Court having a seal, or Judge, Justice, or Clerk thereof, Notary Public, or Justice of the Peace of county wherein land is situated. If out of Missouri, but in the United States, by a Notary Public, State, or Federal Court, having a seal, or Clerk of such Court, or Commissioner appointed by Governor. If without United States, by any Court having seal, of State, Kingdom, or Empire, or chief officer of any city or town having a seal, or any Minister or Consul of United States, or any Notary, having a seal. The form of acknowledgment by a natural person acting in his own right should be as follows:

"On this ——— before me personally appeared A. B., and C. D., his wife, to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed."

If the grantor is unmarried the Notary should also add "and the said ——— further declares himself to be single and unmarried."

The form of acknowledgment by a corporation is as follows:

"On this ——— before me appeared A. B., to me personally known, who being by me duly sworn did say that he is the president (or other officer of corporation) of the C. D. Co., a business corporation of the State of —— and that the seal affixed to foregoing instrument is the corporate seal of said corporation and that the said instrument was signed and sealed in behalf of said corporation by authority of its board of directors (or trustees) and said A. B. acknowledged said instrument to be the free act and deed of said corporation."

The officer taking the acknowledgment must state when his commission expires.

There may also be a proof by a subscribing witness and a deed may be admitted to record on a certificate as follows:

"I —— (name and style of officer) duly commissioned and qualified do hereby certify that on this —— day of ——, 19—, came before me at the county aforesaid, ——, who is personally known to me (or who was proven before me by the testimony on oath of —— residing at —— and —— residing at ——, two good and credible witnesses) to be the same person whose name is subscribed to the foregoing instrument of writing as a witness to the same and being by me first duly sworn, said that he was present and saw —— who is named in said deed as party thereto and whose name is thereto subscribed, execute the same and heard him acknowledge the same to be his act and deed for the purposes therein mentioned, and that thereupon he, the said —— subscribed his name to said instrument as witness thereof."

ACTIONS, WHERE BROUGHT.— Suits must be brought in the county where defendant resides or in the county in which the plaintiff resides and defendant can be found. Where there are several defendants, in any county in which one of them resides. When all of the defendants are non-residents then in any county. Attorneys in suits have a lien upon the cause of action for services rendered. Nine jurors can return a verdict in any civil proceeding.

APPEALS.— From Justices of the Peace must be perfected within 10 days from date of judgment, but non-residents of county have 20 days to appeal. Appeals from Circuit Court go either to St. Louis Court of Appeals, the Kansas City Court of Appeals, or the Supreme Court, and must be perfected in the term at which motion for new trial or rehearing is overruled.

COMMENCEMENT OF SUIT.— The debtor has 10 days to appear in Justice's Court. In the Circuit Courts, all suits founded upon bonds, bills, or notes for the direct payment of money, and on open account or account stated, where the items are set forth in or annexed to the petition and a copy of account is served on defendant; in counties having over 40,000 inhabitants are triable at return term, if summons has been served 15 days before first day of term. In counties having 40,000 or less, such other actions are triable at first term where there has been 30 days' service, otherwise at second term, but defendant must plead on 15 days' service. Defendants may appear without notice, in person or by attorney.

COMMERCIAL PAPER.— No acceptance of a bill of exchange is valid unless in writing, and if the acceptance is not written on the same paper with the draft it does not bind the acceptor, except in favor of a person who has seen such acceptance or taken the bill for value on the faith thereof.

Promissory notes payable to order or bearer, and expressed to be "for value received," are negotiable. Damages are allowed the holder of bills upon the protest thereof, as follows: (1) When same are made or drawn in this State, 4 per cent. of the amount named in the instrument; (2) when same are made or drawn out of this State and in the United States or Territories, 10 per cent.; (3) when same are made or drawn out of the United States, 20 per cent. These sums are recoverable in lieu of protest fee; and, in case of paper made and payable in Missouri, may be avoided by payment of the actual protest fees, the principal, and interest within 20 days after dishonor. A refusal to deliver a bill, tendered for acceptance, or its destruction, is, in law, acceptance thereof. All bills, drafts, or orders, drawn upon a resident of this State, and payable on its face "at sight" or "on demand," have no days of grace. Notice of dishonor must be promptly given to indorsers, otherwise they are discharged. Protest of inland bills and notes is not necessary, but is customary and advisable. Notes and bills falling due on Sunday or a public holiday are payable on the next day, unless the latter be also a Sunday or holiday, in which case they are payable on the day preceding actual maturity. The public holidays are January 1st, February 22nd, July 4th, General Election Day, Thanksgiving Day, and Christmas. Saturdays are half holidays among banks, and so far as maturity of commercial paper is concerned, in cities having over 100,000 population, unless the paper is payable at sight or on demand. Conditions embodied in a note or bill of exchange deprive it of its negotiability, as for the payment of attorney's fees in case of suit or with exchange, etc.

CONDITIONAL SALES.— All sales of personal property, upon condition that title to same shall remain in the vendor until full amount of purchase price shall be paid by the vendee, are void as to subsequent purchasers in good faith, and, as to creditor, unless such condition shall be evidenced by writing, executed, acknowledged, and recorded as provided in cases of mortgages of personal property. Vendor cannot retake property without tendering back instalments, except compensation for use, nor to exceed 25 per cent. and damage from breakage.

CONSIGNMENTS.— The failure to account for goods consigned is a misdemeanor punishable by a fine not exceeding $1,000, or by confinement in jail not longer than 1 year nor less than 60 days, or by both such fine and imprisonment; and the wrongdoer is liable to the person injured in double the value of the property converted. The pledging or hypothecation of bills of lading or ware-

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LOUISIANA PURCHASE EXPOSITION
ST. LOUIS, U.S.A. 1904

LIBERAL ARTS BUILDING
LOUISIANA PURCHASE EXPOSITION
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house receipts of goods consigned without written authority of owner or consignor, and the failure to account for and pay over the proceeds of goods so disposed, is a fraud punishable by fine or imprisonment. Written authority may include a draft drawn on goods, and the commission merchant may pledge to cover charges expended. The statute of limitations will run from the time of discovery of the misappropriation, or from demand made.

CORPORATIONS.— For manufacturing and business purposes are created under general laws. They are required to make a statement of their assets and liabilities when they apply for an increase or a diminution of their capital stock, and are also required to make a report annually to the Secretary of State. At least three of the directors must be residents of Missouri. If trustees or directors of manufacturing or business corporations shall pay any dividend when the corporation is insolvent, or any dividend, the payment of which would render the corporation insolvent, or which would diminish the amount of the capital stock, they shall be jointly and severally liable for all the debts of the corporation then existing, and for all that shall be thereafter contracted while they continue in office; provided, that if the director shall object and file his certificate of objections with the Clerk of the corporation, and with the Circuit Clerk of the county, he shall be exempt from the said liability. Officers making or assenting to a loan to a stockholder shall be jointly and severally liable to the corporation or to a receiver thereof for the amount of such loan or interest. Stockholders are personally liable only for amount unpaid on their stock; creditors may proceed by motion or execution against a stockholder upon *nulla bona* return of execution against corporation, and in such cases priority of service gives priority of right to the creditor; corporations may assign, under general assignment, the right to call and collect unpaid subscriptions, which, when collected, are for benefit of all creditors. When the corporation dissolves, leaving one or more debts unpaid, suits may be brought against the stockholders directly and the creditor suing may thus obtain priority. Receivers of business corporations are not ordinarily appointed on the dissolution of a corporation, as the directors and trustees are directed to collect and distribute the assets *pro rata* among the creditors of the corporation, the directors and trustees being jointly and severally liable for the proper distribution of assets in their hands. The Circuit Court may suspend and remove directors, compel them to account for abuses of trust, and may restrain waste and alienation of property, and, to accomplish this end, may appoint receivers. In manufacturing and business corporations, the legislature seems to intend that the directors and trustees shall manage and control the affairs, even after the corporation is insolvent, and that a receiver shall be appointed only when there is no prospect of securing from the stockholders honest and competent directors or trustees. A receiver so appointed would distribute the assets *pro rata* among the creditors. Suits against corporations may be brought in the county where such corporations have or usually keep an office for the transaction of business, or in the county where the cause of action accrued. Debts due employes for services rendered within three months prior to demand, not exceeding one hundred dollars, are preferred claims out of assets.

Corporations organized under the laws of other States and desirous of doing business in Missouri are required to file their articles of incorporation with the Secretary of State and pay the State a fee before being authorized to do business in Missouri. This fee is in proportion to the amount of capital employed in Missouri, and is to be paid but once during the existence of the corporation. A license to do business must also be obtained from the Secretary of State.

Foreign Corporations cannot hold real estate longer than 6 years except for the purpose of carrying on their legitimate business. Aliens and corporations not created under the laws of the United States, or of some of the States and Territories of the United States, cannot hold or own lands unless acquired by inheritance or in collection of debts. A failure to comply with laws prevents maintaining suits or defenses in State Courts. An office for transaction of business must be kept so that service of process can be made. This act does not prevent sales by drummers of corporations strictly non-resident, or filling mail orders.

DESCENTS AND DISTRIBUTIONS.— Property descends: (1) To children or their descendants in equal parts; (2) if no children or their descendants, then to father, mother, brothers, and sisters or their descendants, in equal parts; (3) if no heirs of first or second class, then to husband or wife; if no husband or wife, then to grandfather, grandmother, uncles, and aunts, and their descendants, in equal parts; (4) if no heirs of previous classes, then to great-grandfathers, great-grandmothers and their descendants, in equal parts, and so on; (5) a collateral inheritance tax of 5 per cent. is imposed on all property going to others than father, mother, husband, wife, or direct lineal descendants, except property conveyed for religious, charitable, or educational purposes.

ESTATES OF DECEASED PERSONS.— Claims must be exhibited within 2 years, but it is not necessary that they be presented to the Court for allowance within that time. Executor or administrator must make annual settlements until estate is finally settled. No limitation is fixed for a final settlement of decedent's estate. Claims should be promptly exhibited, as those presented the first year have priority over those presented during the second year. But the Probate Court will not allow any claim against an estate unless the claimant first make oath in open Court or file an affidavit with such claim, which affidavit may be in the following form:

"A. B., the above-named claimant, being duly sworn on his oath says that, to the best of his knowledge and belief, he has given credit to the estate of C. D., deceased, for all payments and offsets to which it is entitled, and that the balance claimed is justly due."

Such affidavit or oath may be made by the agent of the claimant, when such agent has had the management and transaction of the business out of which the demand originated, or when he has had the means of knowing personally the facts required to be sworn to, and his affidavit must contain a statement of such facts. In addition to the affidavit (which cannot be used as evidence in proving up a claim), claims against estates must be proved by same testimony required in other Courts — by depositions or oral testimony.

INTEREST.— The legal rate of interest is 6 per cent. Parties may agree in writing upon any rate not exceeding 8 per cent. Open accounts do not draw interest without proof of an express promise to pay interest. Accounts that are due draw interest from the date on which demand of payment is made. Usurious interest paid may be applied in payment of the principal debt, and proof of the exaction of usurious rates of interest shall invalidate and render illegal any lien, mortgage, or pledge of personal property, made to secure such indebtedness.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Process must be served 15 days before first day of Circuit Court, and if no defense is made, judgment can be obtained at first term. Judgment of a Justice Court is not a lien upon real estate until transcript is filed in Circuit Court. Judgments are a lien on real estate, in every county in which transcript is filed, for 3 years; lien may be revived at any time within 10 years. Executions can issue at any time within 10 years from the time judgment is rendered; are returnable to the next term of Court after they are issued. Execution from Circuit Court not a lien upon personal property until levied. Execution from Justice Court a lien upon personal property as soon as placed in hands of Constable; but not upon property exempt, or which shall be sold or pledged to an innocent purchaser before the levy of the writ. There is no stay of execution. Real estate taken under execution is sold without appraisement to the highest bidder.

JURISDICTION OF COURTS.— In cities or counties having over 50,000 inhabitants a Justice of the Peace has jurisdiction, when

sum demanded exclusive of interest and costs does not exceed $300, and in cases of replevin, $350, in those having less than that number of inhabitants the Justice's jurisdiction is limited to $250, exclusive of interest and costs; but there is no limitation as to the amount upon any Justice's jurisdiction over a cause of action against any railroad in this State for killing or injuring domestic animals. In cities having over 300,000 inhabitants, the Justices of the Peace have jurisdiction in civil actions, exclusive of equitable actions, in the sum of $500. Circuit Court has unlimited general jurisdiction exceeding $50. In some counties there are Local Courts, called Common Pleas, of concurrent jurisdiction with the Circuit Courts over certain districts.

LICENSES.— Commercial Travelers are not required to take out a license, but peddlers making deliveries must take out license.

LIMITATION OF ACTIONS.— Actions on an account must be brought within 5 years; on promissory notes and sealed instruments, within 10 years; on judgments, within 10 years. A promise in writing is necessary to revive a debt barred by statute, but payment of any principal or interest will interrupt the statute. Causes of action fully barred by the statute of the State where they originated are barred by Missouri statutes.

RECLAIMING PERSONAL PROPERTY.— If property is obtained by false statements, under circumstances showing that vendee bought the property not intending to pay for it, it can be taken back by seller when purchaser holds it, and sales fraudulently contracted are void, but not against innocent purchasers from fraudulent vendee.

SECURITY FOR COSTS.— Non-residents must either give resident security or make a deposit, or their suit will be dismissed. Ordinary deposit required in Circuit Court, $25; before Justices of the Peace, $10.

VENDOR'S LIEN.— A vendor has no lien, but he may sue and obtain a special execution on personal property sold by him, for the purchase price thereof, as long as it remains in the possession of the vendee, or a purchase with notice. This, however, refers to such property as might be claimed as exempt, and not to general merchandise sold to a partnership or corporation, or to an individual in amounts in excess of what might be claimed as exempt.

MONTANA.

ACKNOWLEDGMENTS, DEEDS, ETC.— Every conveyance in writing of, or affecting real estate, and all other instruments necessary to be recorded, must be acknowledged. Within this State acknowledgments may be made before a Judge or Clerk of a Court having a seal, a Notary Public, Justice of the Peace, or County Clerk. Without this State and within the United States, they may be made before a Judge or Clerk of any Court of Record of the United States, or of any State or Territory having a seal, or by a Notary Public or Justice of the Peace (if before a Justice of the Peace, his official character shall be certified to under the seal of the Court, tribunal, or officer having cognizance of the official character of such Justice) or a Commissioner appointed by the Governor of this State for that purpose. Without the jurisdiction of the United States, acknowledgments may be taken before a Notary Public, or United States Consul, vice-Consul, or Consular Agent of the United States, resident in the country where the proof of acknowledgment is made, a Minister, Commissioner or *Charge d'Affaires* of the United States, resident or accredited in said country, a Judge of a Court of Record, Commissioners appointed by the Governor of this State, in said country, by any deputy of the above officers authorized by law. The acknowledgment of a married woman is the same in form as that of other persons.

ACTIONS.— There is but one form of civil action in this State, which is the same at law and in equity. Actions in District Courts are begun by the filing of the complaint with the Clerk; and in Justices' Courts by filing a copy of the note, bill, account, or other instrument on which the action is brought. Actions must be prosecuted in the name of the real party in interest, with some specified exceptions; and in case the subject of the action is real property, in the county where it is situated; and in other cases, generally, in the county in which the defendants or any of them may reside at the commencement of the action, or where the plaintiff resides, and the defendants or any of them may be found, subject to the power of the Court to change the place of trial for good cause shown. Any person having an interest in the controversy with either party, or against both, may intervene by complaint stating grounds for intervention, and filed by leave of the Court, and served upon the parties to the action who have not appeared, and upon the attorneys of the parties who have appeared, who may answer or demur thereto as in the case of an original complaint.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— The defendant may be arrested in the following cases: In an action for the recovery of money or damages, on a cause of action arising upon contract, express or implied, when the defendant is about to depart from the State, with intent to defraud his creditors; or when the action is for wilful injury to person, character, or property, knowing the property to belong to another; in an action for a fine or penalty, or for money or property embezzled or fraudulently misapplied or converted to his own use by a public officer, or an officer of a corporation, or an attorney, factor, broker, agent, or clerk in the course of his employment as such, or by any other person in a fiduciary capacity; or for misconduct or neglect in office, or in a professional employment; or for a wilful violation of duty; in an action to recover possession of personal property unjustly obtained, when the property, or any part thereof, has been concealed, removed, or disposed of, so that it cannot be found, or taken by the Sheriff; when the defendant has been guilty of fraud in contracting the debt, incurring the obligation for which the action is brought, or in concealing or disposing of the property, or for the taking, detention, or conversion for which the action is brought; when the defendant has removed or disposed of his property, or is about to do so, with intent to defraud his creditors. The facts entitling a party to the order of arrest must be shown by affidavit. A bond in the sum of $500 for costs and damages by reason of the arrest must be given.

ASSIGNMENT LAWS.— 1. Does there exist in this State a separate distinct assignment, insolvency, or bankrupt law?— A. Yes.

2. Does the law in this State permit the debtor to make a preferential assignment?— A. Yes.

3. Can a judgment by default or confession be given in favor of relatives or friends, thus defeating the efforts of general or outside creditors?— A. Yes; if it is not fraudulent.

4. Can conveyance or transfer of property be made immediately anterior to assignment and still be held valid?— A. Yes; if not fraudulent.

5. Can a debtor in this State obtain a discharge from his obligations without the unanimous consent of creditors, and under what circumstances?— A. A debt is not discharged if not paid unless a release is given.

6. Does the acceptance of a dividend from an estate under assignment in this State discharge the debtor?— A. Only to the extent of payment of the debt.

7. What is the position of creditors who do not come into an assignment, should one be made?— A. They lose their dividends, but have the right to enforce their entire claims against property acquired by the debtor after the assignment, or they may attack the assignment.

ASSIGNMENT AND INSOLVENT LAWS.— An insolvent debtor may execute in writing an assignment for the benefit of creditors. The wages of the employees, earned within 60 days, and not exceeding $200 to each person, are preferred claims. All preferences must be absolute. Joint creditors are paid out of joint property, individual creditors out of separate property. An assignment is void against a creditor not assenting thereto if it gives a con-

ditional preference, if it tends to coerce a creditor to release or compromise his demand, if it provides for false or fraudulent claims or for more than is due on a claim, if it reserves any interest in assigned property to the assignor before the payment of his debts, if it gives the assignee power to delay the conversion of the property to the uses of the trust, if it exempts the assignee from liability for misconduct. The assignment must be accompanied by the affidavit of the assignor and assignee that the same is made in good faith, without any design to hinder, delay, or defraud creditors, and the assent of the assignee must accompany the assignment. One partner has no power to make an assignment. The assignor must, within 20 days, file an inventory giving the names of all the creditors, their place of residence, amount due and owing each, nature of claim, consideration therefor, mortgages, judgments, etc., and what property exempt and what not exempt. Assignments must be recorded within 20 days after date of the assignment. The assignee must give bond, and may be removed upon application of one or more creditors showing incompetency. The assignee must account within 6 mouths.

ATTACHMENTS.—The plaintiff at the time of issuing the summons, or at any time afterwards, may have the property of the defendant attached which is not exempt from execution. Before the writ can issue, the plaintiff, his agent or attorney, shall file with the Clerk of the Court, or Justice of the Peace, an affidavit showing that the defendant is indebted to the plaintiff upon a contract, express or implied, for the payment of money which is not secured by a mortgage, lien, or pledge upon real or personal property, or if so secured, that the security has become insufficient by the act of the defendant, or by any means has become nugatory, and that the attachment is not sought, and the action is not prosecuted to hinder, delay, or defraud any creditor of the defendant. Before the attachment can issue, the plaintiff must give an undertaking for costs and damages by reason of the attachment, said undertaking to be double the amount sued for, if $1,000 or under; if over $1,000, then the undertaking shall be in the amount of the claim but in no case shall an undertaking exceeding in amount $10,000 be required. Debts due the defendant and his property in the hands of third persons may be garnished under the writ of attachment.

BILLS OF EXCHANGE AND NOTES.—There are 6 classes of negotiable instruments; viz., bills of exchange, promissory notes, bank notes, checks, bonds, and certificates of deposit. Any date may be inserted by the maker of a negotiable instrument, whether past, present, or future. A non-negotiable instrument may contain a pledge of collateral security with authority to dispose thereof. The signature of every drawer, acceptor, and indorser of a negotiable instrument is presumed to have been made for a valuable consideration. It is not necessary to make demand on the principal debtor to charge him unless the instrument is payable at a specified place, and if so the instrument must be presented by the holder thereof to the principal debtor at such place. The apparent maturity of a demand or sight bill of exchange is one year from its date, if it bear interest; if it does not bear interest, 10 days from its date in addition to the time of transmission. The apparent maturity of a demand or sight note is 1 year, if it bear interest, and 6 months if it does not bear interest. If a sight or demand bill of exchange without interest is not presented for payment within 10 days the drawer and indorsers are exonerated unless such presentment is excused. If a sight or demand note without interest is not duly presented for payment within 6 months after its date, the indorsers thereon are exonerated unless such presentation is excused. Days of grace are not allowed. Acceptance must be in writing by the drawee, or by an acceptor for honor and may be made by the acceptor writing his name across the face of the bill with or without other words. The drawee may postpone his acceptance or refusal until the next day after presentment.

CLAIMS AGAINST ESTATES OF DECEASED PERSONS.—The debts of the estate must be paid in the following order: (1) Funeral expenses; (2) expenses of last sickness; (3) debts having preference by the laws of the United States or of this State; (4) judgments rendered against the decedent in his lifetime, and mortgages in the order of their date; (5) all other demands against the estate. Claims presented to the executor or administrator must be itemized, or contain a copy of the instrument if the claim be upon a written instrument, and must be properly verified by the claimant or some one in his behalf. Every executor or administrator must, immediately upon his appointment as such, advertise for claims against the estate. The notice must be published in a newspaper within the county, once a week for 4 successive weeks. When the estate exceeds in value the sum of $10,000, the time expressed in the notice for presentation of claims must be 10 months, and 4 months when the value is less. If a claim on contract is not presented within the time limited in the notice, it is barred forever, except that the claimant may prove by affidavit to the satisfaction of the executor or administrator and the Judge that by reason of absence from the State he had no notice, and his claim may be presented at any time before a decree of distribution is entered. When a claim is rejected, suit must be brought within 3 months after its rejection, if it be then due, or within 2 months after it becomes due, otherwise it is forever barred.

CONDITIONAL SALE AGREEMENTS.—Contracts for the sale of personal property, payment therefor to be made in stipulated instalments, or conditioned that the purchaser may have possession of the property, the title thereto, however, remaining in the seller until the purchase price is fully paid, and conditioned further that in the event of the failure of the purchaser to pay as agreed, the seller may terminate the contract and take possession of the property constitute conditional sales, and are valid if filed with the County Clerk and Recorder of the county where the property is situate, otherwise void. The particular terms of the contract are, of course, for the agreement of the parties.

CONSIGNMENTS.—The conversion of the consigned goods by the consignee to his own use is a criminal act of the same grade as embezzlement.

CORPORATIONS.—The Constitution prohibits the legislature from granting private charters or special privileges, but it is allowed to pass general incorporation laws for organization of corporations for industrial and other purposes. Three or more persons can incorporate a company by making, signing, and acknowledging a certificate giving the name of the company, its object, capital stock, number of shares and par value thereof, amount actually subscribed and by whom, term of existence, not exceeding 20 years, the locality where the business is to be transacted, and the names and residence of the trustees for the first 3 months, which shall not be less than 3, nor more than 13, and if the stock is assessable it must be so stated. The certificate must be filed and recorded with the Clerk of the county where the business is to be done, and a certified copy thereof with the Secretary of State, who issues his certificate thereof, and thereupon the persons signing the articles become a body politic and corporate. The stock need not be subscribed, but may all be issued in payment of the property if the value of such property is reasonably worth that of the par value of the stock. Directors, who must be stockholders, are elected annually. Such election must be held on the first Tuesday in June unless the by-laws provide a different time for holding the election. Stockholders are liable to creditors for the amount of their unpaid stock. Directors are guilty of a misdemeanor, and are jointly and severally liable in a civil action for dividing or withdrawing any part of the capital stock, or for creating debts beyond the subscribed capital stock, or for declaring a dividend except from surplus profits. No loan of money shall be made to any stockholder, and, if made, the officers assenting thereto are jointly and severally liable to the extent of the loan and interest for all the debts contracted by the company before the payment of the sum loaned. Directors of corporations, whose capital stock is assessable, may levy an assessment for the purpose of paying expenses, or conducting the

business, or paying debts. No one assessment must exceed 5 per cent. of the capital stock. Corporations whose stock is non-assessable may make such stock assessable by the consent in writing of three-fourths of the stockholders. The name of any corporation may be changed by a vote of a majority of the stockholders at any regular or special meeting. Persons owning 5 per cent. of the capital stock of any corporation, upon written request upon the treasurer, are eutitled to a detailed statement of the corporation's affairs. Corporations in existence prior to the adoption of the codes (July 1, 1895), are governed by the provisions of the law in force at the time of incorporating, unless such corporation elects to continue its existence under the provisions of the codes, which may be done by a vote of the stockholders representing a majority of the stock. Corporations are required annually, within 20 days after the first day of September, to publish, in some newspaper printed nearest the place where the business of the company is carried on, a report duly authenticated and verified stating the amount of the capital stock, the proportion paid in, and the amount of the existing debts of the company, and file the same in the office of the Clerk of the county where the business of the company is carried on; and if they fail so to do all the directors or trustees of the company shall be jointly and severally liable for all the debts of the company then existing, and for all that may be contracted before such report shall be made. No corporation formed since the adoption of the codes shall purchase, locate, or hold property in any county in the State, unless within 60 days after such purchase or location a copy of the articles of incorporation, certified by the Secretary of State, shall be filed in the county where the property is situated. Corporations may increase or diminish their capital stock; but before diminishing the same, if the amount of their debts and liabilities exceed the amount to which it is proposed to reduce the capital stock, such debts and liabilities must be reduced so as not to exceed the capital stock. At such meeting not less than two-thirds of the stock must be represented. The directors cannot sell, mortgage, or incumber mining property without first calling a meeting of the stockholders and submitting the proposition to them. Not less than three-fourths of the stock must be represented at the meeting, and not less than two-thirds of the entire stock issued must be voted in favor of the proposition to authorize the directors in selling, mortgaging, or incumbering the property. All mortgages made by corporations must be acknowledged and verified as is required by the law for chattel mortgages. All corporations organized outside the limits of this State are deemed to be foreign corporations, and before they are permitted to conduct any business in the State they are required to file with the Secretary of State, and with the County Clerk of [the county where they desire to do business, an authenticated copy of their charter or certificate of incorporation, and a statement, verified by the oath of the president and secretary and attested by a majority of the board of directors, showing, first, the name of the corporation, the location of its principal office or place of business without the State, and, if it is to have a place of business within the State, the location thereof; second, the amount of its capital stock; third, the amount of its capital stock actually paid in money; fourth, the amount of its capital stock paid in any other way, and in what; fifth, the assets of the incorporation, and of what they consist, with the cash value thereof; sixth, the liabilities, and, if any of its indebtedness is secured, how secured, and upon what property. There shall also be filed at the same time and in the same offices a certificate, under the seal of the corporation and the signature of its acting head and secretary, that the corporation has consented to be sued in the Courts of the State, and has designated some person, a citizen of the State, giving his residence, as an agent upon whom process may be served. This agent must file a written consent to act in such capacity. Foreign corporations are also required to file in the office of the secretary, and in the office of the County Recorder of the county wherein they are doing business, semi-annually, within 20 days after the first days of January and July, a report, which shall be in the same form and contain the same information as the original statement.

EXEMPTIONS.—All clothing of the debtor and family, and chairs, tables, desks, and books, to the value of $200; also all necessary household, table, and kitchen furniture, and provision and fuel actually provided for individual or family use, sufficient for 3 months; also one horse, 2 cows and their calves, 4 swine, and 50 domestic fowls. In addition to the above there is exempt to the farmer his farming utensils, not exceeding $600 in value, 2 oxen, or 2 horses or mules, and their harness, one cart or wagon, and food for such stock for 3 months; $200 worth of seed, grain, or vegetables actually provided for the purpose of sowing or planting. The proper tools, books, or instruments of any mechanic, physician, lawyer, dentist, or clergyman. To a miner, his dwelling and all his tools and machinery necessary for carrying on his avocation, not to exceed in value $1,000, and 1 horse, mule, or 2 oxen, vehicle and harness, by which the debtor habitually earns his living. One horse, with vehicle or harness, of physician or clergyman, used in making his professional visits, with food for such stock for 3 months. All arms, uniforms, etc., required by law to be kept by any person. All property generally held by the county or town for the benefit of the county or the public, except as against a vendor's lien or a mortgage. The wages of a debtor earned at any time within 30 days next preceding the levy, provided they are necessary for the use of his family residing in the State, supported wholly or in part by his labor. None but *bona fide* residents can claim the benefits of this law. A homestead not to exceed in value $2,500; if agricultural land, it is not to exceed 160 acres of land; if within the limits of a town plat, city, or village, not to exceed one-fourth of an acre. The debtor has his option of the two and may select either, with all improvements thereon, which are included in the valuation. Such exemptions do not affect the lien of any mechanic or laborer, or extend to any mortgage lawfully obtained. The exemptions above specified apply only to married men or the head of a family, and none of the personal property is exempt from attachment or execution for the wages of any clerk, mechanic, laborer, or servant. In order to secure the homestead the claimant must execute and record in the County Clerk's office a declaration of homestead. Failure to do this renders his property subject to execution.

INTEREST.—Parties may stipulate for any rate of interest. When no contract is made as to interest, the legal rate, 8 per cent. per annum, governs after debt is due. There is no usury law.

JUDGMENTS.—Judgment may be entered upon the failure of the defendant to interpose a defense within 20 days after service of summons. Where the default of the defendant has been entered no proof is necessary in actions arising upon contract for the recovery of money or damages only, but in taking judgment upon a note, bond, or bill of exchange, such instrument is introduced in evidence. In actions asking for equitable relief proof is required of the allegations in the complaint. From the time the judgment is docketed in the District Court it becomes a lien upon all the real property of the judgment debtor not exempt from execution, in the county, owned by him at the time, or which he may afterwards acquire, until the lien ceases. A certified transcript of the docket filed with the District Court Clerk of another county gives a similar lien from the date of such filing until its expiration. The lien expires in 6 years from the docketing of the judgment. Judgments may be entered in any Court by the Clerk, on default, when no answer is filed as soon as time for service has expired, when action is on contract for the recovery of money or damages only. Execution may issue as soon as judgment is entered and docketed. Judgments may be appealed from at any time within a year.

JURISDICTION OF COURTS.—Unlimited in District Courts, and $300 in Justices' Courts. If an action for less than $50 is begun in the District Court, the plaintiff cannot recover costs.

LIMITATIONS.—An action upon a judgment or decree of any Court of Record of the United States, or of any State or Territory within the United States, shall be commenced within 10 years. An action upon any contract, obligation, or liability, founded upon any instrument in writing, shall be commenced within 8 years. An ac-

tion upon a contract, account, or promise, not founded upon a written instrument signed by the party chargeable therewith, shall be commenced within 5 years from the time the cause of action accrued. If the action be upon an open and running account, the computation of time shall be from the date of the last item thereof. An action upon a liability created by statute, other than a penalty or forfeiture; an action for the taking, detaining, or injuring any goods or chattels, including actions for the specific recovery of personal property; an action for relief upon the ground of fraud or mistake (the cause of action in such case not to be deemed to have accrued until the discovery by the aggrieved party of the facts constituting fraud or mistake) shall be commenced within 5 years. Actions for the possession of real property must be commenced within 10 years. An action to establish a will within 5 years, also an action upon a judgment of a Court not of record. An action for libel, slander, assault, battery, false imprisonment, or seduction within 2 years. The statute does not run during absence of the party against whom the claim is brought from the State. Part payment of principal or interest, or a written acknowledgment of, and promise to pay the debt, revives it.

MORTGAGES.—On real estate must be executed and recorded like deeds. The mortgagor has 1 year in which to redeem after sale. Satisfaction may be made by entry in margin of record or by separate instrument duly executed. Failure to enter satisfaction for 1 week after request subjects the delinquent to a forfeiture of $100 to mortgagor besides other damages.

PARTNERSHIP.—Partners doing business in this State under a fictitious name, or a designation not showing the names of the persons constituting the firm, must execute a certificate signed by all the members of the partnership, giving their names and residences, which certificate must be duly acknowledged and recorded in the office of the County Clerk and published in a newspaper once a week for 4 weeks. If a firm fails to comply with this law, neither it, nor its assignee, shall maintain any action upon or on account of any contracts made or transactions had in its partnership name.

PROOF OF CLAIMS.—All that is necessary is to send the original instrument, in case the demand is in writing, to the attorney; if an open or stated account, an itemized statement of the whole transaction. In all cases give name of firm, and full name of each member of firm. If claimant is a corporation, give style of corporation and the source of its existence, and, if possible, in case suit is desired, refer the attorney to two responsible parties within the State who will become security on attachment bonds. Non-resident plaintiffs may be required to furnish security for costs.

PROTEST.—Notice of the dishonor of a foreign bill of exchange can be given only by a notice of protest. Protest must be made by a Notary Public, if with reasonable diligence one can be obtained, and if not, by any reputable person in the presence of two witnesses. Protest is made by giving a written notice setting forth a copy of the original bill of exchange, stating presentment and manner in which made, the refusal or inability of the drawee to pay and the reason assigned, and protesting against all the parties to be charged; such notice must be deposited in the nearest post-office directed to each of the parties to be charged, and the postage must be prepaid thereon. Protest must be made in the city where the bill is presented for acceptance or payment. Damages are allowed to holders for value upon protest.

SERVICE.—If defendant is a non-resident, has departed from the State, evades service, or cannot be found after due diligence, service is made by publication in some newspaper published in the county where action is commenced at least 4 successive weeks, and mailing copy of summons and complaint to the defendant, if his residence is known. The defendant is required to appear within 20 days after service of summons upon him.

STAY OF EXECUTION.—There is no statutory enactment on the subject; but the Courts, upon proper showing, will grant a stay of execution for reasonable time. When an appeal is perfected, and a proper bond given, the execution is stayed pending the appeal.

WAGES OF WAGE-EARNERS.—In all assignments of property made by any person, company, or corporation in trust on account of inability of assignor to pay debts, or in proceedings in insolvency, the wages of the miners, mechanics, salesmen, servants, clerks, or laborers employed by such assignor for services rendered within 60 days immediately previous to such assignment, not to exceed $200 for each person, are preferred claims and must be paid by the trustee or assignee before any other creditor or creditors of such assignor. In case of death of any employer, the wages of employees rank in priority next after the funeral expenses, expense of the last sickness, the charges and expenses upon the administration of the estate, and the allowance to the widow and infant children, and must be paid before other claims against the estate of the deceased person. In case of executions, attachments, and writs of a similar nature, issued against any employer, except for claims for labor done, the wages of employees are preferred debts as above stated. A sworn notice of claim is served upon each party, plaintiff, and defendant in the suit and upon the officer executing the writ. Either debtor or creditor may dispute such claim. Nothing in this act is construed so as to affect any lien, encumbrance, or mortgage held by any creditor of such employer prior to said 60 days.

NEBRASKA.

ACKNOWLEDGMENTS OR PROOFS.—May be taken in this State before Judges, Clerks of the Court, Justices of the Peace, Registers of Deeds, and Notary Publics. Acknowledgments or proofs taken in any other State must be taken in conformity to the laws of such State or in accordance with the laws of this State, and be made before an officer authorized by the law of such State or by a Commissioner of Deeds appointed by the Governor of this State for that purpose. All acknowledgments or proofs taken by an officer in any other State having no seal of office must be accompanied by a certificate of the Clerk of a Court of Record under official seal that the officer taking the same was duly authorized at the date thereof, that the signature is genuine and the acknowledgment is in conformity to law. There shall be affixed to the certificate of acknowledgment made by a Commissioner as aforesaid an official certificate of the Secretary of State of Nebraska, stating that the Commissioner was at the time authorized to take the same and that the Secretary is acquainted with his handwriting and has compared it and his seal and that he believes the signature and seal of the Commissioner to be genuine. No separate examination is required in taking the wife's acknowledgment.

ACTIONS.—Distinctions between actions at law and suits in equity are abolished by statute, but observed by the Court in manner of trials. There is but one form of action called a civil action, which must be prosecuted in the name of the real party in interest, except executors, administrators, guardians, trustees of an express trust, a person with whom, or in whose name a contract is made for the benefit of another, or a person expressly authorized by statute may bring an action without joining with him the persons for whose benefit it is prosecuted. Officers may sue in such names as are authorized by law, and official bonds may be sued in the same way. Actions must be brought in the county where the defendants, or one of them, reside, or where they may be summoned, except actions for the recovery of real property, for the partition of real estate, for sale of real property under a mortgage lien, or other incumbrance, must be brought in the county where the same is situated. For the recovery of fines, forfeitures, or penalties imposed by statute, and actions against public officers and actions on official bonds must be commenced in the county where the cause or some part thereof arose. Actions are commenced by filing in the office of the Clerk of the Court a petition and causing summons to be issued thereon. When an action is rightly commenced, summons may issue to any other county in the State; summons re-

turnable on the second Monday after its date, but if directed to another county, on the third Monday after its date.

AFFIDAVITS.— An affidavit may be used to verify a pleading, to prove the service of a summons, notice, or other process in an action, to obtain a provisional remedy, an examination of a witness, a stay of proceedings, or to support a motion, and in other cases permitted by law. An affidavit may be made, in and out of this State, before any person authorized to take depositions, and must be authenticated in the same way, except affidavits verifying pleadings, which must be signed by the affiant, and officer taking same shall certify that it was sworn to or affirmed before him, and signed in his presence. An attorney who is a Notary Public may swear a client to any pleading or other paper or affidavit in any proceeding of the Courts of this State.

ALIENS.— "No distinction shall ever be made by law between resident aliens and citizens in reference to the possession, enjoyment, or descent of property." No non-resident aliens, nor corporations not incorporated under the laws of Nebraska, can acquire title to or hold lands or real estate in this State except: — *First*, widows or heirs of aliens who have heretofore legally acquired lands in this State may hold such lands for a period of 10 years, at the end of which time, unless the lands be in the meantime sold or the alien heir becomes a resident, such lands may, by proceedings in the District Court, be forfeited to the State, and the heirs of persons who would have been entitled to such lands shall be paid the full value thereof, to be ascertained by appraisement. *Second*, an alien owning land at the time this act takes effect may dispose of the same during his lifetime and take security for the purchase money, with the same right as a citizen of the United States. *Third*, said aliens and corporations may hold and take liens upon real estate, and may hold and take title to real estate subject to such liens. They may enforce liens and judgments, and purchase at any sale made for the purpose of enforcing collections of such debt or judgment. Lands so acquired shall be sold within 10 years or revert to the State, compensation being made as in case of aliens. *Fourth*, this act does not apply to real estate necessary for construction and operation of railroads. *Fifth*, nor to such real estate as shall be necessary for erecting and maintaining manufactories. *Sixth*, nor to real estate within cities and towns. Aliens who shall have declared their intention to become citizens, conforming to the laws of the United States on the subject of naturalization, 30 days prior to an election, are electors subject to the same conditions as citizens.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— All bonds, promissory notes, bills of exchange, foreign and inland, for sum certain, made payable to any person or order, or to any person or assigns, shall be negotiable by indorsement thereon; and all such papers to bearer shall be transferable by delivery without indorsement. All paper made negotiable as aforesaid except bank checks and instruments made payable on demand shall be entitled to 3 days' grace, and demand on third day of grace or of acceptance, if the instrument is a sight draft, and notice of non-payment or non-acceptance thereof to the indorser, within a reasonable time, shall be adjudged due diligence to hold the indorser unless the indorsement shall express in writing other conditions. January 1st, February 22d, April 22d (known as Arbor Day), May 30th, July 4th, December 25th, first Monday in September (known as Labor Day), and any day of fast or thanksgiving appointed by the Governor or President of the United States are legal holidays for commercial purposes; and if any such day comes on Sunday, then the Monday following shall be deemed a public holiday, and treated as Sunday. Whenever the date of maturity or last day of grace shall fall on Sunday or a legal holiday, demand, protest, and notice may be made on the following business day. No particular form recommended.

CONDITIONAL SALES.— There is no statute having for its distinct subject conditional sales, but there is a section of the statute of frauds as follows:

"That no sale, contract, or lease, wherein the transfer of title or ownership of personal property is made to depend upon any condition, shall be valid against any purchaser or judgment creditor or vendee or lessee in actual possession, obtained in pursuance of such sale, contract, or lease without notice, unless the same be in writing, signed by the vendee or lessee, and a copy thereof filed in the office of the Clerk of the county within which such vendee or lessee resides; said copy shall have attached thereto an affidavit of such vendor or lessor, or his agent or attorney, which shall set forth the names of the vendor and vendee or lessor and lessee, or description of the property transferred, and the full and true interest of the vendor or lessor therein. All such sales and transfers shall cease to be valid against purchasers in good faith, or judgment or attaching creditors without notice, at the expiration of 5 years, unless such vendor or lessor shall, within 30 days prior to the expiration of the 5 years from the date of such sale or transfer, file a copy thereof, verified as aforesaid, in the office of said Clerk, and the said vendor or lessor may preserve the validity of his said sale or transfer of persoual property by an annual refiling in the manner aforesaid of said copy."

In McCormick vs. Stevenson, 13 Neb., 70, it was held:

"A contract, that the title to personal property shall not pass to the vendee until the purchase money is paid, is valid between the parties, even though the contract, or a copy thereof, is not filed in the Clerk's office, and a party purchasing with notice that the debtor is not the owner of the property is not protected."

CORPORATIONS.— The legislature shall pass no special act conferring corporate powers. Corporations may be formed under general law. There are general statutes for that purpose. Corporations shall give notice by publication annually of the amount of their existing debts; and if any corporation shall fail to do so, after the assets of the corporation are first exhausted, all the stockholders of the corporation shall be jointly and severally liable for all the debts of the corporation contracted during the time the officers are in default in giving such notice, to the extent of unpaid subscription to stock, and, in addition, to the amount of stock owned by each. Stockholders in railroad companies are individually liable to creditors for amount unpaid on stock. Corporations shall not become indebted to exceed two-thirds of their capital stock. This limitation does not apply to debts for risks of insurance companies, deposits in banks, and the notes, bonds, or debentures of any loan or trust company secured by mortgage on real estate of twice the par value thereof; nor to any loan and trust company's guaranty upon the transfer of such notes, etc. Actions do not abate on account of dissolution of corporation. Any corporation organized under the laws of any other State or Territory which has filed or may hereafter file with the Secretary of this State a true copy of its charter or articles of association shall, on filing with the Secretary of State a certified copy of a resolution adopted by its board of directors accepting the provisions of this act, be and become a body corporate of this State. The property of all foreign corporations doing business in the State, who do not become corporations of this State as above provided, is subject to attachment without bond being given and without any other ground for attachment existing.

COSTS.— Non-resident plaintiffs, if defendant file a motion for that purpose, are compelled to furnish a bond for costs.

COURTS.— Courts have general, original, and appellate jurisdiction. County Courts have original jurisdiction in all Probate and general assignments, and have jurisdiction in civil actions to the extent of $1,000; also concurrent jurisdiction with the Justice of the Peace. Justice of the Peace in actions on notes, bills, accounts, written promises, and other civil actions to the extent of $200. Actions brought in the District Court on matters within the jurisdiction of the Justice of the Peace, the plaintiff cannot recover his costs. Appeals lie from the Justice and County Courts to the District Court. The Supreme Court of State has final jurisdiction in all cases brought on appeal or error from District Court. In the District Court the summons is made returnable on the second Monday after its date, but if directed to another county on the third Mon-

day. In the County Court summons is made returnable on the first Monday of the month following the date of issuance, provided 10 days intervene between the day of service and the first Monday; if not it is made returnable on the first Monday of the succeeding month. Justice Court summons is made returnable not less than 3 nor more than 12 days from date.

DEEDS.— All deeds affecting the title to real property, excepting leases for one year or less, must be signed by the grantor, attested by one or more competent witnesses, acknowledged or proved, and duly recorded in the county where the lands lie. Private seals are abolished.

DESCENT.— The act of March 29, 1889, made a radical change in the laws of descent. For the past 4 years the act was open to different interpretations. It provided practically that a husband and wife was the heir of the other and inherited similar to a child, and attempted to abolish dower and courtesy. The Supreme Court recently, on June 29, 1893, in the case of Trumbul vs. Trumbul, held the act to be unconstitutional. The old law, existing prior to the act, is now in force. Lands descend in equal shares to children and lawful issue of deceased child; if no children, to all other lineal descendants, who if of same degree of kindred take equally, otherwise by right of representation; if no issue, to widow for life, then to father; if no issue nor widow nor father, in equal shares to brothers and sisters and to children of deceased brothers and sisters by right of representation; provided that the mother, if any, shall take equally with brothers and sisters; if no issue, widow, father, brother, or sister, to mother to exclusion of issue of deceased brother or sister; if no kindred above mentioned, to next of kin in equal degree; except of collateral kindred, those claiming through nearest ancestors are preferred; provided that if intestate is an unmarried infant, his estate inherited from deceased parent shall descend in equal shares to other children of same parent, and by right of representation to issue of such other children deceased; but if all such children are dead, and their issue aforesaid be of the same degree of kindred, they shall take equally; if widow and no kindred to such widow; if no widow nor kindred, escheats to the people of the State. Illegitimate children are heirs of mother and also of man who, in writing, etc., acknowledges himself to be the father. Estates of deceased illegitimate children descend to mothers. Degrees of kindred computed according to rules of civil law, and kindred of half-blood, inherit equally with those of whole-blood, unless the inheritance came to intestate from ancestor of different blood. Child's inheritance is reduced by advancement in lifetime of intestate, and all gifts are presumed advancements *prima facie*. Posthumous children are considered as living at death of parent. Where a married woman, seized in her own right of any estate of inheritance in lands, dies, leaving no issue, the lands descend to her surviving husband during his natural life as tenant by courtesy, and after his death to her father. If she have no father, her estate descends to her mother. If she have no father or mother, it descends in equal shares to her brothers and sisters and to the children of any deceased brother or sister, by right of representation. But if she have issue by any former husband, to whom the estate might descend, such issue shall take so much of the same as has not come to her as a gift from her surviving husband, discharged from his right as tenant by courtesy. And if she shall have issue by her surviving husband alone, or by her former husband and also by her surviving husband, then the surviving husband on her death holds as tenant by courtesy only one-third interest in the inheritance of his own issue by his deceased wife.

Personal Estate.— Widow allowed all articles of apparel and ornament of deceased, household furniture to the value of $250, and other personal property to be selected by her to the value of $200. This allowance is made as well when widow receives provision made for her in will of husband as when he dies intestate. Widow and children have such reasonable allowance from personal estate, or from income of real estate, as Probate Court may judge necessary for their maintenance, during settlement of estate, which where estate is insolvent shall not be longer than 1 year after granting administration, nor for any time after dower and personal estate shall be assigned to widow. When personal estate and income from real estate shall be insufficient to meet allowances, same shall be a debt against the estate, to take preference for payment next after debts due the State, and before claims of general creditors. When deceased leaves children under 7 years of age, having no mother, or when mother dies before children arrive at the age of 7 years, an allowance is made for the maintenance of such children until they arrive at the age of 7 years, out of such part of the personal estate and income of such part of the real estate as would have been assigned to the mother had she been living. If, on the return of the inventory, it appears that the value of the saleable estate does not exceed $150, the Probate Court may assign for the support of the widow and children or for the support of the children under 7 years of age, if there be no widow, the whole of such estate, after the payment of funeral charges and costs of administration. If personal estate exceeds $150 and allowance mentioned above, same shall be applied to payment of debts, with charges of funeral and settling estate.

DISTRIBUTION.— After paying debts, etc., of deceased, the residue of the personal property of intestate shall be distributed in the same proportions to the same persons and for the same purposes as are prescribed for descent of real estate, except that the widow, if any, takes equally with a child.

DOWER AND COURTESY.— The widow of every deceased person shall be entitled to dower, or the use during her natural life of one-third part of all the lands whereof her husband was seized, of all estate of inheritance at any time during the marriage, unless she is lawfully barred thereof. Any woman residing out of the State is entitled to dower of lands of her deceased husband, lying in the States of which he died seized. When the marriage shall be dissolved by the husband's being sentenced to imprisonment for life, and when a divorce shall be decreed for the cause of adultery committed by the husband, or misconduct or drunkenness of the husband, or on account of his being sentenced to imprisonment for a term of 3 years or more, the wife shall be entitled to her dower in his lands in the same manner as if he were dead; but she shall not be entitled to dower in any other case of divorce. A married woman residing within the State may bar her right of dower by joining in a deed of conveyance with her husband. She may also be barred of dower by a jointure settled on her with her assent, before the marriage, provided same consists of a freehold estate in lands for the life of the wife at least, to take effect, in possession or profit, immediately on the death of the husband. When a married woman, seized of her own right of any estate of inheritance, dies without issue, her lands descend to her surviving husband during his natural lifetime as tenant by courtesy, and on his decease to her father; if no father, then to mother. If no father or mother, then equally to brothers and sisters, and representatives of deceased brothers and sisters; provided that if the wife have issue by a former husband, such issue shall take so much as has not come to her as a gift from her surviving husband discharged of the husband's courtesy; and provided further, than if the wife at her death shall have issue by her surviving husband alone, or if she have issue by a former husband and issue also by her surviving husband, then the surviving husband has by courtesy only one-third interest in the inheritance of his own issue by his deceased wife.

ESTATES OF DECEASED PERSONS.— Claims must be presented for allowance usually within 1 year, and are barred, unless presented within such time as the Probate Judge shall fix, not less than 6 nor more than 18 months from the granting of letters. Time may be extended for special reasons not exceeding 3 years in all. Administrators and executors liable to be cited to settle accounts at any time for special reasons shown. Widow entitled to personal property of estate amounting to $250, to be selected by her, and further allowance of $200 in money, besides 1 year's support of family. All claims (except in suits on foreclosure of mortgage on real estate) must be filed and allowed in County Court. The

County Court is the Probate Court in this State, and is composed of one Judge. Licenses to sell real estate to pay debts must be obtained from District Court. Widow is entitled to one-third real estate of deceased husband, as at common law, for use during natural life, unless legally barred. She may forfeit dower in any piece or pieces of property by simply joiuiug husband in deed of conveyance, or accepting jointure of life estate before marriage. Wife being non-resident does uot affect her right to dower iu husband's lands in this State. Widow may occupy dwelling of deceased husband 1 year, aud have reasouable sustenauce free. Common law tenant by courtesy obtains, unless there are living issue of wife by former husband, in which event property of wife descends to them.

EXEMPTIONS.— A homestead consistiug of any quantity of laud, not exceeding 160 acres, and the dwelling house thereon and its appurtenances, to be selected by the owner thereof, and not included in auy incorporated city or village; or, instead thereof, at the option of the owner, a quantity of contiguous land, not exceediug one-half an acre with buildiugs thereon and appurtenances, all not over $2,000 in value, being within an incorporated town, city, or village or, in lieu of the above, a lot or parcel of contiguous land, not exceeding 20 acres, being withiu the limits of an incorporated town, city, or village, the said parcel or lot of land not being laid off into streets, blocks, and lots, owned and occupied by any resident of the State, beiug the head of a family, shall not be subject to attachment, levy or sale, upon execution or other process issuing out of any Court in this State, so long as the same shall be occupied by the debtor as a homestead, provided, however, that such farm lands, lots, etc., do not exceed in value $2,000. All heads of families who have neither lands, town lots, nor houses subject to exemption as a homestead, under laws of this State, shall have exempt from forced sale on execution the sum of $500 in personal property. No property hereinafter mentioned shall be liable to attachment, execution, or sale, or any final process issued from any Court of this State, agaiust auy person being a resident of this State and the head of a family: The family bible; family pictures, school books, and library for use of the family; all necessary wearing apparel of the debtor and his family; all beds, bedsteads, and bedding necessary for the use of such family; all stoves and appeudages put up or kept for the use of debtor's family, not to exceed 4; all cooking utensils and all other household furniture not herein enumerated, to be selected by the debtor, not exceeding in value $100; 1 cow, 3 hogs, and all pigs under 6 months old and if the debtor be at the time actually engaged in the business of agriculture, in additiou to the above, 1 yoke of oxen, or a pair of horses in lieu thereof, 10 sheep, and the wool therefrom, either in the raw material or manufactured into yarn or cloth; the necessary food for the stock mentioned in this section for the period of 3 months; 1 wagon, cart, or dray, 2 plows and 1 drag; the necessary geariug for the team herein exempted, aud other farmiug implements not exceeding $50 iu value; the provisions for the debtor and his family necessary for 6 months' support either provided or growing, or both, aud fuel uecessary for 6 months; the tools and iustruments of any mechanic, miner, or other person, used and kept for the purpose of carrying on his trade or business; the library and implements of any professioual man. Unmarried child residiug on homestead, is allowed it exempt if parents both dead. The widow or widower, together or either one without the other, and with or without a child living with them, or if all children are dead, are entitled to homestead, provided the person claiming homestead has some relative living with him or her, dependent upon him or her for support. A couveyance or encumbrance of homestead by the owner is of no validity unless the husband and wife, if the owuer is married, concur in and sign the same joiut instrument. The homestead is subject to execution on forced sale in satisfaction of judgments obtained: First, on debts secured by mechanics', laborers', or veudors' liens upon premises. Second, ou debts secured by mortgage upon the premises, executed and acknowledged by both husband and wife, or an uumarried claimant. Homestead descends discharged from debts.

GARNISHMENT.— In cases of attachment, "when the plaintiff, his agent or attorney, shall make oath in writiug that he has good reason to and does believe that any person or corporation to be named, and within the county where the action is brought, has property of defendant (describiug same) in his possession," the said property, whether debts, choses in action, or chattels or other property, may be garnished and held the same as property otherwise attached. In all cases where an executiou issued upon any judgment of a Court of Record or of a Justice of the Peace shall be returned by the officer in whose hands the same was placed for service, unsatisfied for want of sufficieut property whereon to levy and collect the same, and the judgment creditor in such execution, his agent or attoruey, shall file an affidavit in the office of the Clerk of such Court, or such Justice of the Peace, that any person or corporation (naming same) has property of and is indebted to the judgment debtor, such persou or corporation may be summoued as garnishee.

INTEREST.— Seveu per cent. is the legal rate, or any rate agreed upon not exceeding 10 per cent., on express contracts. If more is exacted, the contract remains good as to principal, but all the interest is forfeited.

JUDGMENTS.— In the District Court are liens on the lands of the debtor situated in the same county, from the first day of the term at which judgment is rendered; but judgments by coufession, and judgments rendered at the same term at which the action is commenced, shall bind such lands only froun the day on which such judgments are rendered. All other lands, as well as goods and chattels of the debtor, shall be bound from the time they shall be seized in execution, except that the transcript of a judgment in auy District Court in this State may be filed in the office of the Clerk of the District Court of any county, and such transcript shall be a lien ou the property of the debtor in any county in which such transcript is filed, in like manner as in the county where the judgment was rendered. The transcript of a judgment of a Justice of the Peace to become a lien must be filed in the District Court of the county where judgmeut is recovered, and cannot in the first instauce be filed in the District Court of another couuty. Not so a judgment of a County Court. The lien on the real estate of a judgment debtor, created by a judgment in the District Court of the county where the laud is situated, continues for 5 years after the rendition of the judgment, and as agaiust all persous except *bona fide* judgmeut creditors, for 5 years after the issuance of execution. Judgments bear interest from date at 7 per cent. per annum, provided that if the contract on which judgment was rendered was for a greater rate and not more thau allowed by law, the judgment shall bear the same rate of interest as such contract.

MORTGAGES.— All the statements under title of deeds apply equally to mortgages of real estate. A wife cannot claim dower as against a lien or a mortgage for purchase money, though not executed by her. Every deed, though absolute, shown by auy other instrument in writing to be intended as a security in the nature of a mortgage, is considered a mortgage, and no advantage can be derived from the record thereof by the person for whose benefit it is made, except the defeasance or explanatory iustrument be also recorded. Stay of execution on decrees of foreclosure and sale allowed for 9 months, on written request, without bond. No redemption of lands sold on foreclosure. Proceedings for foreclosure may be commenced on any delinqueut priucipal. The record of the assigument of mortgage is not of itself notice to the mortgagor. Mortgages may be discharged by the mortgagee, his assignee, or personal represeutative, by entry ou the margin of the record, signed by such person in the presence of and attested by the Clerk or his Deputy; or by such entry made and signed by the Clerk on presentation to him of a certificate that such mortgage has been satisfied, signed by the mortgagee, and acknowledged or proved as in case of deeds. If a mortgagee or representative fail to satisfy as aforesaid after performance of conditions, and for 7 days after request and tender of charges, he is liable in the sum of $100, in addition to actual damages. In absence of stipulations to the contrary,

mortgagor has legal title and right of possession. Deeds of trust to secure payment of mouey are considered aud treated as mortgages. The only foreclosure is by sale ou decree of Court. Mortgage on homestead is good when executed by husband and wife. Mortgagee has right to pay taxes and add to his debt. Real estate mortgages usually secure promissory notes accompanying them, aud usually provide that if interest, instalments of principal, and taxes are not paid up when due, the whole debt becomes due. Actions to foreclose mortgages are barred in 10 years after right of action accrues.

REPLEVIN.—The possession of special personal property may be recovered by proper action upon the filiug of a petition and affidavit of the plaiutiff, his ageut, or attorney, showiug: 1, Description of the property; 2, that the plaintiff is the owner thereof, or has a special owuership or interest thereiu, and is entitled to the immediate possessiou of the same; 3, that the property is wrougfully detained by the defeudant; 4, that it was not taken on execution against the plaintiff, or for the payment of any fine, tax, or amercement assessed agaiust him, or by virture of au order of delivery, or auy other uesne or final process issued against him. The order is executed by the Sheriff or other officer by taking possession of the property, having the same appraised by two disiuterested parties, and when the plaintiff executes a boud to be furnished within 24 hours of the appraisement in double the amount of the appraisemeut thereof, he delivers the property to the plaintiff.

SECURITY FOR COSTS.—When the plaintiff is non-resident of the county in which actiou is brought, or is a company, etc., suing in firm name, he may be compelled to give security for costs. When a judgment creditor is substituted as defendant, instead of Sheriff, in action of replevin of property taken ou executiou, he may be required to give security for costs. The guardiau or uext friend of an infant, as plaintiff, if insolveut, may be required to give security for costs.

STATUTE OF LIMITATIONS.—Actions to recover title or possession of real property and foreclosure of mortgages must be brought within ten (10) years from the time the cause of actiou accrued. Actions for forcible eutry and detainer of real property within one (1) year; actions upon specific writteu coutract, or foreign judgments five (5) years; contracts uot in writing, expressed or implied and liability created by suit, except forfeiture aud penalty, within four (4) years; actious of trespass of real property, injuring personal property, injury to the rights of plaintiff not arising on coutracts, relief on the grouuds of fraud, aud actions growing out of the failure and want of consideratiou for contracts four (4) years; actions for libel. slauder, assault, and battery, malicious prosecution, false imprisonment, actiou or suits of penalties or forfeitures one (1) year; action on official bonds or an executor, administrator, guardian, Sheriff, or other officer, or upon a bond given in attachment, injunction, or any case required by the statute within ten (10) years. All causes of action which have become barred by the law of any State or Territory of the Uuited States shall be deemed barred by the law of this State. If a party entitled to bring an action be, at the time the cause of action accrued, under 21 years old, a married woman, insane, or imprisoned, such person shall be entitled to bring such action within the times limited after such disability shall have been removed. When a cause of actiou accrues against a persou, if such person be out of the State, or shall have absconded, or conceals himself, or if, after a cause of action accrues, such persou shall depart from the State, or abscond, or conceal himself, the statute shall not begin to run until he has returned into the State or while he has absconded or been concealed. When the payment of a part of principal or iuterest, or the acknowledgment in writing of liability, or a promise to pay the same in writing is made, the action may be brought iu such case within the period prescribed for the same after such payment, acknowledgment, or promise. New promise iu writing or partial payment after debt barred revives it.

SUPPLEMENTARY PROCEEDINGS.—When an executiou against a judgment debtor has been returned unsatisfied, the judgment creditor upou making affidavit that the debtor has property which he unjustly conceals and refuses to apply to the satisfaction of the judgmeut, a Judge of the District Court or the Couuty Judge may issue a citatiou to require the debtor to appear before said Court at a time aud place therein named and answer such questions as may be propounded concerning his property. Wituesses may be produced and examined as upon the trial of the issue.

SYNOPSIS OF THE ASSIGNMENT LAWS.—An Act regulating voluntary assignments, etc., for the benefit of creditors, took effect July 31st, 1883. (Chap. 7, Laws of 1883.)

Assignment shall be of all property, wherever situated, except such as is exempt from execution. Real estate shall be described as in ordinary deeds of conveyance. Exempt property shall be specifically described as such. The Sheriff, and his successor in office, shall be the assignee in every assigumeut.

The assigument shall be iu writiug, executed and ackuowledged as are conveyances of real estate, and shall be filed for record in the office of the County Clerk within 24 hours after execution. If it conveys real estate it must be recorded in deed record, otherwise in miscellaneous record. Within 30 days it shall be recorded iu every county in which there is real estate couveyed thereby. A failure to file aud record iu any county will avoid the assignment as to property in that couuty. If the failure to record is from the negligence of the assiguee, he will be liable for the value of the property to which assignmeut is avoided. Sheriff shall immediately take possession. Assiguor shall, within 10 days after assigumeut, file with the county Judge a verified inventory, showing, (1) all of his creditors; (2) their place of residence; (3) the sum owing to each, and the nature of each debt; (4) the true cousideration in each case, when and where the debt arose, and if there has been a renewal; (5) every existing mortgage, judgment, or other security; (6) all property exempt from executiou; (7) all assets and property not exeupt.

On receipt of inventory, the County Judge shall fix a day, not more than 15 days thereafter, for a meeting of the creditors at his office and notify creditors thereof. At such meeting the creditors in person, or by proxy, shall choose an assiguee. Creditors represeuting a majority of the indebtedness, and oue-third in number, shall be necessary for a choice. No vote shall be counted unless the claim of the creditor is verified by affidavit, "to be just and reasouable, and wholly uupaid to the extent claimed, setting forth the true consideration, aud is not, to the best of affiaut's knowledge and belief, subject to any legal or equitable recoupment, counter claim, or set-off, which, if allowed, would reduce the debt below the amount claimed." On failure to choose an assignee the Sheriff shall remain assignee of the estate.

The estate shall be inventoried and appraised, and the assiguee shall qualify by entering into au uudertaking in double the amouut of the appraised value of the whole estate, withiu 48 hours after appraisemeut. On approval of such undertaking the Sheriff shall deed property to assignee. At meeting of creditors the County Judge shall fix time for filing claims agaiust estate, uot more than 60, nor less than 30 days, and the time iu which objections shall be filed by assignee or creditor. All claims not filed within the time fixed shall be barred from participating in any divideud. On the day following the time so fixed, all uncontested claims shall be allowed by the County Judge, and contested claims be tried as are ordinary actions in said Court, with the right of either party to appeal to the District Court.

The assignee shall sell the estate iu all respects as on execution from the District Court. Sale of real estate shall be returned to and approved by the District Court. Creditors at their first meeting may request the personal estate sold at private sale, and the County Judge shall thereupou so order. Assignee shall make report of sales to County Court, and shall make report between the 1st and 5th days of each month. At the expiratiou of 3 months, or soouer, County Court shall order a distribution of all moneys in assignee's hands, and may enforce obedience by attachmeut and im-

prisonment. When the entire estate has been converted into money the Court shall order final distribution.

The assignment shall be void if it give preference, except for wages of not more than $100 to any one person, or if it contains any reservations or conditions, or grants any power to assignee not given by law.

Property fraudulently conveyed, may be recovered back by assignee, upon the direction of two-thirds of the creditors. Assignee may be made to account at any time, and removed for cause. An assignment or proof of a debt by a creditor shall not affect the right of a creditor to sue the assignor, or prevent his attacking the validity of the assignment. Assignor may be made to answer under oath concerning the matters of assigument.

Full authority and jurisdiction is given to the County Court to carry out the provisions of this act. Appeals are taken to the District Court.

Sales and transfers of property within 30 days prior to an assignment under this act, in contemplation of insolvency, or with intent to prefer a creditor, are void, if the person receiving the property had reasonable grounds for believing the assignor to be insolvent, or that a fraud upon the act was intended; provided, he may pay or secure clerks' or servants' wages to the amount of $100, or debts created 9 months prior to such assignment, or give mortgages to secure debts created simultaneously with the giving thereof.

Concealing property, destroying books and records, removing the same, making fraudulent transfers, spending his property in gaming, or perpetrating any fraud upon this act, within 3 months prior to making an assignment, shall, upon conviction, be punished by imprisonment in the penitentiary not more than 7 years.

Chapter 46, Laws of 1883 — Provides, That if any person with intent to cheat, defraud, hinder, or delay his creditors, shall sell, transfer, secrete, encumber, or in any way fraudulently dispose of any of his property, or the proceeds thereof, shall, upon conviction, be punished in the same manner and to the same extent as if convicted of larceny of the same property.

Form of proof of debt and power of attorney under the assignment law:

State of ——— } ss.
County of ——— }

I, ———, do upon oath say that I am ———, plaintiff in the matter of the annexed claims of ——— of ——— against ——— of ———, that I am acquainted with the transaction set forth in the annexed account; that the same is correct, just and reasonable, and wholly unpaid to the extent of $ ——, the amount claimed. That the consideration thereof is ——— to the said ——— and to the best of my knowledge and belief not subject to any legal or equitable recoupment, agreement, claim, or set-off, which if allowed would reduce the debt below $ ———.

———

Subscribed in my presence and sworn to before me this —— day of ——, A. D.

———

Notary Public.

In the matter of the assignment of ——— I, ———, being one of the creditors of said ———, consignor, do hereby name, nominate, and appoint ———, as my attorney and proxy to appear for me at the meeting of the creditors of said ——— consignor, and in my name and stead to cast my ballot for the selection of an assignee, and to do any and other acts and things in my name, place, and stead for me as fully as I could do if personally present.

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TAX LAW.— A new act took effect September 1, 1879. The tax liens on real property date from April 1st of the year in which they are levied. The taxes upon personal property shall be a lien upon the personal property of the person assessed from and after the time the tax books are received by the collector. The taxes upon railroads and property pertaining thereto are made a perpetual lien thereon, commencing with the first day of March of the then current year, against all persons and bodies corporate, except the United States and this State. February 1st, after levy, personal taxes, except city taxes in metropolitan cities and cities of the first class, become delinquent and draw interest thereafter at 10 per cent. May 1st, after levy, taxes upon realty, except city taxes in metropolitan cities and cities of the first class, become delinquent and draw interest thereafter at 10 per cent. July 1st, after levy, city taxes in metropolitan cities (80,000 inhabitants), and December 1st, after levy, city taxes in cities of the first class (more than 25,000 inhabitants), become delinquent and draw interest thereafter at 1 per cent. a month. As soon after delinquency as possible the treasurer proceeds to collect taxes out of the personal property of the delinquent. On the first Monday in November lands will be offered for sale for delinquent taxes. A 3 weeks' notice by publication is required. Two years from date of sale are allowed to redeem from tax sales by paying amount of sale with 20 per cent. interest. Three years after deed is made is the time of limitation of actions to recover real property sold for non-payment of taxes. Irregularities shall not invalidate sale for taxes. Purchasers at tax sales may within date of certificate of sale foreclose the lien for the money paid and interest against the land in like manner as mortgages are foreclosed. On failure for 5 years from date of certificate of tax sale to demand deed or commence action of foreclosure thereon, the same shall cease to be valid or of any force whatever either as against person holding title adverse thereto, and all other persons, and as against the State, county, and all other municipal subdivisions thereof. Property in the hands of an agent shall be listed where agent does business. Money of a non-resident in the hands of an agent in this State is taxable. The statute of limitations does not begin to run against a tax lien until the title acquired by the tax deed has failed. By recent decision of the Nebraska Supreme Court all tax deeds are void and no tax deed can be legally issued until the Legislature makes provision for a treasurer's seal.

TRUST DEEDS.— Mortgages are considered preferable, because a trust deed to secure the payment of money can be enforced only by treating it as a mortgage and foreclosing it by action the same as a mortgage.

WILLS.— In writing shall be signed by the testator, or by some person in his presence, and by his express direction, and attested and subscribed in his presence, by two or more competent witnesses. Nuncupative wills are allowed under stringent statutory regulations. All wills which have been duly proved and allowed in any of the United States, or in any foreign country or State, according to the laws of such State or country, may be admitted to probate in this State. Wills shall be recorded in the office of the Register of Deeds of the county where the land lies. Married women can make wills the same as other persons. No will shall be effectual to pass real or personal property in Nebraska unless it shall have been duly proved and allowed in this State.

NEVADA.

ACKNOWLEDGMENTS.— The proof or acknowledgment of every conveyance affecting any real estate shall be taken by some one of the following officers: 1st, If acknowledged or proved within the State, by some Judge or Clerk of a Court having a seal, or some Notary Public, or Justice of the Peace; provided, when the acknowledgment is taken before a Justice of the Peace in any other county than that in which the real estate is situated, the same shall be accompanied with the certificate of the Clerk of the District Court of such county, as to the official character of the Justice taking the proof or acknowledgment and the authenticity of his signature. 2d. If acknowledged or proved without this State, but within the United States, shall be taken by some one of the following officers: A Judge or Clerk of a Court having a seal, or some Notary Public or Justice of the Peace, or by any Commissioner appointed

by the Governor of this State for that purpose; provided, that when the acknowledgment is taken by a Justice of the Peace, the same shall be accompanied by the certificate of the Clerk of a Court of Record of the County, having a seal, as to the official character of the Justice and the authenticity of his signature. 3d, If acknowledged or proved without the United States, by some Judge or Clerk of any Court of any State, Kingdom, or Empire having a seal, or by any Notary Public therein, or by any Minister, Commissioner, or Consul of the United States, appointed to reside therein.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— The defendant may be arrested in the following cases: — 1st, in an action for the recovery of money or damages, on a cause of action arising upon contract, express or implied, when the defendant is about to depart from the State with intent to defraud his creditors, or when the action is for libel or slander; 2d, in an action for a fine or penalty, or for money or property embezzled, or fraudulently misapplied or converted to his own use, by a public officer, or an officer of a corporation, or an attorney, factor, broker, agent, or clerk, in the course of his employment as such, or by any other person in a fiduciary capacity, or for misconduct or neglect in office, or in professional employment, or for wilful violation of duty; 3d, in an action to recover the possession of personal property unjustly detained, when the property or any part thereof has been concealed, removed, or disposed of, so that it cannot be found or taken by the Sheriff; 4th, when the defendant has been guilty of a fraud in contracting the debt or incurring the obligation for which the action is brought, or in concealing or disposing of the property, for the taking, detention, or conversion of which the action is brought; 5th, when the defendant has removed or disposed of his property, or is about to do so, with intent to defraud his creditors.

ASSIGNMENT LAWS.— 1. Does there exist in this State a separate, distinct assignment, insolvency, or bankrupt law? — A. Yes; entitled "An Act for the Relief of Insolvent Debtors, and Protection of Creditors." Approved March 10th, 1865.

2. Does the law in this State permit the debtor to make a preferential assignment? — A. It does not; assignment must be made for benefit of all creditors. Any assignment made different from this law, is void, so provided by the law itself.

3. Can a judgment by default or confession, be given in favor of relatives or friends, thus defeating the efforts of general or outside creditors? — A. No such judgment, thus entered, can stand the test of litigation. A debtor or insolvent must be just before he is generous, under the provisions of this law. He cannot, by such acts, defraud his creditors.

4. Can conveyance or transfer of property be made immediately anterior to assignment and still be held valid? — A. No; prohibited expressly by said law.

5. Can a debtor in this State obtain a discharge from his obligations without the unanimous consent of creditors, and under what circumstances? — A. Yes; by giving up all his property, in good faith; and mentioning all his creditors in his schedule, amounts, etc. But, this of course, only cuts off claims within this State. Perhaps also the Court would acquire jurisdiction to grant a discharge by the creditor's proving his debt.

6. Does the acceptance of a dividend from an estate under assignment in this State discharge the debtor? — A. The discharge is granted on other grounds.

7. What is the position of creditors who do not come into an assignment, should one be made? — A. If the claims were due, or made payable in this State, they will be discharged, if they, and their amounts, are mentioned in the schedule. But, of course, they would be entitled to the *pro rata*.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Days of grace have been abolished in this State. Damages for non-acceptance of bills of exchange upon the usual protest are as follows, when drawn or negotiated in this State: If such bills shall have been drawn upon any person or persons in any of the United States east of the Rocky Mountains, $15 upon the hundred upon the principal sum specified in such bill. If such bill shall have been drawn upon any person or persons in any part or place in Europe, or in any foreign country, $20 upon the hundred upon the principal sum specified in such bill.

COMMENCEMENT OF SUIT.— Defendant has 10 days to answer summons, exclusive of day of service, from date of service, when served within the county, 20 days when served in the Judicial District, but in another county than the one where the action was commenced; and in all other cases, 40 days, when personal service is had. In case of publication of summons in a newspaper, defendant has 40 days within which to answer after expiration of time of publication of summons.

CORPORATIONS.— Any three or more persons who may desire to form a company may make, sign, and acknowledge before some person competent to take the acknowledgment of deeds, and file and have recorded in book kept for that purpose in the office of the Clerk of the County in which the principal place of business of the company is to be located, and a certified copy, under the hand of the Clerk and seal of the Court of said County, in the office of Secretary of State, a certificate in which shall be stated the corporate name of the company, the object for which the same shall be formed, the amount of its capital stock, the time of its existence, not to exceed 50 years, the number of shares of which the capital stock shall consist, the number of trustees and their names, who shall manage the concerns of the company for the first 6 months, and the name of the city, town, or locality, and county, in which the principal place of business of the company is to be located. Corporators in corporations formed under the laws of this State shall not be individually liable for the debts or liabilities of such corporations. — Constitutional provision. Corporations may sue and be sued in all Courts in like manner as individuals.

ESTATES OF DECEASED PERSONS.— Immediately after appointment of executor or administrator he must give notice of appointment as such by publication in newspaper published in county for 30 days, and all creditors must file their claims with Clerk of District Court where probate proceedings are taking place within 60 days from date of first publication of notice. Within 15 days after the time for filing claims has expired the executor or administrator shall examine all claims and indorse thereon his rejection or allowance of same, with date of allowance or rejection. Within 5 days after the 15 days the executor or administrator shall present claims to District Judge for approval or rejection. If executor or administrator fails to reject or allow claims within the 15 days as above specified, the claims shall be deemed allowed, and the clerk shall within 5 days present to District Judge for approval or rejection. When claim has been rejected, the executor or administrator must immediately notify claimant of rejection, and 30 days from date of said notification suit must be brought upon claim or be forever barred, no matter whether the claim is due or not.

EXEMPTIONS.— The following property of the judgment debtor is exempt from execution. Chairs, tables, desks, and books to the value of $100. Necessary household furniture, wearing apparel, beds, bedding, provisions, and firewood sufficient for 1 month. Farming utensils; also, 2 oxen or 2 horses or 2 mules and their harness; 2 cows, and 1 cart or wagon; and food for such oxen, horses, cows, or mules, for 1 month; also all seed, grain, or vegetables actually provided, reserved or on hand for the purpose of planting or sowing, at any time within the ensuing 6 months, not exceeding in value $400. The tools and implements of a mechanic or artisan necessary to carry on his trade; the instruments and chests of a surgeon, physician, surveyor, or dentist, necessary to the exercise of his profession, with his scientific and professional libraries, and the libraries of an attorney or counselor, and the libraries of ministers of the gospel. The cabin or dwelling of a miner, not exceeding in value $500; also all tools and implements necessary for carrying on any mining operation not exceeding in value $500; and 2 horses, mules, or oxen, with their harness, and food for the same for 1 month, when necessary to be used in such mining operations. Two oxen, 2 horses, or 2 mules, and their

harness, and 1 cart or wagon, by the use of which a cartman, huckster, peddler, teamster, or other laborer, habitually earns his living; and one horse, with vehicle and harness, or other equipments, used by a physician or surgeon or minister of the gospel in making his professional visits, and food for such oxen, mules, or horses, for 1 month. One sewing machine, not exceeding in value $150, in actual use by the debtor or his family. All fire engines, hooks and ladders, and all apparatus and furniture belonging to any fire company or department. All arms, uniforms, and accoutrements required by law to be kept by any person. All courthouses, jails, public offices, and buildings, lots, grounds, and personal property; the fixtures, furniture, books, papers, and appurtenances belonging and pertaining to the courthouse, jail, and public offices belonging to any county in this State; and all cemeteries, public squares, parks and places, public buildings, townhalls, public markets, buildings for the use of the fire departments and military organizations, and the lots and grounds thereto belonging and appertaining, owned or held by any town or incorporated city, or dedicated by such town or city to health, ornament, or public use, or for the use of any fire or military company organized under the laws of this State. None of the above articles or species of property are exempt from execution issued upon a judgment recovered for its price, or upon a mortgage thereon. The earnings of a judgment debtor arising from his personal services for the calendar month during which process has been issued (in supplemental proceedings), not exceeding $50, are exempt, when it shall be made to appear by the debtor's affidavit, or otherwise, that such earnings are necessary for the use of a family supported wholly or partially by his labor. Homestead not exceeding $5,000 in value, to be selected by husband or wife, or other head of a family.

INTEREST.— Where there is no express contract in writing, fixing a different rate of interest, interest shall be allowed at the rate of 7 per cent. per annum, for all moneys after they become due upon any bond, bill, or promissory note, or other instrument in writing, on any judgment recovered before any Court in this State, for money lent, money due on settlement of accounts, from the day on which the balance is ascertained, and for money received for the use of another. Parties may agree in writing for the payment of any rate of interest whatever upon money due, or to become due on any contract. Judgments rendered upon contracts shall conform thereto, and bear the interest agreed upon by the parties, which shall be specified in the judgment; provided only the amount of the original claim or demand shall draw interest after judgment. Interest cannot be made to compound, even where it is so stipulated in written agreement (so decided by the Supreme Court and never over-ruled).

JURISDICTION OF COURTS.— District Courts: Original jurisdiction in all cases in equity, also in law, when title or possession of land or mining claims may be involved, or legality of any tax, etc., also in actions to foreclose mechanics' liens; and in all cases in which the demand, exclusive of interest, or the value of the property in controversy, exceeds $300; also in all cases relating to estates of deceased persons, and persons and estates of minors, insane persons, etc. They also have final appellate jurisdiction in all cases from Justices' Courts, and such other inferior tribunals as may be established by law; such Courts also have power to issue writs of mandamus, injunctions, *quo warranto*, *certiorari*, *habeas corpus*, etc., in their respective jurisdictions. Justices' Courts: Jurisdiction in all civil cases where amount claimed does not exceed $300, exclusive of interest; also all cases for recovery of specific property not above this value, etc.

LIMITATION OF ACTIONS.— Within 6 years: 1st, upon a judgment or decree of any Court of the United States, or of any State or Territory within the United States; 2d, upon any contract, obligation, or liability founded upon an instrument in writing. Within 4 years: 1st, an action upon an open account for goods, wares, and merchandise, sold and delivered; 2d, an action for any article charged on a store account; 3d, an action upon a contract, obligation, or liability not founded upon an instrument in writing. Within 3 years: 1st, an action upon a liability created by statute other than a penalty or forfeiture; 2d, an action for trespass on real property; 3d, an action for taking, detaining, or injuring any goods or chattels, including actions for the specific recovery of personal property; 4th, an action for relief on the ground of fraud, the cause of action in such case not to be deemed to have accrued, until the discovery by the aggrieved party of the facts constituting the fraud. The time in actions within 4 years shall be deemed to date from the last transaction, or the last item charged, or the last credit given. An action upon a judgment, contract, obligation, or liability for the payment of money or damages obtained, made, executed, or incurred out of the State, can only be commenced as follows: 1st, within 1 year, when prior to passage of the act (March 5, 1867), more than 2 and less than 5 years have elapsed since the cause of action accrued; 2d, within 6 months, when prior to the passage of the act, more than 5 years have elapsed since the cause of action accrued; 3d, within 2 years, in all other cases, after the cause of action accrued; a right of action shall be deemed to have accrued on a judgment at the time of its rendition.

MECHANICS' LIENS.— Every person performing labor or furnishing material of the value of $5 on any superstructure, or on the repair thereof, has a lien for such labor or material. The land occupied by any building or superstructure, together with a convenient space about the same, is subject to such liens. The above liens are preferred to any mortgage, lien, or encumbrance attaching subsequently to the time when the superstructure or building was commenced or materials were furnished; also to any lien, mortgage, or encumbrance of which the lien holder had no notice and which was not recorded. Every original contractor, within 60 days after the completion of the building or superstructure, and every person, save the original contractor, claiming the benefit of a lien, within 30 days after the completion of the building, shall file for record with the County Recorder of the county where the building is situated, a claim containing a statement of the demand, deducting all offsets, together with the name of the person by whom he was employed, the terms and conditions of the contract, and the description of the property on which a lien is claimed. No lien binds the property on which it is filed for a longer period than 6 months after the time when it was filed. Liens take effect in the following rank or order: 1st, all persons other than the original contractors and sub-contractors; 2d, the sub-contractors; 3d, the original contractors. This rank or order of liens must be declared by the Court in its judgment of adjudication of the liens. Such liens may be enforced in any Court of competent jurisdiction.

SYNOPSIS OF THE INSOLVENCY LAWS.— If the accusation of fraud brought against the debtor is declared to be ill-founded, or if no opposition be made within the time herein provided, the said debtor having in all things complied with the provisions of this act, the said debtor shall be released, and fully discharged from any and all debts, until then contracted, and contracted after the passage of this act, and from any judicial proceedings relative to the same; provided always, that said insolvent debtor shall be released and discharged only from such debts and liabilities, as he shall have set forth and named in his schedule; and provided further, that no discharge shall be granted unless the said debtor shall surrender property, the cash value of which, over and above property exempt by law, and set apart by the Court, shall amount to at least 50 per centum of the amount of his liabilities, unless three-fourths in number of his creditors, and one-half in amount, consent in writing to his discharge.

NEW HAMPSHIRE.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— Arrest for debt can be made whenever the creditor, or any person for him, makes oath on the back of the original writ or execution that the debtor owes more than $13.33, and conceals his property so that no attachment or levy can be made; or

is about to leave the State to avoid payment of his debts. No female shall be arrested or imprisoned upon writ in any action founded on contract.

BILLS OF EXCHANGE AND PROMISSORY NOTES.—No days of grace allowed on notes, drafts (except sight drafts), checks, etc., unless expressly stipulated. Notes, etc., falling due on Sunday or legal holiday, payable on next succeeding secular or business day. Demand notes are due in 60 days from date without grace, and demand and notice must be given on such notes within the 60 days, in order to charge any indorser thereon. Contracts other than promissory notes, checks, drafts, and bills of exchange maturing or to be executed on Sunday, Thanksgiving, Fast day, Labor day, or on Christmas day, the 4th day of July, the 22d day of February, the 30th day of May, or on the following day when either of the 4 days last mentioned occurs on Sunday, or on the day of a general biennial election, are payable and to be executed on the day next preceding, not being one of said days.

COMMENCEMENT OF SUIT.—The process must be served 14 days before the return day thereof. No bonds are required in instituting a suit at law, but if the creditor is a non-resident, some person in the State must become responsible for costs by indorsing his name on the back of the writ. Non-residents of the State commencing a suit in equity are required to give bonds.

CONTRACTS OF MARRIED WOMEN.—Married women hold all property owned by them before marriage, or acquired afterwards in any way except through property of the husband, to their sole and separate use, as if unmarried. All their contracts in relation to such property are valid and binding, and all their other contracts are binding, except as sureties or guarantors for their husbands, or for and in behalf of their husbands. Upon the death of wife, the husband is entitled to the same share of the estate as she would be of his estate in case of his death. They are liable for debts contracted while single, and their property may be attached to pay them. They are also liable for their torts in relation to their separate property. The husband is not liable for the wife's ante-nuptial debts. Conveyance of real estate may be made directly, between husband and wife, without the intervention of any third party.

CORPORATIONS.—Are incorporated under general laws, but occasionally manufacturing corporations obtain a special charter. Annually, in May, a report of the financial condition of the corporation, verified by the oath of the treasurer and a majority of the directors, must be filed in the office of the Secretary of State, and in that of the Town Clerk. Neglect of such treasurer, etc., to make such return renders such officers liable for debts incurred by corporation until return is filed. If *any* return or certificate required be false in any material represeutation, all the officers who signed the same, knowing it to be so, or without due inquiry, are liable for all the debts of the corporation contracted while they were in office. The only remedy to enforce the payment of a debt of a corporation against the individual stockholders thereof is by a bill in chancery. Clerk of every dividend-paying corporation, except banks, until capital stock is fully paid in and certificate thereof filed, must annually, in month of May, cause to be filed, in office of town or City Clerk, a list of the names and places of residence of all its stockholders, certified under oath. Penalty for neglect is $50 to any person who will sue for the same. Directors and treasurer of above described corporations, within 30 days after whole amount of capital stock is paid in, must make certificate, under oath, stating that amount of capital fixed and limited has been fully paid in, and file same with town or City Clerk. Neglect to do so renders them liable for all the debts of the corporation contracted after expiration of the 30 days. Any clerk or treasurer of such corporation that willfully neglects or refuses to make return of names and residence of stockholders as above, or to deliver to any stockholder a certificate of transfer of his stock, as required by Sec. 11, Chap. 150, with intent to delay or defraud any stockholder or creditor of the corporation, is liable to a fine not exceeding $5,000, or to be imprisoned not exceeding 3 years, or both. For loan of money by any such corporation to any stockholder therein, for making of dividend or the withdrawal of any part of the capital stock when the property of the corporation is insufficient for payment of its debts, or for incurring liabilities exceeding one-half its capital stock then actually paid in and unimpaired, and of its other assets, the directors are individually liable to the amount of such loan, dividend, or sum refunded, or of the excess of liabilities above half the capital stock paid in, for all the debts and contracts of the corporation then existing or contracted while they respectively remain in office. Such debts and liabilities, however, are binding upon corporation. Every stockholder, except stockholders in banks and railroads is liable for all the debts and contracts of the corporation until the whole amount of the stock fixed and limited by such corporation, has been paid in and certificate filed as above. Any stockholder who shall unlawfully receive any loan from the corporation, or any sum unlawfully withdrawn or refunded from the capital stock thereof, or who receives knowingly any such dividend unlawfully made, shall, to the amount by him received, be individually liable for all the debts of the corporation then existing or afterwards contracted. Stockholders are, in general, liable only for debts of the corporation, contracted while they are stockholders. Where a bill in chancery is brought against any of the stockholders of the corporation, the general rule is that all persons liable to contribute, should be made parties to the bill, but where parties interested are without the jurisdiction of the Court, and it is so stated in the bill, it is not necessary to make them parties. No such bill should be filed until 60 days after legal demand upon the corporation, and notice to defendant of neglect to pay on part of the corporation. The suit must be prosecuted for benefit of all the creditors. All the stockholders who can be reached by the process must be made defendants. The corporation itself must be joined. Any stockholder who has voluntarily paid any debt, or liability of a corporation (after demand for payment), which he was legally holden to pay, may have contribution from other stockholders, by bill in equity. Besides the ordinary process of attachment, etc., there is no proceeding by which one creditor can obtain priority over others. There is no statute, or practise in New Hampshire, by which a receiver of a corporation is appointed at the instance of one creditor, other than the equity doctrine authorizing the appointment of a receiver for the property of an individual. In all these cases the receiver acts under direction of the Court, and there is no priority. The capital stock of a corporation is restricted to not less than $1,000, nor more than $1,000,000. The facts required in annual return are, the amount of all assessments voted by the corporation and actually paid in, the amount of all debts due to, and from the corporation, and the value of all the property and assets of the corporation, so far as can be ascertained, as existing on the first day of May. An insolvent corporation cannot buy in a portion of its capital stock. No note or obligation given by any stockholder, whether secured by pledge or otherwise, can be considered as payment of any part of the capital stock. Executors, administrators, guardians, and trustees are not individually liable as stockholders, but only the estates they hold in trust, and no person holding stock as collateral security is deemed a stockholder, but the pledgor of same is.

ESTATES OF DECEASED PERSONS.—Estates of deceased persons are settled in the Probate Court. If there are debts of any amount, the estate is usually decreed to be settled in the insolvent course—in which case a Commissioner is appointed, who has 6 months in which to receive and allow claims. All claims not presented to Commissioner and allowed by him are barred. Settlement in the insolvent course bars all suits against the executor or administrator.

INTEREST.—Interest limited to 6 per cent. unless smaller rate stipulated. Penalty for usury, forfeiture of three times the amount of illegal interest received to the party aggrieved who will sue therefor. If the interest on a note is paid annually, the holder is entitled to recover simple interest on each year's interest from the time it is due until it is paid.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.—Judgment may be obtained at the first term, unless debtor make affidavit of defense, in which case he is entitled to continuance, unless the creditor has given 30 days' notice to be prepared for trial. Ordinarily a trial may be had in litigated cases at the second term, if insisted upon. Execution may be taken immediately upon judgment, and is returnable before Justices' and Police Courts in 60 days, before Superior Court at the next trial term of Court. Stay of execution is only granted when creditor is insolvent, and debtor furnishes bonds to pay the amount of judgment in review, and not then, if creditor is able to furnish bonds to pay judgment recovered against him on review. The right to review an action once, as a matter of course, was abrogated at the 1879 session of the Legislature, but the act did not apply to actions then pending. A review may be had upon petition where justice has not been done by reason of accident, misfortune, or mistake. The right is very strictly limited, and a review is difficult to be obtained now.

JURISDICTION OF COURTS.—Justices' Courts have jurisdiction only to $13.33. Superior Court has jurisdiction over all debts beyond that sum. Police Courts have jurisdiction to the amount of $100, where the title to real estate is not in question.

LIMITATION OF ACTIONS.—Accounts and simple promissory notes, 6 years after maturity; judgments, sealed instruments, and notes secured by mortgage of real estate, 20 years. Time of debtor's absence from the State is excluded. Verbal acknowledgment and promise to pay is sufficient to revive the debt.

SYNOPSIS OF ASSIGNMENT LAWS.—Any debtor may, by deed, make an assignment of all his property for the benefit of all his creditors. Such an assignment must provide for a proportional distribution of all his estate (except what is exempt from attachment), both real and personal, and must be verified by his oath. Every assignment must be to the Judge of Probate for the county where the debtor resides, and to such assignee as may be appointed by such Judge, and shall be filed with the Judge or Register, and is of no effect until so filed. The debtor shall, within 10 days after filing such assignment, file in said office a schedule of his creditors, residence of each, nature of debt, consideration, and how secured; also a schedule of his estate, giving location, description, and encumbrances. Upon such filing, messenger is appointed to take possession of the property, sell perishable articles, and hold the proceeds for the assignee. Debtor willfully omitting to file such list or schedule shall be imprisoned not more than 1 year. Upon filing such list, etc., the Judge shall give notice to the creditors that an assignee will be appointed, and that all parties interested may be heard, and said Judge, upon the written recommendation of two-thirds in number and amount of those who have proved their debts, shall appoint an assignee, who shall not be a creditor of said debtor, and such assignee shall file in said office, within such time as the Judge may order, an inventory, under oath, of all the debtor's estate not exempt from attachment.

The assignee shall give bond to the Judge, and file the same in the Probate office within 5 days after notice of his appointment. If an assignee shall not file such bond in 5 days, he shall cease to be assignee. When a vacancy shall occur in the office of the assignee, the Judge of Probate shall appoint another assignee, who shall give a like bond. The assignee shall give notice of his appointment by posting notices, and by such further notice to the creditors as the Judge may order. Every creditor shall file in the Probate office, within 2 months after the assignment, a distinct statement of his claim against the debtor, verified by the oath of himself, or his agent having knowledge of the facts stated, and all objections to the said claim, with the grounds thereof, shall be filed within 4 months, verified by oath. For cause the Judge may extend the above time not exceeding 30 days additional. Notice of the same is then given to all parties interested, and hearing had, and the claim allowed or disallowed by the Judge. An appeal to the Supreme Court may be had from such decision. The assignee shall render an account within 6 months. The debtor must, at all times, furnish the assignee information concerning his property, dates, etc., and neglect or refusal so to do, or the fraudulent giving of any false information, may be punished by imprisonment not exceeding a year. The Judge, upon application by creditors holding debts to the amount of $300, and upon evidence that the debtor's property is not sufficient to pay his debts, may appoint a messenger and order the debtor to return a list of creditors and schedule of property, and thereupon the Judge shall notify the creditors and proceed to the choice of assignee, and the debtor's estate shall vest in the assignee so chosen, and the debtor may also be ordered to execute an assignment. The assignee may be removed by the Judge with or without notice to the creditors, when he shall deem it necessary for the protection of the estate. Whenever any assignment is made, all attachments shall be void, except such as have been made 3 months previous to the assignment; and all fraudulent payments, pledges, mortgages, conveyances, sales, and transfers made within 3 months shall be void, and the assignee may recover and hold the property so pledged or conveyed, provided that sales in the ordinary course of business, though made within the said 3 months, shall be deemed valid, if the purchaser has received the property in good faith and for an adequate consideration; provided, also, that any mortgage, given within 3 months, to secure a debt, created at the time the mortgage was made, shall be valid to the extent of the mortgage deed. If the debtor shall produce at the first meeting his affidavit that he has not concealed or secreted any property, etc., and that he has not changed or falsified his books, etc., and that he has not sold any property in anticipation of insolvency, nor done anything for the purpose of preferring any creditor, and that he has not given any creditor any promise of compensation, and that his assets and liabilities are correctly stated in the schedule, and shall also produce an agreement signed by three-fourths in number and amount of his creditors, whose debts exceed $50, that they will accept —— per cent. of their claims against the debtor, which claims must be stated in the agreement, and that they have not received any promise of future payment or compensation, the Judge shall, upon being satisfied that the debtor has paid or secured the percentage named in the agreement, give the debtor a full discharge from debts and liabilities contracted prior to the filing of the assignment. The discharge shall not be valid if the signature of any creditor be obtained by fraud, or if any statement in the debtor's affidavit or schedule is false, and any creditor may afterward sue and recover the balance of his claim, if any fraud be proved. The debtor shall not be discharged under such composition until he shall have paid all expenses. If any creditor shall refuse to accept the percentage named in the agreement for composition, the same shall be deposited with the Judge, and, if not claimed by the creditor within 1 year after the agreement, the Judge shall give the same to the debtor. Where a composition is not made, the debtor, at any time after final decree of distribution, may apply to the Judge for a discharge from his debts, and after notice to the creditors and a hearing (the Judge being fully satisfied that the debtor has made a full return of his assets), such discharge shall be granted from all debts contracted prior to the commencement of the assignment proceedings, if two-thirds in number and amount of his creditors approve of the discharge in writing. The debtor, on payment of 50 per cent. of his liabilities, in the absence of fraud, shall be discharged without such consent. A debtor once discharged under this act shall not be entitled to a second discharge. The debtor shall be allowed a reasonable sum for the support of himself and family for such time, not exceeding 3 months, as the Judge may offer. Wages due operatives, clerks, house-servants, etc., not exceeding $50, for labor performed within 6 months, shall be paid in full.

TRUSTEE PROCESS.—Any personal action may be commenced by trustee process except actions of replevin and trespass to the person, and actions for defamation and malicious prosecutions. All money, goods, chattels, writs, or credits of debtor in the hands or possession of the trustee at any time before disclosure may be holden by this process, except pension or bounty money

allowed under any law in the United States, until the same has come into the actual possession of the person entitled thereto; the personal services or earuings of the defendant's wife or minor children; the personal services or earnings of the defendant after the service of the writ of the trustee, and, also, $20 out of the defendant's wages for labor performed before the service of the writ upon the trustee, when the suit is founded upon a claim other than for necessaries furnished the defendant or any of his family.

NEW JERSEY.

ACKNOWLEDGMENTS OF DEEDS, ETC.—Acknowledgments or proofs of deeds, mortgages, etc., made within the State, are made before the Chancellor or a Justice of the Supreme Court, a Master in Chancery, an Attorney-at-law admitted by the Supreme Court to practise in the Courts of the State, a Register of Deeds of any county in the State, a Judge of the Court of Common Pleas, a Commissioner of Deeds, a Deputy County Clerk, or a Deputy Surrogate. Outside of the State they must be made before a Justice of the Supreme Court of the United States, a Circuit or District Court Judge of the United States, a Judge or Justice of the Supreme or Superior Court, or the Chancellor of auy State, Territory, or the District of Columbia, or before any Mayor or other Chief Magistrate of any State, or before a Judge of the Court of Common Pleas of such State, District, or Territory, or a Commissioner of Deeds for New Jersey, or a Master in Chancery of New Jersey. In case the acknowledgment is made before a Mayor or Chief Magistrate, the certificate must be attested by the seal of the city; if before a Judge of a Court of Common Pleas, it must be attested by a certificate under the great seal of the State in which it is taken, or under the seal of the County Court in which it is made. Acknowledgments and proofs may also be made in any foreign State or Territory, before any officer thereof authorized at the time to take acknowledgments or proofs of conveyances of lands in such State or Territory, provided that such proof or acknowledgment shall be in the form required by the laws of New Jersey, and shall be accompanied by a certificate under the great seal of the State or Territory, or under the seal of some Court of Record of the county in which the proof or acknowledgmeut shall be made, stating that the officer taking the same was at the time duly authorized to take it.

ACTIONS AND SUITS.—Actions at law are always begun by writs of summons, capias or warrant, attachment, or replevin. Where the property of a resident non-absconding debtor is not seized (as it is seized in cases of attachment for fraud) the process is either by summons or capias. (For proceedings on capias see title "Arrest and Imprisonment for Debt on Civil Process.") In the Courts for the trial of small causes (Courts and Justices' Courts) the summons must be served by a Coustable not less than 5 days nor more than 15 days before the time of appearance, by reading the same to defendant and delivering a copy thereof to him, or, if not found, by leaving a copy at his house or place of abode in the presence of some member of the family above the age of 14 years, to whom the contents of the writ must be made known. In the higher Courts (Supreme, Circuit, and the Common Pleas) a copy of the summons is served by the Sheriff on the defendant personally at least 2 entire days before the return day, or left at his dwelling-house or usual place of abode at least 6 days before its return with some member of the family above the age of 14 years, to whom the contents must be made known. (For service on corporations see title "Corporations.") In the Small Cause Courts the plaintiff may file his state of demand with the Court or its Clerk at the time the summons is issued, and the defeudant may be compelled to go to trial on the returu day of the summons unless for good reason shown, the Court may give further tiiue. By this proceeding judgment may be obtained in most cases within a week. In any case the state of plaintiff's demand must be filed with the Court ou the return day of the summons. (For iuformation as to amounts of which Small Cause Courts have jurisdiction see title "Jurisdiction of Courts.") Iu the Supreme, Circuit, and Common Pleas Courts the plaintiff has 30 days after the return day of the summons in which to file his declaration, and the answering statement of the defendant may be filed within 30 days thereafter, 30 days being allowed for the filing of each succeeding pleading. When the cause is at issue it must be noticed for trial at the next term of Court. Twenty days' uotice of trial is required, and if there be not time to give such uotice for the first day of the uext term of Court, the cause should be noticed for a day in that term. Upon failure of a defendant to file any answer to the declaration within 30 days from the time limited for filing the plaintiff's declaration, judgment by default may be entered against the defendant. To expedite the suit the plaiutiff may file his declaratiou sooner than he is required to do by law and serve a copy upon the defendant with notice to plead or demur in 30 days, and if the defendant fail to do so judgment may be entered by default. The plaintiff may also cause a copy of the declaration to be served with the summons and at the same time serve notice upon the defendant to appear and file an affidavit of merits within 10 days from the date of such service, and file his plea or demurrer within 30 days from such date, and that on failure to do so judgment will be entered by default. If the summons and declaration be served upon the defendant personally aud he be notified as above to file an affidavit of merits within 10 days and his plea or demurrer within 30 days, judgment by default may be entered against him at the end of 10 days if no affidavit of merits be filed, and at the end of 30 days if he has not filed an affidavit of merits within 10 days and a plea or demurrer within 30 days. If personal service be not made, but the papers be served by leaving the same at his place of abode as above mentioned, then judgment by default cannot be entered within 30 days. The personal service required in such cases cannot be made upon a corporation defendaut uuless it be made upon the Board of Directors thereof when in sessiou, and perhaps such service would be insufficient. If the defendaut contest a case, issue is joined when the last pleading is filed, and the cause is noticed for trial at the next term of Court. (See title "Judgmeut, Execution, and Stay of Execution.") It may be generally stated that in actious on contract of which the Small Cause Courts have jurisdiction judgment can usually be obtained in about 1 week's time from the commencement of the action. In the higher Courts in actious on contract if the defendant can be personally served and makes no defense judgment may be obtaiued in 11 days. If actious in the higher Courts be contested they cannot be brought to trial until the next regular term of the Court. In the Small Cause Courts they can be brought to trial more promptly, as these Courts are in session every week.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.—Debtors (except females) can be arrested in a civil action founded upou contract, express or implied, upon proof under oath before a Justice of the Supreme Court or a Supreme Court Commissioner, that there is a debt or demand founded upon contract, express or implied, due to the plaintiff from the defendant, specifying the nature and particulars thereof, and also establishing to the satisfaction of such officer, either, first, that the defendant is about to remove any of his property out of the jurisdiction of the Court in which an action is about to be commenced, with intent to defraud his creditors; or, second, that the defendant has property or rights in action which he fraudulently conceals; or, third, that he has assigned, removed, or disposed of, or is about to assign, remove, or dispose of any of his property with intent to defraud his creditors; or, fourth, that the defendant fraudulently contracted the debt or incurred the obligation respecting which such suit is brought. Debtors sued in the Small Cause Courts iu any action founded upon express or implied contract may also be arrested by order of Judge of a District Court or of a Justice of the Peace where the defendant is not a freeholder and resident of the county wherein he is sued, on proof of the debt or damages claimed and that the defendant is about to remove any of his property out of the jurisdiction of the Court with intent to defraud his creditors, or fraudulently con-

ceals any of his property or rights in action, or fraudulently contracted the debt or obligation on which the suit is brought, or on proof of facts which would sustain the issue of a warrant by a Justice of the Supreme Court or Commissioner. The debtor may also be arrested, although a freeholder and resident of the county wherein he is sued, on due proof made that he has assigned or disposed of, or is about to assign or dispose of, all his land lying within the said county with intent to defraud his creditors.

ASSIGNMENT FOR THE BENEFIT OF CREDITORS.—*Insolvent Law.*— A debtor may make an assignment of his property in trust for the equal benefit of all his creditors in proportion to their several demands. No preference can be made in an assignment, aud if made avoids the entire assignment. It is done by a deed regularly acknowledged and recorded in the office of the Clerk of the County in which the debtor resides. To this assignment deed the debtor is bound to annex an inventory under oath or affirmation of all his property, together with a list of his creditors and the amount of their respective claims. The inventory so filed is not, however, binding upon creditors, and if property of the debtor not inventoried be found it passes to the assignee. If the debtor making assignment willfully misrepresents his property or his creditors or the claims they have against him, he remains liable to his creditors for any indebtedness remaining after distribution by the assignee. The assignee gives notices by advertising once each week for 4 weeks successively in a newspaper printed in the State circulating in the neighborhood where such creditors reside, giving notice of such assignment and that all claims of creditors must be presented under oath or affirmation to the assignee withiu 3 months from the date of the assignment or that they will be barred from a dividend ; and withiu 30 days after the assignment the assignee is required to mail a copy of such notice to every creditor of the debtor at his usual post-office address. The assignee is required to exhibit to the surrogate of the county wherein the assignor resides a true inventory and valuation of the estate assigned, and give bond as required by the Orphans' Court of said county for the proper performance of his trust. At the end of 3 mouths from the date of the assignment the assignee files with the surrogate of the county a true list of the creditors who have proved their claims and a statement of their claims and uotifies the creditors thereof. Every creditor in filiug his claim with the assignee must set forth and state therewith any mortgage or pledge of property of the assignor, or any liens thereon which he holds or which stands as security for his debt. If he fail to do so he is held to have waived and abandoned such security. If his debt be secured a creditor shall have right to dividends only upon balance of his debt after deducting the value of his security from the total amount of his claim, and such security may be valued by agreement between him and the assignee or by the Orphans' Court upon application of the creditor or the assignee, aud it shall then stand as security for the amount so ascertained. Not only debts actually due but those to become due in the future may be presented to the assignee for payment, provided only a reasonable rebate is made when interest is not accruing. At any time within 30 days after the list and statement of creditors and the claims have been filed by the assignee any creditor may take exception to the demand presented by any other creditor, and proceedings may be had to ascertain the justice and legality thereof. When the exact amounts due on the claims filed are ascertained and all disputes regarding the same are settled, the assignee makes dividend to the creditors from the assets in proportion to their claims. Promptly after the determination of the claims filed by the creditors the assignee is obliged to make final account under oath to the Orphans' Court and exceptions may be taken to his account by the creditors and settled by the Court. In cases of assignment for the benefit of creditors the wages of clerks, mechanics, and laborers due from the assignor to them at the time of his making the assignment are preferred debts, and are first paid in full out of the assets before any dividend shall be made to the other creditors. Such preference, however, cannot in any one case exceed $300, and any preferred person having a larger claim than $300 must take his proportion on the balance with the other creditors. To the person making an assignment for the benefit of his creditors, there is reserved by law if he have a family residing in the State, goods and chattels to the value of $200, and all wearing apparel for the use of the assignor and his family. This does not apply in case of general assignment of partnership property, however. Where the assignor is a tenant all goods and chattels of the assignor on the premises leased by him are first bound for the payment of rent due to the landlord not exceeding 1 year's rent. The landlord can detain such goods or follow them if removed within 40 days after such removal and distrain the same. The assignee has power to sell the property of the assignor wherefrom to realize money for the payment or settlement of his debts, and stands not only as a successor to the assignor but is also the representative of the creditors and has the same power to set aside conveyances and recover other assets made or disposed of in fraud of creditors as any creditor would have, and may generally cause fraudulent transfers and encumbrances to be set aside and removed for the benefit of creditors. If a person in contemplation of insolvency shall within 2 months previous to his making a general assignment for the benefit of his creditors transfer or encumber any of his property, or procure or allow to be seized, attached, levied upon, or encumbered in any way with a view to preferring any creditor or person having a claiu against him, or who is under any liability for him; and this is done while a preferred creditor has reasonable cause to believe that such person is insolvent or in contemplation of insolvency and intends making a geueral assignment ; such act shall be void as against the assignee thereafter named in the general assignment and his successors iu the trust, and he may recover or free of encumbrance all such property for the equal benefit of the creditors. A new assignee may be appointed by the Orphans' Court upon proper cause shown, or in case of death of the assignee first named. All creditors intending to benefit by the assignment should file their claims with the assignee within 3 months from the date of the assignment, as otherwise they may lose the beuefit of one or more divideuds. A claim can be filed at any time before fiual dividend, but can ouly participate in the benefits of the dividends declared after such filiug. Any creditor filing his claiu with the assignee must accept such dividend as may come to him in full payment of his claim. A creditor desiring to retain his claim in full should not file the same with the assigiiee. The assignment law of 1899 provides that any New Jersey corporation may make a general assignment under the provisions of that act, and in such case shall be deemed a resident of the county in which its principal office shall be located, but in case such corporation shall, at any time after the making of such general assignment, be adjudged insolvent and a receiver thereof be appointed by the Court of Chancery, the Court of Chancery may remove the assignee and compel the transfer of the property of the corporation to the receiver appointed by itself, and the Court of Chancery and its receiver will then proceed to administer the assets and wind up the affairs of such corporation. Such assignment may include only the copartnership property, but may also include the several estates of the copartners, or any of the copartners may, upon such general assignment of partnership property being made, make a general assignment of his individual estate. Where assignments of copartnership and individual estate are made the same are kept separate in all proceedings and notices had and given thereunder. A copartnership assignment may be made even though but one of the copartners resides in the State of New Jersey, and in such case the proceedings are had in the county where such resident copartner resides. If different copartners reside in different counties the proceedings may be had in any county of such residence, but in such case the assignee must cause the proceedings to be had in the county where the principal office of business of the copartners is located, if such place be known, and any copartner resides in such county. In case of a compromise or composition after a general assignment the assignee may reassign and convey to the assignor all trust property iu his hands

discharged from the trust. This can only be done, however, upon the order of the Orphans' Court that the creditors show cause why such agreement should not be confirmed and the assignee directed to reassign and convey. Due notice of this must be published in proper newspapers and mailed to the creditors, and if all the creditors entitled to dividend execute the agreement, the Court may order the assignee to reconvey. All actions against the assignee for any misconduct on his part must be brought within 9 months from the time when the cause of action arises.

[NOTE.— The act concerniug assignments for the benefit of creditors above digested is practically suspended in its operation while the present U. S. Bankruptcy Act is in force. An assignment under this State law is an act of bankruptcy. If made, the State Courts will take cognizance of it and act in the premises unless and until a petition in bankruptcy be filed by or against the assignor. Upon the commencement of bankruptcy proceediugs the State Court and the assignee under the State statute can proceed no further, and the entire matter is relegated to the U. S. District Court which proceeds under the petition in bankruptcy.]

ATTACHMENTS.— Attachments issue out of the Supreme Court, Circuit Court, or Common Pleas at the suit of any plaintiff, whether resident in this State or not, against his debtor, the writ requiring the attachment of the rights and credits, moneys and effects, goods and chattels, lands and tenements of the debtor in the following cases: (1) Where the plaintiff, his agent or attorney, makes affidavit that he verily believes the debtor absconds from his creditors, and is not to deponent's knowledge or belief resident in the State at the time, and that he owes the plaintiff a debt, specifying as nearly as may be the amount thereof; or has incurred a penalty under a statute, which penalty and statute shall be specified. (2) Where the plaintiff, his agent or attorney, shall make affidavit that the debtor is not to the deponent's knowledge or belief resident in the State at the time, and that he owes to the plaintiff a debt, specifying the amount thereof as nearly as possible, or has incurred a penalty under a statute which penalty and statute shall be specified. (3) Where the Court or a Judge thereof, or a Supreme Court Commissioner, shall make an order for the issue of an attachment, upon proof by affidavit, of fraud which would warrant an order for the arrest of the debtor on civil process. (For requisites of such affidavits see title "Arrest and Imprisonment for Debt on Civil Process.") Attachments may issue against the separate and joint estate of joint debtors or any of them, either by their names or the name of the partnership, or by whatever name they may be generally known; or against the heirs, executors, or administrators of them or any of them; and the estate so attached, whether separate or joint, may be sold or assigned for the payment of the joint debt. The writ may issue against females, whether married or not, corporatious not created or recognized as corporations of the State of New Jersey by the laws of the State, and joint stock associations. Attachments may issue for the debt of a deceased debtor against his executor, administrator, trustee, heir, or devisee in all cases in which the writ might have issued against the debtor immediately prior to his decease, and all real estate descended from or devised by him to the heir or devisee may be attached; and his personal estate in the hands of the executor, administrator, trustee, or other person may be attached, and the executor, administrator, trustee, heir, and devisee and such other person, and any or all of them, may be joined as defendants in the same action; but when the property of deceased persons is attached, the attaching creditor must share ratably in the proceeds of the estate with such other creditors of the decedent as may apply to have their claims against him paid. The share or interest of a debtor in a decedent's estate may be attached in the hands of the executor, administrator, or trustee. Wages or compensation due a non-resident employee for his labor or services cannot be attached at the suit of a non-resident debtor or his assign, nor can property of a non-resident debtor be attached by a non-resident creditor when the same is exempt from liability for debts by the law of the State in which the debtor and creditor reside. No attachment can be made excepting for a debt actually due, and can only be made for a demand which is certain in amount or can be made certain by calculation. This excludes mere claims for unliquidated damages. Any creditor other than the attaching creditor may, whether his debt be due and matured or not, file an affidavit with the Clerk of the Court in which the attachment suit is brought, statiug the amount which is due him, and will be thereupon admitted as an applying creditor under the attachment. When the writ of attachment is executed, if issued out of the Supreme Court, it constitutes a lien on the real estate of the debtor anywhere in the State, and if it issued from a Circuit Court or Court of Common Pleas, then upon the real estate of the debtor in the county, and remains such lien until the suit is discontinued or the property of the debtor is sold under the attachment, and it is a lien upon such real estate although not actually attached under the writ, and although acquired by the debtor after the writ issues at any time before final judgment. Personal property must be actually attached in order to hold it surely under the writ. On the return of the writ, advertisement must be made in one or more newspapers in the State, published once a week for 4 successive weeks, giving notice of the attachment, and judgment cannot be entered until such advertisement is duly made. When the writ is returned the Court appoints an Auditor to collect the debtor's property within the jurisdiction, to dispose of it by sale, to ascertain the claims filed by the attaching and applying creditors, and to make proper disposition of the proceeds of the sale of the debtor's property. In winding up, the Auditor pays, first, the costs of the suit; second, the attaching creditor in full (excepting in cases where the writ has issued against the executor, administrator, trustee, heir, or devisee as above mentioned, when the fund is distributed *pro rata* among the attaching and applying creditors); third, the applying creditors *pro rata* or in full, as the assets may suffice. The debtor whose property is attached may, at any time before judgment, enter his appearance to the suit, and then the case proceeds as a suit begun with summons; but the lien of the attachment remaius upon his property, unless he give sufficient security to protect the creditors, in which event he may retake his property, freed of the lien of the attachment. Attachment suits may also be brought in the District Courts and small cause Courts for sums within their jurisdiction. In such cases the property of the debtor cannot be sold in less than 3 months after seizure. It should be understood that except in cases of fraud, as above stated, the property of a debtor cannot be attached by his creditor at the outset, or beginning of the suit, when such debtor can be served with a summons.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Grace is not allowed by law on bills of exchange, drafts, checks, acceptances, promissory notes, or other evidences of indebtedness, uuless there is an expressed stipulation to the contrary in the instrument. Demand and notice are necessary to charge indorsers.

CHATTEL MORTGAGES.— If personal property which is mortgaged does not pass into the immediate, actual, and continued possession of the mortgagee or his agent, the chattel mortgage must be acknowledged before an officer authorized to take acknowledgments of deeds, and must be recorded in the office of the Clerk of the county (or Registrar if there be one) where the mortgagor resides; or if the mortgagor be not a resident of the State, then in the office of the Clerk or Registrar of the county where the mortgaged property is at the time of the execution of the mortgage. Every mortgage, bill of conditional sale, or conveyance made of any household goods or furniture in the State, not given to secure the purchase money for such goods and chattels, is absolutely void unless such mortgage, bill of conditional sale, conveyance, or instrument in writing intended to affect such household goods and furniture is first duly signed, sealed, executed, and acknowledged as a deed by the husband and wife of the family, and recorded in the office of the Clerk or Registrar of Deeds of the county where such household goods and furniture are at the time of the execution of such instrument. If possession of the mortgaged property do

not pass and the chattel mortgage be not so acknowledged and recorded (except in case of household goods above mentioned) it is void as against subsequent judgment creditors or *bona fide* mortgagees and purchasers without notice, though good as between the mortgagor and mortgagee. Acknowledgment and recording of the chattel mortgage is not necessary if the possession of the property change as above stated (except perhaps as to household goods as above mentioned). It is also necessary that the mortgagee or his duly authorized agent make an affidavit, which is annexed to the mortgage, setting forth the consideratiou of the mortgage and the amount due and to grow due thereon, as nearly as may be, which affidavit is recorded with the mortgage. Chattel mortgages may be foreclosed by suit, but except in cases involving considerable amounts, or where doubt arises as to the status of the instrument or its holder, it is customary to make public sale of the mortgaged property on due notice without process. This is generally done by a Constable or Bailiff. Before foreclosing any chattel mortgage covering household goods and before the sale of any such goods without foreclosure by the chattel mortgagee, his assignee, or legal representative, such holder of the mortgage or representative of such holder must serve upon the mortgagor or the person in possession of the goods a notice in writing at least 5 days previous to such foreclosure or sale, setting out the true amount due upon the mortgage, being the amount of money loaned with legal interest thereon less all payments made theretofore, whether made as interest or payment of principal, or otherwise. Any violation of this provision of law subjects the person guilty thereof to fine or imprisonment. It is a criminal act for a mortgagor to move the mortgaged property ont of the county in which the mortgage is recorded, or to secrete, sell, or otherwise dispose of it with intent to defraud the person holding the mortgage upon it.

CONDITIONAL SALES.— Vendors can retain the title to personal property delivered to their vendees under contracts of sale. But this can only be safely done by executing a contract in writing and setting out therein all conditions and reservations which provide that the ownership of such personal property is to remain in the vendor or other person than the vendee until the property shall be paid for or the occurring of some contingency; and such contract must be signed and duly acknowledged or approved and recorded similarly to chattel mortgages iu the office of the Clerk or Registrar of Deeds in the county in which the party contracting to buy resides at the time of the execution of the instrument, or if he be not a resident of the State, then in said office in the county where the property so conditionally purchased shall be at the time of the execution of such instrument. If these provisions of law be carefully followed the title of the vendor will be held good against all creditors, mortgagees, and purchasers in good faith of the person contracting to bny. Otherwise the sale will be void as to such persons. Such agreements should be recorded at once upon their execution. Any person who has borrowed, hired, leased, or purchased property under a written agreement of conditional sale, who sells, pledges, pawns, or secretes such property is guilty of a misdemeanor and liable to criminal punishment.

CONSIGNMENTS.— If a consignee fraudulently refuses to account for goods consigned he may be indicted for larceny or embezzlement; or if any consignee, factor, or bailee, clerk, employee, agent, or servant, entrusted with the care or sale of personal property or the collection or care of any money, shall fraudulently take and convert the same or the proceeds of the sale of the same, or any part thereof, he is guilty of a misdemeanor and criminally punishable. Indictment must be had within 2 years. Civil action agaiust him is barred in 6 years.

CORPORATIONS.— All ordinary business and manufacturing corporations, excepting savings bank, building and loan association, insurance company, surety company, railroad company, telegraph company, telephone company, canal company, turnpike company, or other company which shall need to possess the right of taking and condemning lands within the State of New Jersey, or corporations provided for by "An Act concerning banks and banking," or by "An Act concerning trnst companies," or by "An Act concerning safe deposit companies" (all statutes of the year 1899) are formed under the general law of 1896 and its supplements. Corporations may be formed under this statnte for almost any purpose, such as mannfacturing, mining, and the conducting of mercantile business, etc., and also for the purpose of constructing, maintaining, and operating railroads, telephone, or telegraph lines outside of the State of New Jersey. They may be formed by not less than 3 persons. Such corporators execute a written certificate which must set forth — First, the name of the corporatiou, which should be clearly distinguishable from the name of any other corporation. Second, the location of its principal office in the State, designating the city, street, and number. Third, the objects for which the corporation is formed. Fourth, the total amount of the authorized capital stock of the corporation, which shall not be less than $2,000 par value; the number of shares into which the same is divided, and the par value of each share; the amount of capital stock with which it will commence business, which shall not be less than $1,000, and, if there be more than one class of stock created by the certificate of incorporation, a description of the different classes, with the terms on which they are created. Fifth, the names and post-office address of the incorporators, and the number of shares subscribed for by each, the aggregate of which must be the amount with which the company will begin business, and shall be at least $1,000. [*Note* — The post-office addresses given by the incorporators may be made the post-office address of the company itself, at its principal office, and the certificate should contain the name of the officer or agent of the corporation in charge of its principal office.] Sixth, the period, if any, limited for the duration of the company; it may be perpetnal if desired. Seventh, any special provisions which the incorporators may choose to insert for the regulation of the company's business and affairs, and any provision creating and defining, limiting and regulating the powers of the corporation, the directors, and the stockholders, or any class or classes of stockholders. This certificate must be acknowledged by those executiug it, and recorded as a deed in the office of the Clerk of the county in which its principal place of business in the State is fixed, and then filed in the office of the Secretary of State. Compauies so formed are privileged to carry on their business within and without the State in the manner set out in the certificate of organization. Unless fully paid for the stock in such corporations is liable to assessment in order to pay the debts of the corporation. Stocks may be paid for in cash or in property conveyed to the company therefor. If it be clear that property conveyed to the company for which stock is issued is fraudulently overvalued, the holder of the stock so issued can be held for the payment of such balance as may appear to be due upon the stock. Otherwise there is no personal liability when stock is fully paid for except as hereinafter stated. The president and treasurer of each company so incorporated are required, within 10 days after the stock of the company issued is fully paid for, to file in the office of the Secretary of State a certificate to that effect. Changes in the amounts of the capital stock, the par value of the shares, the nature of the company's business, etc., must be certified by papers filed by the officers of the company in the office of the Secretary of State. The stock and transfer books of the company must be kept at its office within the State. Directors' meetings may be held within or without the State, as the by-laws provide. Stockholders holding full paid stock are not liable for the debts of the corporation unless its capital has been reduced and part of it repaid to the stockholders, in which case they may be compelled to refund such proportions of the money received by them as may be necessary to pay the debts of the company due when the capital was withdrawn. The officers of the company, that is, the president and directors, secretary and treasurer, neglecting and refusing to file and record a certificate showing the payment of the last instalment due upon the capital stock of the company for 30 days after a written request to do so made by a creditor or stockholder of the company, become jointly and severally liable for all debts of the company contracted after

such notice and until such certificate be filed. Corporations are not allowed to make dividends excepting from surplus or net profits arising from the company's business. If a dividend be declared in violation of this provision of the law, the directors participating in the act or having knowledge of such act and not entering their dissent thereto, become jointly and severally liable, in the event of the insolvency of the company or its dissolution, for the full amount of the dividends so paid, with legal interest thereon. Corporations are deemed insolvent when they cease to do business for lack of sufficient funds to carry on the same, and may then be placed in the hands of receivers by an order of the Court of Chancery, and their assets may be disposed of by such receivers for the benefit of their creditors, whose claims, unless lawfully secured or having a legal preference of some kind, are paid *pro rata*. Judgment creditors not holding judgments confessed for the purpose of preferring them, and *bona fide* mortgage creditors are preferred over the general creditors, as are employees of the corporation in their wages due and unpaid. It is unlawful for a corporation to sell, convey, assign, or transfer any of its property in contemplation of its insolvency, such acts being utterly null and void as against the creditors of the concern, excepting in cases where a *bona fide* purchase of property is made for valuable consideration before the company shall have actually suspended its ordinary business, in which cases the transfers are held good.

Foreign Corporations.— No foreign corporation, other than banking, insurance, ferry, and railroad corporations (which are otherwise controlled), is permitted to transact business within the State until it shall have filed in the office of the Secretary of State a copy of its charter or certificate of organization, duly attested by its president or vice-president and treasurer or secretary, under its corporate seal, and a statement by its same officers, also under the corporate seal, setting forth the total amount of capital stock the company is authorized to issue and the amount actually issued, the character of the business in which it is engaged, and in which it proposes to engage within the State, a citizen or corporation of the State named as its agent upon whom legal process may be served, and which citizen or corporation must have an office or place of business in the State which shall be held to be the principal place of business in the State of such corporation. The appointment of such resident agent may be revoked in writing by the company at any time, or by the death or departure from the State of such agent, or if the agent be a corporation upon such corporation's becoming disqualified so to act. In such event until the company shall appoint a new agent within the State, the Secretary of State is treated as the agent of the company to receive service of judicial writs, etc. If a foreign corporation remain without a resident agent other than the Secretary of State for more than 30 days, the Secretary of State is required to revoke the authority of the company to do business within the State. Until foreign corporations so transacting business in the State shall have complied with the requirements of this law, and obtained a certificate from the Secretary of State to that effect, they are prohibited from maintaining any suits in the Courts of the State upon any contract made by them *within* the State. It is unlawful for foreign corporations to transact business in this State without previous compliance with this law, and any person transacting any business for such non-complying corporation within the State is held guilty of a misdemeanor, and subject to fine and imprisonment; and the corporation itself is liable to a forfeiture of $100 for each offense of this kind, which is sued for by the Attorney-general. There seems to be but little question that the provisions of this law are constitutional and enforceable, and it is advisable to comply with its terms rather than run the risk of loss and penalties due to non-compliance therewith. The mere making of a contract in another State for the manufacture or sale of goods to be delivered within the State of New Jersey is not transacting business within the State within the terms of the statute, and such claims can be sued upon in the Courts of this State without first filing certificates as above mentioned.

Service of Process on Corporations.— In suits against foreign banking, savings, trust, guarantee, safe deposit, indemnity, mortgage, investment, loan, and building associations, service of process may be served on the Secretary of State. In suits against other foreign corporations it may be made upon the person designated to the Secretary of State to receive such service, or, if the company be doing business within the State, it may be served upon any officer, director, agent, clerk, or engineer, either personally or by leaving a copy at his dwelling-house, or else by leaving a copy at the office, depot, or usual place of business of the corporation. In cases of action at law against a domestic corporation a copy of the summons must be served on the President or other head officer of the corporation or left at his dwelling-house or usual place of abode at least 6 days before its return; and in case the President or other head officer of the corporation cannot be found in the State and has no dwelling-house or usual place of abode within the State, a copy of the summons must be served on the Clerk or Secretary of the corporation, if any there be, and if none, then on one of the directors or left at his dwelling-house or usual place of abode 6 entire days before its return.

ESTATES OF DECEASED PERSONS.— Letters testamentary and of administration are granted by the Surrogates of the respective counties. Executors, unless non-resident, are not obliged to give security. Administrators are required to give bond, with two sufficient sureties, in amount double the amount of the personal estate. If those otherwise entitled to administration of the estate fail to act, a creditor may be appointed administrator. The Orphans' Courts commonly require claims of creditors to be filed with the executor or administrator under oath within 9 months from the date of the order in that behalf. If a claim be not filed under oath within that time it is barred, so far as the executor or administrator is concerned, unless the creditor find property of the decedent not accounted for by the executor or administrator, or unless after the payment of all the debts proved against the estate, and before final distribution, a creditor brings in his claim under oath. The executor or administrator is then obliged to examine it, and if satisfied that it is rightful, must pay it in full or *pro rata* with other claims similarly presented. If the administrator or executor refuse payment the creditor may then bring suit, and if he acquire judgment becomes entitled to payment. It is the duty of the executor or administrator of the decedent to take from every distributee and legatee a refunding bond which is filed in the office of the Surrogate, and is conditioned to repay the moneys received if needed to pay debts of the estate. If a creditor fail to prove his claim to the administrator or executor before his discharge, he may procure an order of the Orphans' Court for the purpose and bring suit on such refunding bond in the name of the executor or administrator, stating also his own name, and may recover the proportion of his debt which ought to be paid out of such distributive share for which said bond has been given, but without costs. The order limiting the time for the proof of claims by creditors must be duly published. If the personal estate of a decedent be insufficient to pay his debts, the Court will grant an order for the sale of his real estate to pay the same. All creditors of a decedent have a lien upon his lands for the payment of their claims, which lien continues in force for 1 year after his decease. Executors and administrators cannot be sued for 6 months after taking out letters testamentary or of administration, and they must file an account within 1 year.

INSOLVENT LAWS.— The insolvent laws of the State affect only persons imprisoned for debt. Any person held in custody in any civil action upon *mesne* process or process of execution, or upon an attachment for not performing an award, or who may be surrendered in discharge of his bail, may make out and deliver to the officer making the arrest, or in whose custody he may be, a true and perfect inventory under oath or affirmation of all his real and personal property and rights and credits, and give bond to the plaintiff at whose suit he was arrested, with sufficient resident freehold security in double the sum upon which he is taken, conditioned that he will appear before the next Court of Common Pleas

to be held in the county, and petition said Court for the benefit of the insolvent laws ; and that he will comply with all the requirements of the laws, and will continue to appear until discharged as an insolvent debtor, and, if discharge be refused, surrender himself again, and thereupon he is discharged from custody. If he has any property to assign, an assignee is appointed to receive it and to dispose of it for the benefit of his creditors who may appear and make demand. The debtor may be examined, and if any fraud be proved he may be retained in custody or rearrested, otherwise not. The effect of these proceedings are simply to discharge the debtor's body from imprisonment, but not to release the debt or claim ; and any property which debtor may subsequently acquire may be proceeded against for the satisfaction of the creditor. It may be stated shortly that there is no involuntary bankruptcy or insolvent law in this State, a debtor not being compellable to make an assignment for the benefit of his creditors or to give up his property for their common benefit. He can, if he choose, make an assignment for the benefit of his creditors in the manner above stated, or, if being in custody for fraud or otherwise as above stated, he desires to secure his liberty, he can make such assignment under the insolvent law. Outside of these remedies a creditor is left to his own diligence to secure his claim by suit, and at any time before judgment entered or execution issued the debtor may prefer any of his creditors by conveying his property to them. So long as the act be not fraudulent it will stand. He may also at any time before judgment and execution sell, for a sufficient consideration, property which otherwise would be subject to the claims of his creditors. However, a debtor contemplating an assignment for the benefit of creditors, cannot directly or indirectly make or allow a preference of any creditor or securing of any person under liability for him within 2 months preceding the making of his general assignment if the person so preferred or secured have reasonable cause to believe his debtor is insolvent or contemplates insolvency. Under such circumstances such acts are void as against the assignee. The United States Bankruptcy Act also avoids such acts if done within 4 months previous to the filing of the petition in Bankruptcy.

INTEREST.— Six per cent. All contracts for a higher rate are void. In actions brought to recover usurious debts, the creditor can only recover the actual amount loaned, without interest or costs of suit, and any amount paid by way of interest shall be dededucted from the amount actually loaned.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION, AND SUPPLEMENTARY PROCEEDINGS.— Judgments by default may be entered at any time when the plaintiff becomes entitled thereto. (See title "Actions and Suits.") In contested cases judgment is entered upon the determination of the cause.

Lien of Judgment.— From the date of its entry a judgment in the Supreme or Circuit Court is a lien upon the lands of the defendant lying within the jurisdiction of the Court. A judgment in the Court of Common Pleas becomes a lien upon the debtor's lands within the jurisdiction from the date of an entry in the minutes of the Court of a Rule for that purpose. Judgments in the Small Cause Courts do not become liens upon lands until docketed in the Court of Common Pleas. Judgments give no liens upon personal property in themselves. All judgments (excepting those entered on recognizances) stand for 20 years and may then be renewed by *scire facias*. A system of docketing judgments is provided by law whereby any judgment of a Small Cause Court, not less than $10 in amount, may be made a lien upon lands of the debtor within the county by docketing it in the Court of Common Pleas for the county in which the Small Cause Court rendering the judgment sits. These judgments may be finally docketed in the Supreme Court if desired, when they become a lien upon any lands of the judgment debtor situate anywhere within the State. Judgments of Common Pleas and Circuit Courts may likewise be docketed in the Supreme Court.

Execution.— Executions may issue upon entry of judgment. In the Small Cause Courts the execution is returnable in 30 days ; in the higher Courts executions are returnable to the next ensuing term. The levy under the execution must be made before the return day of the writ, but the lien of the execution holds good, unless displaced by a later execution and levy by another, which may result when the prior execution is not pushed with reasonable promptness under all circumstances. A sale under execution issued by a junior judgment creditor discharges the lien of a prior judgment upon which no execution has been issued, and lands sold under such execution will pass to the purchaser cleared and acquitted from the lien of such prior judgment on which no execution has issued. If execution on a junior judgment displace an execution issued on an older judgment the junior execution creditor receives the first proceeds of sale. The issue of an execution upon a judgment, and levy thereunder, perfects its lien upon lands of the debtor within the jurisdiction. Executions bind persoual property of debtors from the time they are delivered to the Sheriff.

Stay of Execution.— There is no stay of execution in any of the higher law Courts, but in the Small Cause Courts the defendant may stay execution by coming into Court and confessing judgment with a good and sufficient freeholder resident in the county who joins with him in confessing judgment to the plaintiff for his demand with costs. In such cases if the judgment does not exceed $15, and be not less than $5, execution is stayed for 1 month ; if the judgment exceeds $15, and is not more than $60, execution is stayed for 3 months ; and if the judgment exceeds $50, execution is stayed for 6 months. In cases where execution is thus stayed in the Small Cause Courts it is advisable to docket the judgment in the Court of Common Pleas of the county in order to secure a lien upon the lands of the freehold surety.

Supplement Proceedings.— Where a judgment has been acquired or docketed in the Supreme Court or in the Circuit Court or Court of Common Pleas, and insufficient property of the debtor shall be found to satisfy the execution issued thereon, and the amount due on the judgment is not less than $25, an order of the Judge or Supreme Court Commissioner can be obtained for an examination of the debtor as to his affairs, if the judgment creditor file a verified petition stating the amount due on the execution, that the execution is returned unsatisfied, and the belief of the affiant that the judgment debtor has property or money or things due him, or held in trust for him when the debtor himself has created the trust, over and above such property as may be observed by law to an amount exceeding $50. When such order is granted the debtor may be examined under oath, and a receiver may be appointed to take such property and dispose of it for the benefit of the creditor, and the debtor and the person or persons holding such property may be restrained from disposing of the same. The debtor may also be compelled to convey and deliver to the receiver all such property as he may have concealed. A Judge of any city District Court may make similar orders for the examination of a debtor against whom judgment has passed in his Court for not less than $25, and may appoint a receiver for such judgment debtor, but such receiver cannot receive or dispose of any real estate belonging to the judgment debtor. By statute of 1901 if money due upon a judgment obtained against any debtor cannot be collected by execution, and it shall appear upon supplement proceedings that the debtor is entitled to and is in receipt of an income or any property or money held in trust for him, except such trust funds as are now exempt by law, the Judge ordering supplemental proceedings may direct the judgment debtor to make payments at stated periods in instalments, and upon such terms and conditions as may be directed out of such income. This statute is intended to make it possible to force payment by the debtor out of salary or wages earned by him.

JURISDICTION OF COURTS.— The Supreme Court has original jurisdiction of all suits at law of a civil nature. Judgments for less than $200 do not carry costs excepting in cases where the title to lands comes in question or the Judge of the Court gives his certificate that the plaintiff has reasonable grounds for suing in that Court and that the damages sued for were reduced by the evi-

dence. The Circuit Courts have original jurisdiction of all law suits of a civil nature. If judgment pass for less than $100 no costs are allowed unless the suit affect the title to lands, or the Judge gives his certificate that the bringing of such suit in said Court was proper. The Common Pleas Courts have no jurisdiction of causes where the title to land may come in question, but otherwise have concurreut jurisdiction with the Circuit Court. Justices' Courts are held by any Justice of the Peace in this State and have jurisdiction in the amount of $200, exceptiug in cities where District Courts are held. In such places Justices of the Peace have no civil jurisdiction. Outside of said cities they have jurisdiction of all causes of a civil nature at law wherein the demand does not exceed $200, excepting in actions of replevin, slauder, trespass, or assault, battery, or imprisonment, and actions wherein the title to land may come in question. In cities having a population of 20,000 and over the City District Courts have exclusive jurisdiction of civil causes otherwise triable before a Justice's Court when the defendant resides within the city, and their jurisdiction also extends throughout the county, but is not otherwise exclusive of the jurisdictiou of Justices' Courts. The jurisdiction of the City District Courts covers every suit of a civil nature at law when the matter in dispute does not exceed $300, unless the title to lauds may come into question. Orphans' Courts are held in each county by the Supreme Court of Justice holding the Circuit Court for that county and the Judge of the Common Pleas, or either of them. They have jurisdiction over affairs of decedent's estate, wills, administrations, guardianships, assignmeuts for the benefit of creditors, etc.

LIMITATION OF ACTION.— Suit must be brought on ordinary book accounts, bills of exchange, and simple promissory notes, for all debts founded upon any lending or contract not under seal, and for damages for breach of contract not under seal, and in replevin, within 6 years from the time the debt or damages accrue. On mutual running accounts concerning trade or merchandise between merchant and merchant, their factories, agents, and servants, suit must be brought within 6 years from the entry of the last items on the side of each party to the account. On bonds and other sealed instruments and awards under seal suit must be brought within 16 years, excepting on recognizances, which must be sued on within 6 years, and on some official bonds. Action must be brought on judgmeuts within 20 years, excepting on judgment on forfeited recognizances which must be acted upon within 10 years. The statute of limitatious does not run while the defendant is a non-resident within the State, unless the plaintiff be also a non-resident and the cause of action arose without the State. Part payment of an outlawed debt or a new promise in writing to pay the same revives it. The time that the plaintiff may be insane or under age does not count against him under the statute.

RECORDING OF DEEDS, MORTGAGES, AND LEASES.— Any one receiving a deed, mortgage, or lease for more than 10 years, or au assignment or mortgage thereof, should deliver the same without delay to the Clerk or Registrar of Deeds of the county in which the land described in such instrument lies in order that the same may be promptly recorded. Loss of the property may result from failure to do this, and a subsequent purchaser without notice and for value who places his conveyance, mortgage or other instrument on record first, will defeat the trausfer evidenced by the instrument not recorded.

REDEMPTION.— A debtor cannot redeem his property after judicial sale thereof, excepting in case of a foreclosure sale of mortgaged real estate when, if a suit be brought by the mortgagee to recover any deficiency in his claim due to the failure of the real estate to sell for sufficient to pay it the sale of the real estate is opened, and the debtor may redeem the property by paying the debt in full.

REPLEVIN.— If goods or personal property of any one be taken and wrongfully detained, the owner may recover them by an action of replevin. In bringing suit, the plaintiff, if he desires to seize the goods, must give bond to double the value of the goods seized, which value is ascertained by appraisers duly sworn, otherwise he must make a deposit of an amount of money equal to double the appraisement. If he do not desire to seize the goods at the time, he need uot give bond. The title to the goods is settled by the event of the suit. This action is often useful and affective when property has been obtained from its owner through fraud.

NEW MEXICO.

ACKNOWLEDGMENTS.— If taken within the Territory: Clerk of District Court; Judge or Clerk of Probate Court using a seal; Notary Public; Justice of the Peace. If without Territory but in United States: A Clerk of some Court of Record having a seal; a Commissiouer of Deeds appointed by the Territory, or a Notary Public. Outside of United States: A duly accredited Minister, Commissioner, or *Charge d'Affaires*, Consul-General, Consul, Vice Cousul or Deputy Consul, or Consul or agent resident in the couutry where acknowledgment is made and haviug a seal, or a Notary Public having a seal. No separate examiuation of wife is necessary. Statute makes very simple form of acknowledgment sufficient.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— Capias may issue out of District Court upou affidavit of any creditor whose demand amounts to $50 or more, showing amoug other things that defendant is about to abscond from the Territory, so as to endanger collection of his debt, but plaintiff is required to give bond as in attachments. No execution against the person will be issued except in judgmeuts for fraud and personal injuries, provided the defendaut presents under oath a schedule of all his property, money, and credits.

ASSIGNMENT LAWS.— 1. Does there exist in this Territory a separate, distinct assigumeut, insolvency, or bankrupt law?— A. Yes, there exists a voluntary assignment act, which takes place under supervision of District Judge. It is a very elaborate proceeding.

2. Does the law in this Territory permit the debtor to make a preferential assignment?— A. No; all creditors share equally.

3. Can a judgment by default or confession be given in favor of relatives or friends, thus defeatiug the efforts of general or outside creditors?— A. A judgment by default or coufession can be given in favor of any one, if founded on a good consideration and not made to defraud creditors.

4. Can conveyauce or trausfer of property be made immediately anterior to assignment and still be held valid?— A. Yes, it can; but statute gives creditors right to file a bill and set aside all such trausfers taking place within 6 months before failure, and forcing the beneficiary to put what he has received back into the estate so that all creditors shall share equally. Mortgages or ordinary sales made even up to time of assignment, in good faith, and for valuable consideration that actually passes between the parties, are held good; but this is always a question of fact that can be attacked.

5. Can a debtor in this Territory obtain a discharge from his obligations without the unanimous consent of creditors and under what circumstances?— A. The claim of no creditor can be discharged without his consent, unless paid in full.

6. Does the acceptance of a dividend from an estate uuder assignment iu this Territory discharge the debtor?— A. No.

7. What is the position of creditors who do uot come into an assignmeut, should one be made?— A. Their only loss is the dividend.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Three days of grace, according to law merchants are allowed ou bills of exchange and promissory notes, but if they fall due on legal holiday or Sunday, they are construed to fall due and become payable on the next business day thereafter. Notes, bonds, due bills, and other instruments in writing, by which maker promises to pay to another or order or bearer auy sum of money or property or labor,

or acknowledges money, labor, or property to be due, are assignable by indorsement or any other writing. The rate of damage to be allowed aud paid upon the non-acceptance or non-payment of bills of exchange, drawn or indorsed in this Territory, when damage is recoverable, are: If drawn on a person at a place out of the United States, 12 per cent. upon the principal specified in the bill, with interest thereon from the time of the protest; if drawn upon a person anywhere in the United States or Territories, 6 per cent., with interest.

COMMENCEMENT OF SUIT.— Summons is directed to defendant aud made returnable in 20 days if served within district where suit is commenced, otherwise within 30 days, at which time defendant must appear and auswer or demand copy of complaint. Subsequent pleadings to be filed and served within 10 days from filing and service of last pleading; issues are thus made up and defaults taken without reference to a term of Court.

CORPORATIONS.— Corporations are organized under a General Incorporation Act and not by a special charter. Any 3 or more persons may execute a certificate of incorporation stating the names of the incorporators and of the company, the objects, amouut of capital stock, time of existence, number of shares, number and uames of directors, and principal place of business; upon the filing of which with the Secretary of the Territory, and a certified copy in the office of the Probate Clerk in the county in which the principal place of business is located, the incorporation is perfected. All of the powers usually incident to incorporation are given to such companies. The board of directors shall consist of not less than 3 stockholders of whom a majority must be citizens of the United States, and at least one-third residents of the Territory. The stock of the company is deemed personal property and transferable as provided by the by-laws. It is subject to execution and garnishment, and at judicial sale is sold to the person who will pay the debt or judgment and costs for the smallest number of shares. The total amount of debts of the company shall not at any time exceed the amount of its capital stock; and in case of any excess, the directors present at the meeting contractiug the indebtedness, and not disclaiming responsibility therefor, are personally liable for such excess. Foreign corporations may enter the Territory upon the same terms and conditions as local corporations, paying the same fees as domestic corporations pay for incorporation, and complying with similar provisions as to filing of papers. Foreign corporations must appoint an authorized agent residing at the principal place of business within the Territory upon whom process may be served. Foreigu corporations may only hold real estate in the manner provided by the act, and are not permitted to mortgage, pledge, or encumber real or personal property situated in the Territory to the injury or exclusion of local creditors. Special provisions are made for incorporation of literary, scieutific, and benevolent associations, building and loan associations, ditch companies, railroad and express companies, banks, insurance companies, and municipal organizations. Special provisions also govern foreign insurance companies.

ESTATES OF DECEASED PERSONS.— Executors and administrators must render an account to the Probate Court, after 6 and before 7 months after his appointment, and from time to time as may be convenient; and, unless otherwise ordered by the Court, he must file his final account within 18 months after his appointment. Claims against estates must be filed within 12 months, and all suits on rejected or disputed claims must be brought within 18 months.

EXEMPTIONS.— Every person who has a family, and every widow or widower living with au unmarried daughter or unmarried minor sou, homestead to value of $1,000; all wearing apparel of family, beds, bedsteads, and bedding necessary for use of same; cook-stove and pipe, and heating stove and fuel for 60 days; 1 cow, 2 swine, 6 sheep, or in lieu, furniture to stated value; all religious books, etc., and pictures; $50 worth of provisions, and kitchen and household furniture to $200 in value; one sewing machine, one knitting machine, and all tools and implements necessary to carry on debtor's trade up to value of $150; the personal earnings of debtor aud his miuor childreu for 3 months, except as against debts for necessaries for family; all cabinets of specimens not intended for gain. In addition, every drayman holds his horse and dray; every farmer, being the head of a family, 2 horses, 1 yoke of cattle, and gearing necessary, and 1 wagon; every doctor his horse, saddle, bridle, aud books, instruments, etc., up to $100 in value; every lawyer a library not over $500 in value. Every unmarried woman holds exempt clothing to value of $150, 1 sewing machine, 1 kuitting machine, and, if music teacher, 1 piano or organ and books to value of $50. All beneficiary funds not over $5,000 paid by any benevolent association to family of any member are not liable to member's debts.

INTEREST.— Six per ceut. is the legal rate of interest, but parties may agree in writing for any rate of interest not exceeding 12 per cent. Open accounts bear interest at 6 per cent. from 6 months after the date of last item in the account. Judgments bear the same interest as contract sued on, and in absence of any specified rate 6 per cent.

INTESTATE LAWS.— Dower does not exist. One-half of acquest property, after payment of debts, is set apart to surviving wife or husband. Remainder of acquest property and a separate estate of decedent descends, in absence of a will, as follows: 1. One-fourth to surviving wife or husband; remainder in equal shares to children. 2. If no issue, whole to wife. 3. If no wife, what would have been her portion, to his parents, or the survivor of them. 4. If no parents, it passes as if the parents had outlived the intestate, or died in possession of their share. Aud so throughout the ancestral line. 5. If no heirs thus found, estate goes by like rules to heirs of the wife of intestate, if dead; and if he had more than one wife who died, it goes equally to heirs of all such wives by representation.

JUDGMENTS.— Plaintiff has judgment on sworn accounts filed with declaration, unless denied under oath.

JURISDICTION OF COURTS.— Justices of the Peace have jurisdiction of $100 in civil cases, but not where the title of land is subject, and not in actions of slander, libel, or false imprisonment. In capias cases their jurisdiction is limited to $50. The Probate Courts have jurisdiction of Probate matters only. District Courts have common law and chancery jurisdiction.

LIMITATIONS.— Actions against estates of decedents, within 18 months after the appointment of executor or administrator; for damages against railroads, etc., two years after cause of action accrues; for lost baggage, 3 months after cause of action accrues; on judgment, must be brought within 7 years, if the judgment is a local one, aud within 5 years if it is a foreign one. Instruments in writing and judgments of Courts uot of record, 6 years; unwritten contracts, 4 years.

MORTGAGES.— All deeds and papers affecting real estate in any manner must be acknowledged and recorded. Growing crops cannot be mortgaged. Possession of personal property must change or mortgage be filed and recorded. Within 30 days prior to expiration of 1 year, mortgagee or agent must make affidavit and file and record with chattel mortgage showing amount unpaid.

TAXES.— Due September 1st, delinquent after December 1st as to first half, and June 1st as to second half; may be paid with penalty up to time of sale. Twelve per cent. per annum on sum sold for, if redeemed, must be paid. (New Act, 1899.)

NEW YORK.

ACKNOWLEDGMENTS.— If made without the State, they may be taken by Judges of United States Courts, Judges of the Supreme, Circuit, or Superior Court of any other State or Territory, within the jurisdiction of their Courts; by the Mayor of any city, or by a New York Commissioner. When made by any person residing out

SUPREME COURT BUILDING, NEW YORK CITY

COLUMBUS MONUMENT, NEW YORK CITY

of the State, and within any other State or Territory, they may be taken before any officer of such State or Territory authorized by its laws to take acknowledgments, but there must be subjoined or attached to the certificate of acknowledgment a certificate under the name and official seal of the Secretary of State in which such officer resides, or of the Clerk, Register, Recorder, or Prothonotary of the county in which such officer resides, or the Clerk of any Court thereof having a seal, specifying that such officer was, at the time of taking such acknowledgment, duly authorized to take the same, and that such Secretary, Clerk, etc., is well acquainted with the handwriting of such officer, and verily believes that the signature to said certificate of acknowledgment is genuine. If made in any foreign country they may be taken by any Consul, Vice-Consul, Deputy Consul, Consular Agent, Vice-Consular Agent, Commercial Agent, or Vice-Commercial Agent of the United States Government, resident in any foreign port or country, and certified by him under his seal of office, or under the seal of the Consulate or Agency to which he is attached. The statutory form of the certificate is as follows:

> "On this —— before me a —— personally appeared A. B., to me known to be the person described in, and who executed the foregoing instrument, and acknowledged to me that he executed the same."

If made in Porto Rico, the Philippine Islands, Cuba, or in any other place over which the United States exercises sovereignty, it it may be made before a Judge of a Court of Record thereof, a Mayor or other chief officer of the city, a Commissioner appointed by the Governor of this State, or an officer of the United States army or volunteer service of the rank of captain or higher, or an officer of the United States navy of the rank of lieutenant or higher, while on duty at the place where the parties are or reside. If taken before a Judge, Mayor, or Commissioner, the certificate shall have attached the seal of the Court or officer. If before an officer of the army or navy the certificate shall state his rank, name of the political division where taken, the fact that he is on duty there, and shall be authenticated by the Secretary of War, or the Secretary of the Navy.

ACTIONS, SERVICE OF SUMMONS, Etc.— All civil actions must be prosecuted in the name of the real party in interest, except that an executor, administrator, a trustee of an express trust, or a person expressly authorized by statute may sue in his own name. All causes of action upon contract are assignable but the assignee takes them subject to the equities and matters of defense as between the original parties. Actions are commenced by the service of the summons. The summons must be served on the defendant personally within the jurisdiction of the Court, except that, in Courts of Record, service without the State, or by publication, may be made in the following cases and in some others not necessary to be mentioned in this connection, to wit: 1st, Where the defendant to be served is a foreign corporation, or, being a natural person, is not a resident of this State. 2d, Where the defendant, being a resident of this State, has departed therefrom, with intent to defraud his creditors, or to avoid the service of a summons, or keeps himself concealed therein with like intent. 3d, Where the defendant, being an adult, and a resident of the State, has been continuously absent from the United States more than 6 months, and has not, according to the statute, designated a person upon whom to serve a summons in his behalf. A defendant served without the State or by publication, upon good cause shown, must be allowed to defend the action at any time within 7 years after the filing of the judgment roll, and within 1 year after personal service of written notice of the judgment; and where the summons has been served otherwise than personally within the State, and the defendant has not appeared, no judgment will be entered unless the plaintiff files an undertaking, executed by 2 sureties who are residents of the State, and house holders or freeholders therein, that he will abide the order of the Court touching the restitution of any property which may be directed by the judgment to be transferred or delivered, or the restitution of any money that may be collected under or by virtue of the judgment, in case the defendant applies and is admitted to defend the action, and succeeds in his defense; nor will a judgment in such cases be entered for a sum of money only, where the defendant is a non-resident, or a foreign corporation, and has not appeared, unless a warrant of attachment has been granted in the action and levied upon property of the defendant. Judgment by default may be entered if the defendant does not appear within 6 days from the service of the summons in the City Court of the City of New York, and within 20 days in the Supreme Court, or in the County Courts. In the New York City Court, if either the plaintiff or the defendant is a non-resident of New York City and the plaintiff files a bond as security for all costs without limit, he can obtain an order shortening the time in which the defeudant must appear to 2 days. The order also serves to cut the defendant off from one opportunity of delaying the case. Actions may be commenced, and judgments may be entered, in vacation as well as while the Court is sitting.

AFFIDAVITS. — "An oath or affidavit required, or which may be received in an action, special proceeding, or other matter, may be taken without the State, except where it is otherwise specially prescribed by law, before an officer authorized by the laws of the State to take and certify the acknowledgment and proof of deeds, to be recorded in the State; and, when certified by him to have been taken before him, and accompanied with the like certificates, as to his official character and the genuineness of his signature, as are required to entitle a deed acknowledged before him to be recorded within the State, may be used, as if taken and certified in this State, by an officer authorized by law to take and certify the same."

ARREST AND IMPRISONMENT IN CIVIL ACTIONS.— The defendant may be arrested in an action brought for any of the following causes: 1st, To recover a fine or penalty; 2d, to recover damages for a personal injury; 3d, an injury to property, including the wrougful taking, detention, or conversion of personal property (but this does not apply to a claim for damages in an action to recover a chattel); 4th, breach of promise to marry; 5th, misconduct or neglect in office or in a professional employment; 6th, fraud; 7th, deceit; 8th, to recover property held or owned by the State, or held or owned for or in behalf of a public or governmental interest, by a municipal or other public corporation, board, officer, or agent of the State, which the defendant has wrongfully obtained or converted, or to recover damages for such wrongful conversion; 9th, to recover a chattel, where it has been concealed or disposed of so that it cannot be found by the Sheriff and with the intent to deprive the plaintiff of the benefit thereof; 10th, upon contract, other than a promise to marry, where the defendant has been guilty of a fraud in contracting the liability, or has removed, or disposed of his property with intent to defraud his creditors, or is about to do so; 11th, to recover money received, or property embezzled by a public officer, or an attorney, agent, broker, or other person in a fiduciary capacity, (but this does not apply to an action to recover a chattel); 12th, to recover a judgment requiring the performance of an act, the neglect or refusal to perform which would be a contempt of Court, where the defendant is not a resident of the State, or, being a resident, is about to depart therefrom, by reason of which non-residence or departure there is danger that the judgment will be rendered ineffectual. A woman cannot be arrested except in the case last mentioned, or where the action is to recover damages for a wilful injury to person, character, or property. The plaintiff must give security before the order of arrest is issued, in a sum to be fixed by the Judge, not less than $250, and at least one-tenth the amount of bail required by the order. After the judgment the person of the defendant may be taken under execution where the plaintiff's right to arrest the defendant depends upon the nature of the action, as in the first eight cases, and in other cases where an order of arrest was granted and executed before judgment, and has not been vacated. But the defendant may not be actually imprisoned more than 3 months if claim is for less than $500, nor more than 6 months if claim is over $500.

CONDITIONAL SALES.— In contracts for the couditional sale of goods and chattels accompanied by an immediate delivery and followed by an actual and continued change of possession of the goods, all conditions which provide that the title is to remain in the vendor or in some person other than the vendee, until the price is paid or until any future event, are absolutely void as against subsequent purchasers and mortgagees in good faith, and as to them the sale shall be deemed absolute, unless the contract, with such conditions therein, or a true copy thereof, shall be filed in the office in which a chattel mortgage, upon the same property, executed by the same persons, would be required to be filed, the conditional vendee being the mortgagor. If the vendee be a railroad corporation the instrument must be filed in the office of the Clerk of each county in which its railroad is located, or, in counties where there is a register, in the office of the Register. The said conditions will cease to be valid as against subsequent purchasers or mortgagees in good faith, unless within 30 days next preceding the expiration of each aud every term of 1 year after such filing, a true copy of the instrument together with a statement exhibiting the interest of the vendor in the property thereby claimed by him by virtue thereof, is again filed in the office of the Clerk or Register aforesaid of the town or city where the vendor shall then reside, if the veudor shall then be a resident of the State ; and if not such a resident, then in the office of the Clerk or Register of the town or city where the property was at the time of the execution of the instrument. The act does not apply to household goods, law books, law blanks, and law office supplies, piauos, organs, safes, scales, butchers' and meat market tools and fixtures, wood cutting machinery, engines, dynamos, boilers, portable furnaces, boilers for heating purposes, threshing machiues, horse powers, mowing machines, reapers, harvesters, grain drills and attachments, dairy sizes of centrifugal cream separators, coaches, hearses, carriages, buggies, phaetons, and other vehicles, bicycles, tricycles, and other devices for locomotion by human power ; provided, that the contract for the sale of the same be executed in duplicate, and one duplicate is delivered to the purchaser. In case any articles are sold upon the condition that the title shall remain in the vendor, or some other person than the purchaser, until the payment of the purchase price, or until the occurring of any future event, and the same is retaken by the vendor, the property so retaken shall be retained for 30 days by the person by whom or on whose behalf the same has been so taken, duriug which time the purchaser or his successor in interest may fulfil such contract and shall be entitled thereupon to receive such property. After the expiration of such time the person by whom or on whose behalf the said property has been taken may proceed to sell the same at public auction, and out of the proceeds may retain the balance remaining unpaid on the purchase price and the expenses of storing, advertising, and sale thereof ; and any surplus remaining shall be paid to the person or persons from whom the property was taken. But no such sale shall be made until after the giving of a printed or writteu notice of such sale to the vendee, or his successor in interest, if he is within the county where the sale is to be held ; aud if not within such county, or he cannot be found therein, such notice shall be mailed to him at his last known place of residence, and shall state the terms of the contract, the amount paid thereon, the amount of expenses of storage and the time and place of such sale, and the notice must be served at least 15 days before such sale. Of the proceeds of such sale, the vendor or his successor may retain the amount due upon the contract, with expenses of storage and sale, and the balance shall be held subject to demand of the vendee or his successor, and notice that such balance is so held shall be served personally or by mail upon the vendee or his successor. If not called for within 30 days from time of sale such balance shall be deposited with the treasurer or chamberlain of the city or village, or supervisor of the town where the sale was held, and there shall be filed therewith a copy of the notice served on the vendee and a verified statement of the amount unpaid upon the contract, expense of storage, and sale and amount of such balance. The officer with whom such deposit is made shall pay to the vendee or his successor the amount thereof. Unless such articles so taken are sold within 30 days after the expiration of such time for redemption, the vendee or his successor may recover of the vendor the amount paid on such articles by such vendee or his successor.

CONSIGNMENTS.— If a consignee pledges or sells the goods consigned to him aud appropriates the money he receives to his own use, "contrary to good faith and with intent to defraud" the owner, he is guilty of a misdemeanor, and upon conviction may be punished by a fine of $250 or imprisoned for 1 year, or both. He may also be arrested and held to bail in a civil actiou. But an order of arrest in a civil action will not lie if it appears that by the terms of the agreement, or by the course of dealing between the parties, the agent had the right to mix with his own money the money received by him for his principal. In making consignments it is prudent to have an express agreement that the agent shall keep the principal's funds separate from his own.

CORPORATIONS.— For manufacturing, mechanical, chemical, mercantile, or commercial purposes, and nearly every other class of business, except banking, insurance, or transportation, must be organized under The Business Corporation Law of 1890, Chapter 567, as amended. To form such a corporation a certificate of incorporation made in accordance with said act must be executed and filed in the office of the Secretary of State at Albany, and a duplicate thereof or a copy certified by the Secretary of State, filed in the office of the Clerk of the County in which the company's principal office is to be located, but before such filing an organization tax of one-twentieth of 1 per cent. upon the amount of the capital stock is payable to the State Treasurer, and filing and recording fees amounting to $11 to the Secretary of State. The County Clerk's fee is $1. Before the corporation may transact any business a further certificate executed by the president or vice-president and treasurer or secretary, showing that one-half the capital stock has been subscribed, is to be filed in both of said offices. The fees are merely nominal. Within 1 year after incorporation one-half of the capital stock is to be paid in, and a certificate to that effect, signed and acknowledged by a majority of the directors and verified by the president or vice-president and treasurer or secretary, filed in the offices above mentioned. If this is not done, the corporation shall be dissolved. Such dissolution, however, does not impair aay remedy against it, its stockholders or officers, or any liabilities incurred before such dissolution. Such companies are required to file in the office of the Secretary of State each year during the month of January, or if doing business without the United States before the first day of May, a report in which shall be stated: 1, The amount of its capital stock and the proportion actually issued ; 2, the amount of its debts or an amount which they do not then exceed ; 3, the amount of its assets or an amount which its assets at least equal.

The report must be made by the president, vice-president, treasurer, or secretary of the corporation. If the report is not so made and filed, any such officer who shall thereafter neglect or refuse to make and file the report, within 10 days after written request has been made by a creditor or stockholder of the corporation, shall forfeit to the people the sum of fifty dollars ($50) for every day he shall so neglect or refuse. The officers and directors signing a report false in any material representation are jointly and severally personally liable to any person becoming a creditor or stockholder upon the faith of such false report to the amount of the debt contracted upon the faith thereof if not paid when due, or the amount of the damage sustained by any purchaser of or subscriber to its stock upon the faith thereof. The action must be brought within 2 years after the signing of the report. Directors of the corporation shall not make dividends, except from the surplus profits, nor divide, withdraw, or in any way pay to the stockholders any part of the capital except as authorized by law. If such is done the directors under whose administration it was so done, except those who may have dissented therefrom, shall jointly and severally be liable to the corporation and the creditors to the full amount of any loss

sustained by them. Every holder of stock not fully paid is personally liable to creditors of the corporation to an amount equal to the amount unpaid on the stock held by him for debts of the corporation contracted while he was the owner thereof, but notwithstanding such full payment of capital stock the stockholders shall, jointly and severally, be personally liable for all debts due and owing to any of its laborers, servants, or employees other than contractors, for services performed by them for such corporation. If a laborer, servant, or employee intends to hold a stockholder liable for services he must give him notice in writing within 30 days after the termination of the services, and he is required to commence an action therefor within 30 days after the return of an execution unsatisfied against the corporation upon a judgment recovered against it for services. No action can be brought against a stockholder for any debt of the corporation until judgment therefor has been recovered against the corporation, and an execution thereon has been returned unsatisfied in whole or in part, and the amount due on such execution constitutes the amount recoverable, with costs against the stockholder. No stockholder is personally liable for any debt of the corporation not payable within 2 years from the time it is contracted, nor unless an action for its collection shall be brought against the corporation within 2 years after its debt becomes due; and no action can be brought against a stockholder after he has ceased to be a stockholder, for any debt of the corporation, unless brought within 2 years from the time he shall have ceased to be a stockholder. The stockholders of the class of corporations above spoken of are not personally liable for the debts of the corporation except as above stated. The statute provides for the creation of full liability corporations, and also for the changing of existing limited liability corporations to full liability corporations. The stockholders of the latter corporations are severally and individually liable to its creditors for all its debts and liabilities, but there are very few corporations of that class.

Foreign Corporations.—Also see title "Jurisdiction of Courts." No foreign stock corporation, other than a moneyed corporation, is permitted to do business in the State of New York unless it shall obtain from the Secretary of State a certificate authorizing it to transact business in this State. Before such certificate can be granted under the General Corporation Law the corporation applying for the same must file in the office of the Secretary of State at Albany, a formal statement in which must be set forth the following, to wit:—The business or objects of the corporation which it is engaged in carrying on, or which it proposes to carry on within the State; the place within the State which is to be its principal place of business, the designation of a person upon whom process against the corporation may be served within the State, with the office address of such person, which must be at the place where the corporation has its principal place of business within the State. Such statement should be executed in the name of the corporation, under its corporate seal, by an officer thereof. Appended to the instrument there must be an affidavit of the officer who executed it, showing that the seal attached thereto is the seal of the corporation and was attached by authority thereof, and that he executed the same by like authority. There must be affixed, to the instrument the consent in writing of the person designated to receive process, which consent shall be signed by such person and the execution thereof duly acknowledged by him. Annexed to the papers there must be a copy of the charter or certificate of incorporation of the company, sworn to as a true copy thereof, by an officer of the corporation. A certified copy does not meet the requirements of the act. All the papers should be attached so as to constitute one complete instrument for filing. The fees to be paid to the Secretary of State are $11. In order to enable the Secretary of State to issue his certificate of authority, the business to be carried on in this State must be such as may be lawfully carried on by a corporation incorporated under the laws of the State of New York for such or similar business, or, if more than one kind of business, by two or more corporations so incorporated for such kinds of business respectively. No foreign stock corporation doing business in this State without such certificate, shall maintain any action in this State, upon any contract made by it in this State, unless prior to the making of such contract it shall have procured such certificate. This prohibition also applies to any assignee of the corporation. By a statute of 1895 every foreign corporation which is now authorized to do business in the State, except banking, insurance, building, and loan associations, and corporations wholly engaged in carrying on manufactures in this State, shall on December 1st, 1895, pay to the State Treasurer a license fee of one-eighth of 1 per cent. for the privilege of exercising its corporate franchises or carrying on its business in the State, to be computed upon the basis of the amount of capital stock employed by it within the State during the year preceding that date, and every such foreign corporation which shall hereafter be authorized to do business in this State shall pay a like license fee for the privilege, to be computed upon the basis of capital stock employed by it within the State for its business during the first year of carrying on its business in this State. The certificate of authority to do business in the State will not be issued until the tax is paid. No action shall be maintained or recovery had in any Court of the State by such a foreign corporation doing business in the State without obtaining the certificate of authority and a receipt for the license fee within 13 months after beginning business within the State. Nor shall an action be maintained by an assignee of such foreign corporation or any person claiming under such assignee. Foreign stock corporations doing business within this State, except moneyed and railroad corporations, are required to file in the office of the Secretary of State, each year during the month of January, a report in which shall be stated (1) the amount of its capital stock, and the proportion actually issued; (2) the amount of its debts or an amount which they do not exceed; (3) the amount of its assets or an amount which its assets at least equal.

COSTS—SECURITY FOR COSTS.—In Courts of Record, in action upon contract for the recovery of money, the plaintiff is entitled to costs if he recovers $50 or more. If he does not, or is defeated, he must pay the defendant's costs. But the defendant, before the trial, may serve a written offer of judgment for a specified sum. If the plaintiff does not accept the offer, and fails to obtain a more favorable judgment, he must pay costs for all proceedings after the offer. If the defendant requires it, and the plaintiff resides without the jurisdiction of the Court, or is a foreign corporation, he must give security for costs in the sum of $250. If such security is not given, whether required by the defendant or not, the plaintiff's attorney is liable for any costs recovered by the defendant to the amount of $100. A plaintiff residing within the State, but without the City of New York, must give security for costs in an action in the New York City Court, unless he has a place of business within the City.

EXECUTORS AND ADMINISTRATORS.—Are allowed 1 year after the granting of letters testamentary or of administration to settle the estate, and, after that period, may be cited to render an account. Claims should be proved within 6 months after the granting of letters. If the claim is rejected, suit is barred if not brought within 6 months after the rejection.

JURISDICTION OF COURTS.—The Supreme Court has unlimited jurisdiction. The jurisdiction of the New York City Court is limited to $2,000, except in certain actions upon bonds, etc. There is a County Court for each county, having jurisdiction to the amount of $2,000, in actions where the defendant is, or if there is more than one, where all of the defendants are residents of the county. Justices of the Peace have jurisdiction in actions on contract where the sum claimed does not exceed $200, and municipal Courts, of the City of New York, where the sum does not exceed $500. An action against a foreign corporation may be maintained by a resident of the State, or by a domestic corporation, for any cause of action. An action against a foreign corporation may be maintained by another foreign corporation, or by a non-resident, in one of the following cases only: 1. Where the action is brought to recover damages for the breach of a contract made within the State, or relating to property situated within the State, at the time

of the making thereof; 2. where it is brought to recover real property situated within the State or a chattel which is replevied within the State; 3. where the cause of action arose within the State, except where the object of the action is to affect the title to real property situated without the State. For the purpose of jurisdiction of actions against foreign corporations it will suffice in cases in which the cause of action is assignable, if the plaintiff is a resident of the State and holds the cause of action by assignment.

LIMITATIONS.— Actions upon a judgment of a Court of Record, or a sealed instrument, must be brought within 20 years after the cause of action accrued, and upon any other contract, obligation, or liability, including a Justice's judgment, within 6 years. No acknowledgment of the debt will take the case out of the operation of the statute, unless the same be made in writing signed by the party to be charged thereby. Special limitations apply to actions for wrongs and actions against public officers. An action upon a claim presented to an executor or administrator and rejected by him, must be brought within 6 months after the rejection. A payment on account may prevent a bar by the statute. If, when the cause of action accrues against a person, he is without the State, the action may be commenced within the time limited therefor after his return into the State. But a non-resident of this State cannot bring an action here against a person who, at the time of the accruing of the cause of action, was not a resident of the State, when the cause of action is barred by the laws of the State wherein the defendant resides.

MECHANICS' LIENS.— A contractor, sub-contractor, laborer, or material man, who performs labor or furnishes materials for the improvement of real property with the consent or at the request of the owner thereof, or his agent, contractor, or sub-contractor, may have a lien for the principal and interest of the value, or the agreed price, of such labor or materials upon the real property improved or to be improved and upon such improvements, upon filing notice of such lien as hereinafter mentioned. Such lien shall extend to the owner's right, title, or interest in the real property and improvements, existing at the time of such filing and also to the extent of the interest which the owner may have assigned by general assignment for the benefit of creditors, within 30 days prior to such filing. If any part of the real property subjected to such lien be removed by the owner or by any other person, at any time before the discharge thereof, such removal shall not affect the rights of the lienor, either in respect to the remaining real property, or the parts so removed. In no case shall the owner be liable to pay by reason of all the liens filed a greater sum than the value or agreed price of the labor and materials remaining unpaid, at the time of filing such notice of lien; or where labor is performed for or materials furnished to a contractor or sub-contractor, the lien shall not be for a greater sum than the sum earned and unpaid on the contract at the time of filing the notice of lien, and any sum subsequently earned thereon. If, however, the owner shall pay to a contractor any sum prior to the time when, by the terms of the contract, such payment becomes due, for the purpose of avoiding the provisions of the statute, such payment shall be of no effect as against the lien of a sub-contractor, laborer, or material man under such contract, or if he shall give a mortgage or make any other lien upon the property, for a like purpose, the same shall be void and of no effect as against a claim existing at the time of such mortgage or other encumbrance. A sub-contractor, laborer, or material man may demand of the owner, or his authorized agent, a statement of the terms of the contract pursuant to which an improvement of real property is being made, and the amount due or to become due thereon, and if such demand is neglected or refused, or an intentionally false statement of the terms of the contract is made, or of the amount due or unpaid thereon, and the party has not been paid the amount of his claim against a contractor or sub-contractor, and a judgment has been obtained and execution issued thereon against such contractor or sub-contractor has been returned wholly or partly unsatisfied, the owner shall be liable for the loss sustained by reason of such refusal or false statement, and the lien filed against the real property for labor performed or materials furnished after such demand, shall exist to the same extent as if such labor or materials had been directly performed for and furnished to such owners. The notice of lien may be filed at any time during the progress of the work and the furnishing of the materials, or within 90 days after the completion of the contract or the final performance of the work, or the final furnishing of the materials, dating from the last item of work performed or materials furnished. The notice must be filed in the Clerk's office of the county where the property is situated, and if such property is situated in two or more counties, it shall be filed in the office of the Clerk of each of such counties, and must contain the names and residences of the claimants, name of the owner of the real property and his interest therein as far as known, the name of the person by whom the claimant was employed or to whom he furnished or is to furnish materials, or if the claimant is a contractor or sub-contractor, the person with whom the contract was made, the labor performed or to be performed or materials furnished or to be furnished and the agreed price and value thereof, the amount unpaid to the claimant for such labor or materials, the time when the first and last items of work were performed and materials furnished, the property on which the lien is claimed, with a description thereof sufficient for identification; and if in a city or village, its location by street and number, if known to the claimant. A failure to state the name of the true owner or contractor, or a misdescription of the true owner, will not affect the validity of the lien. The notice of lien must be verified by the claimant or his agent to the effect that the statements therein contained are true to the knowledge or information and belief of the person making the oath. At any time after filing the notice of lien, the claimant may serve a copy of such notice upon the owner, by delivering the same to him personally, or if he cannot be found, to his agent or attorney, or by leaving it at his last known place of residence in the city or town in which the real property or some part thereof is situated, with a person of suitable age or by registered letter addressed to his last known place of residence, or, if such owner has no such residence in such city or town, or cannot be found and he has no agent or attorney, by affixing a copy thereof on such property, between 9 o'clock in the forenoon and 4 o'clock in the afternoon, and until such service has been made, the owner shall be protected in any payment made in good faith to any contractor or other person claiming a lien, providing he has no knowledge of the lien filed. The lien thus acquired is prior to any conveyance, judgment, or other claim, which was not recorded, docketed, or filed at the time of filing such notice of lien and prior to advances made upon any mortgage after the filing of such notice and prior to the claim of any creditor who has not furnished materials or performed labor upon such property, if such property has been assigned by the owner by general assignment for the benefit of creditors, within 30 days before the filing of such notice. If several buildings are erected, altered, or repaired, or several pieces of real property are improved under one contract and there are conflicting liens thereon, each claimant shall have priority upon the particular building or premises where his labor was performed or his materials used. Claimants standing in equal degrees as co-laborers or material men, shall have priority according to the date of filing their respective liens; but in all cases laborers for daily or weekly wages shall have preference over all other claimants, without reference to the time when their liens shall have been filed. The lien shall not bind the property for a longer period than 1 year after the filing of the notice thereof, unless within that time an action is commenced to enforce the same; and a notice of the pendency thereof is filed with the County Clerk of the county in which the notice of lien is filed; or unless an order be granted continuing such lien. The lien may be discharged by the Court if an action has not been brought within 1 year. It may also be discharged upon depositing with the County Clerk a sum of money equal to the amount claimed with interest to the time of such deposit, or upon the owner of the premises executing a bond to the Clerk of the county where the premises are situated, in such sum as the Court may di-

rect, not less than the amount claimed in the notice, conditioned for the payment of any judgment which may be rendered against the property; also by certificate of the claimant, duly acknowledged and filed in the office where the notice of lien is filed; also by order of the Court vacating or canceling such lien for neglect of the claimant to prosecute the same and granted pursuant to the statute. Mechanics' liens as against municipal property are provided for by statute.

NOTES, BILLS, ETC.— No grace is allowed upon a sight draft payable within the State, and by statute of 1894, when there is no expressed stipulation to the contrary, no grace is allowed on any note, draft, check, bill, etc., made after January 1st, 1895. The acceptance of a bill must be in writing, signed by the acceptor or his authorized agent. To hold the drawers and indorsers of an inland bill of exchange, or the indorsers of a promissory note, the note or bill must be presented for payment, according to its terms, on the day of its maturity, and if payment is refused, notice must be forthwith given such indorsers and drawers. If the bill is a foreign bill (*i. e.*, drawn or payable without the State of New York), it must be protested, and due notice of protest must be given. January 1st, February 12th, February 22d, May 30th, July 4th, the first Monday of September, December 25th, any general election day, and any day appointed or recommended by the President of the United States, or the Governor of the State as a day of thanksgiving or of fasting and prayer, are holidays, and notes, bills, etc., made after the passage of the act, otherwise presentable for payment or acceptance on one of such days, are presentable on the business day next succeeding such holiday. When either January 1st, February 12th, February 22d, May 30th, July 4th, or December 25th, falls on Sunday the following Monday is the holiday, and paper falling due on such Monday, is presentable on the next business day. Every Saturday after 12 o'clock noon is a half holiday. Bills and notes made after the act of May 25, 1887, except those payable at sight or on demand, which would otherwise be payable on any half holiday Saturday, are payable on the next succeeding secular and business day; and all bills, notes and checks, made after that date, which by the terms thereof are payable on Sunday, are deemed to be payable on the next succeeding secular or business day. The parties to a bill or note may, all or any of them, be included as defendants in the same action at the option of the plaintiff. But if the plaintiff elects to bring several actions upon one note or bill, or other instrument in writing, he can recover costs in but one of them, provided the parties proceeded against in the other actions were within the State at the time of bringing the first action. The *bona fide* holder of a negotiable promissory note for value before maturity holds it free from the equities and matters of defense between the original parties thereto, except that usury at the time of the inception of the note, or the giving of it for a gambling consideration, makes it absolutely void in whosesoever hands it may be. And if a note has been materially altered, or the party sought to be charged was, at the time of becoming a party to it, under some legal incapacity, as infancy or lunacy, or, in a certain case, if the maker has been compelled, by a process of garnishment in another State, to pay the note to a judgment creditor of the payee, any of these matters may be a defense even as against a *bona fide* holder before maturity.

SYNOPSIS OF THE ASSIGNMENT LAWS.—The act provides a plain summary, and inexpensive procedure for the distribution of the estates of insolvent debtors.

The assignment is required to be in writing, and to be acknowledged by the debtor, and recorded in the County Clerk's office of the county where the debtor resides or carries on his business. Where the assignment is by copartners it must be recorded in the county where the copartners have their principal place of business. The assignee's written acceptance of the trust must be recorded with the assignment.

Within 20 days from the date of the assignment the debtor should file a sworn schedule, or inventory, of his estate, showing the encumbrances thereon, and the nominal and actual value of the same, and a full account of all his creditors, stating the sum owing to each, with a true consideration therefor, and what security, if any, is held by them. But if he fails to do so, the assignee should, within 30 days from the date of the assignment, make and file such an inventory or schedule. The County Judge may, for good cause shown, allow the assignee further time, not exceeding 60 days. If the assignee fails to file the inventory within the 30 days, or within the further time allowed by the Judge, any person interested in the trust estate may apply for an order that the assignee show cause why he should not be removed. To aid the assignee in making the inventory, the County Judge may compel the debtor, and any other person, to appear before him and disclose, on oath, any information he may possess necessary to the proper making of such inventory. Within 30 days after the date of the assignment, the assignee must file a bond in an amount fixed by the Judge, for the faithful discharge of his duties. If the debtor has failed to file an inventory within 20 days, the assignee may apply for leave to file a provisional bond until the inventory is filed. The assignee, on application to the Judge, will be authorized to advertise for claims to be presented to him verified, on or before a day named. If a creditor fails to present his claim within the time named, he will not be entitled to receive notice of the accounting. The assignee may at any time render his account, or, after a year from the date of the assignment, the Court, on petition of any creditor, may compel him to account. A citation to show cause why an accounting should not be had, must be served personally, or by publication, or mailing, on all interested parties, except creditors who have not presented their claims within the time limited by advertisement. But on the return of the citation any person interested, though not served, may appear and present his claim. On the proceedings for an accounting the Court has power to examine the parties and witnesses on oath as to all matters connected with the assignment and accounting, and to compel the production of books and papers; to require the assignee to file his account; to take and state such account, or to appoint a referee to take and state it; to adjudicate upon the account and the claims presented, and decree payment of any creditor's just proportion of the funds; to discharge the assignee from further liability to compounding creditors on proof of a composition, but if there are any creditors who do not assent to the composition, they shall receive such a dividend as they would have been entitled to had no composition been made; to adjourn the proceedings from time to time; to discharge the assignee from all further liability upon matters included in the accounting to creditors appearing and to creditors served with the citation and to creditors who have not presented their claims.

The Court also has the power to punish any violation of any order made in pursuance of the act, and to arrest and imprison any party or witness about to leave the jurisdiction of the Court, and to take bail to secure the attendance of such party or witness. The Judge may also, at any time, order the examination of witnesses and the production of any books and papers before him, or a referee appointed for the purpose. Disputed claims, or matters arising under the provision of the act, may be sent before a jury or referee for trial. The Judge may authorize the assignee to compromise any claim belonging to the estate. On the petition of any creditor showing misconduct or incompetency of the assignee, the County Judge may, on notice, remove or discharge him, and appoint another in his place. The Judge may also require additional security to be filed whenever, in his judgment, the assignee's bond shall be inadequate security. The assignment may be with preferences unless the assignment be by a special partnership. If any creditor does not consent to the discharge of his debt, and it is not paid in full, none of the proceedings under the act will discharge it. At the end of 1 year from the assignment creditors may compel the assignee to account.

The Two-third Act still in Force.— Under the "insolvent law" of the State Code, sec. 2149–2187, an insolvent debtor may be discharged from his debts. The insolvent must present to the Court a petition for his discharge, signed by at least two-thirds of his creditors re-

siding within the United States. After certain questions designated in the act have been decided by the Court, or a jury, in favor of the insolvent, the Court must direct an assignment of all the insolvent's estate to an assignee, nominated by the petitioning creditors. After the assignment and the delivery of the estate to the assignee, if all the proceedings required by the act have been duly taken, the Court must under the Statute grant to the insolvent a discharge from his debts. In any of the following cases such a discharge does not affect a debt or liability founded upon a contract, unless it was owing when the petition was presented to a resident of the State, or the creditor has executed a consent to the discharge, or has appeared in the proceedings, or has received a dividend from the trustee: (1) where the contract was made with a person not a resident of the State, (2) where it was made, and to be performed without the State, (3) where the creditor was not, at the time of the discharge, a resident of the State. But if it shall appear that the insolvent has at any time within 2 years before presenting his petition for his discharge, in contemplation of his insolvency, or knowing of his insolvency, made any assignment, sale, or transfer of any part of his estate, or any interest therein, or has confessed any judgment, or given any security, with a view to give a preference to any creditor, he shall not be entitled to his discharge.

UNDERTAKINGS, ETC.— In nearly every case where security is required from a party to judicial proceedings in this State, it must be given in the form of a bond or undertaking executed upon the part of such party by one or more sureties, who are residents of this State, and householders or freeholders therein, and who are each worth double the sum specified in the bond or undertaking, over all debts and liabilities, exclusive of property exempt from execution. In most cases, if the opposing party excepts to such sureties, they must justify before a Judge of the Court.

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ACKNOWLEDGMENTS.— May be made before any Commissioner appointed by the Governor of this State, or before a Judge, Clerk of Court of Record, Notary Public having a seal, Mayor of a city having a seal, or a Justice of the Peace. If the acknowledgment be had before a Justice of the Peace of another county or State, the Clerk of the Court of Record of the county in which said Justice resides shall certify under the seal of his Court that said Justice was an acting Justice of the Peace at the time, and that his signature is genuine. [Code of 1883.]

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— The practise in this State is now regulated by a code of civil procedure, which is taken almost letter for letter and word for word from the New York Code, and we refer to the law of that State for arrest and imprisonment for debt on civil process in North Carolina.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Grace is allowed on bills of exchange drawn at sight, or at a future time certain, unless there is a stipulation to the contrary, and the general rules of mercantile law are in force as to all negotiable paper. No grace when payable on demand. Indorsers of negotiable paper (except bills of exchange) are liable as sureties, and no demand is necessary before suit.

CHATTEL MORTGAGES.— The following is the form prescribed by statute for chattel mortgages not exceeding the sum of $300, in order to be registered for a small fee. Any other form, however, may be valid:

> I,—— of the County of——in State of North Carolina, am indebted to —— of —— County, in said State, in the sum of $—— for which he holds my note, to be due the —— day of —— A. D., 19—; and to secure the payment of the same, I do hereby convey to him these articles of personal property, viz.: (Insert description), but on this special trust, that if I fail to pay said debt and interest on or before —— day of —— A. D., 19— then he may sell said property, or so much thereof as may be necessary, by public auction, for cash, first giving 20 days' notice at 3 public places, and apply the proceeds of such sale to the discharge of such debt, and interest on the same, and pay any surplus to me.
>
> Given under my hand and seal this —— day of —— A. D., 19—.
>
> .....
>
> (Seal.) (Signature.)

The disposal of property mortgaged without consent of the mortgagee, and with intent to defeat his rights, is a misdemeanor by statute. Chattel mortgages are not valid against third parties until registered in the county where the mortgagor resides, or, in case the mortgagor does not reside in the State, then in the county where the chattels are situate, unless they consist of *choses in action*, in which latter case the mortgage must be recorded in the county where the mortgagee resides. Renewal of a chattel mortgage is not required to continue it in force until fully satisfied. Chattel mortgages may be foreclosed by suits in Court, or by sales if mortgages contain a power of sale. Conditional sales are placed upon the same footing as chattel mortgages as to registration.

COMMENCEMENT OF SUIT.— Process in Superior Court must be served 10 days before first day of term. The action is commenced by issuing a summons. Actions before Justices are commenced by issuing summons to be served on the debtor, which is made returnable at some time and place within the county to be designated by the Justice. Judgment can usually be obtained in one or two days. Justices of the Peace have exclusive original jurisdiction of all suits arising on contract up to $200, principal money. Suit on all claims above $200, unless the claim can be properly divided up into amounts less than $200, must be brought in the Superior Court of the county where either the plaintiff or defendant resides. In certain cases suit can be brought by attachment in any county where property can be found. In all actions in the Superior Court a prosecution bond of $200 is required. No such bond is required in a Justice's Court, but the costs of judgment, amounting, where there is only one defendant, to about $2, excluding of course witness fees, shall be paid in advance. The usual attorney's fees for obtaining such judgment, exclusive of commissions on amount collected, is from $3 to $5. This includes the cost of docketing the judgment in the Superior Court, which makes it practically a judgment of that Court, and gives it a lien for 10 years upon all real estate in the county then owned or thereafter acquired, by the debtor, including reversion of the homestead. That is, when the exemption ceases, the land, in whosesoever hands, becomes liable to the judgment. This practically prevents a sale of land, and frequently forces payment or compromise. The usual costs of obtaining judgment in the Superior Court, excluding witness fees, are from $6 to $10, the minimum attorney's fee being $10. When a large amount is involved, or the case contested and the judgment realized, a larger fee is charged. The full names of all the partners composing the firm suing and sued, should always be given, as well as the State under whose laws a corporation is organized. Judgment is generally advised when the debtor has real estate, or continues in business in his own name or as agent.

CONSIGNMENTS.— The failure of a consignee to account for goods consigned may be the subject both of an indictment and a civil action. The latter is barred in 3 years.

CORPORATIONS.— Are created both under general laws and by special acts. No reports of their financial condition are required to be made. In case of fraud on part of an officer or stockholder the statute makes him personally liable to the creditors, in a suit brought in the name of the Attorney-General.

ESTATES OF DECEASED PERSONS.— Reasonable time is allowed executors or administrators to settle estate of deceased persons, but they must not exceed 2 years.

INTEREST.—Six per cent.: or if usurious interest has been paid, double the amount may be recovered by action brought within 2 years. The only penalty for illegal interest is the loss of the whole interest.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.—Judgment may be obtaiued at first term after process has been served, unless the debtor pleads, answers, or demurs to the complaint. Judgment rendered or docketed in Superior Court is a lien on real estate in the county from the time it is docketed; judgments obtained before Justices of the Peace bind real estate from time docketed in Superior Court. Executious issued on judgments in Superior Court are returnable to the next term of the Court. Debtor may stay judgment of Justice of the Peace, by giving good security, when the sum does not exceed $25 for 1 mouth; between $25 and $50 for 3 months; between $50 and $100 for 4 mouths; above $100 for 6 months. There is no stay of execution in Superior Court, except upon appeal to Supreme Court when bond is required.

JURISDICTION OF COURTS.—Justices' Courts have jurisdiction up to $200. Superior Court, which sits in each county every 6 months, and in some counties every 3 mouths, has no limit to amount above $200, over which it takes jurisdiction.

LIMITATION OF ACTIONS.—Actions on accounts and contracts not under seal must be commenced in 3 years, and on a note under seal must be commenced within 10 years as against the principal, within 3 years as agaiust a surety, or the statute of limitations may be plead agaiust recovery.

NORTH DAKOTA.

ADMINISTRATION OF ESTATES OF DECEASED PERSONS.—*Letters of Administration.*—(1) The surviviug husband or wife, or some competent person whom he or she may request to have appointed; (2) the children; (3) father or mother; (4) brothers; (5) sisters; (6) grandchildren; (7) next of kin eutitled to share in distribution; (8) creditors; (9) any person legally competent are respectively eutitled in letters of administration in the order uamed. If decedent was a member of a partnership at the time of his decease, the surviving partner must in uo case be appointed administrator. If any person eutitled to administration is a minor, letters must be granted to his or her guardian in discretion of Court. Persons under age of majority, or who have been convicted of an infamous crime, or who are adjudged by the Court incompeteut by reason of drunkenness, improvidence, or want of understanding or integrity, cannot serve as admiuistrators. A married woman must not be appointed administratrix, but may be appoiuted executrix.

Allotment of Personal Property.—In addition to the homestead, all property classed by the Code of Civil Procedure as exempt, must be by the administrator or executor immediately delivered to the surviving wife or husband and minor child, and there shall also be allowed and set apart for them all such personal property or money as is, by law, exempt from levy and sale on execution or other fiual process. (See Exemptions.) 1. If the decedent leaves a surviving husband or wife, and only 1 child, or the lawful issue of 1 child, in equal shares to the surviving husband or wife and child or issue of such child. If the decedent leaves a surviving husbaud or wife and more than 1 child living, or 1 child liviug and the lawful issue of 1 or more deceased children, one-third to the surviviug husband or wife and the remainder in equal shares to his children and to the lawful issue of auy deceased child by right of representation; but if there is no child of the decedent living at his death, the remainder goes to all of his lineal descendants, and if all the descendants are in the same degree of kindred to the decedent they share equally; otherwise they take according to the right of representation. If the decedent leaves no surviving husband or wife, bnt leaves issue, the whole estate goes to such issue, and if such issne consists of more than 1 child living, or 1 child living and the lawful issue of 1 or more deceased children, then the estate goes in equal shares to the children living, or to the children living and the issue of the deceased child or children by right of representation. 2. If the decedent leaves no issue and the estate does not exceed iu value the sum of $5,000, all the estate goes to the surviving husband or wife, and all the property in excess of $5,000 in value, one-half thereof goes to the surviving husband or wife, aud the other half goes to the decedent's father, and if he is dead to the decedent's mother. If the decedeut leaves no issue, nor husband, nor wife, the estate must go to the father, and if he is dead to the mother. If the decedent leaves a surviviug husband or wife, and no issue and no father, nor mother, nor brother, nor sister, the whole estate goes to the surviviug husband or wife. 3. If there is no issue, nor husbaud, nor wife, nor father, nor mother, then in equal shares to the brothers and sisters of the decedent and to the children of any deceased brother or sister by right of representation. 4. If the decedent leaves no issue, nor husband, nor wife, nor father, and no brother or sister is living at the time of his death, the estate goes to his mother to the exclusion of the issue, if any, of deceased brothers or sisters. 5. If the decedent leaves no issue, nor husband, nor wife, aud no father, nor mother, nor brother, nor sister, the estate must go to the next of kin in equal degree, excepting that when there are two or more collateral kindred in equal degree, but claiming through different ancestors, those who claim through the nearest ancestors must be preferred to those claiming through an ancestor more remote. However, if the decedent leaves several children, or one child, and the issue of one or more children, and any such surviving child dies under age, and not having beeu married, all the estate that came to the deceased child by inheritance from such decedent descends in equal shares to the other children of the same parent, and to the issue of any such other children of the same parent, and to the issue of any such other children, who are dead, by right of representation. 6. If at the death of such child, who dies under age, not having been married, all the other children of the parents are also dead, aud any of them have left issue, the estate that came to such child by inheritance from his parent descends to the issue of all other children of the same parent; and if all issue are in the same degree of kiudred to the child, they share the estate equally, otherwise they take according to the right of representation. 7. If decedent leaves no husband, wife, or kindred, the estate escheats to the State for the support of common schools.

Notice to Creditors.—Every executor or administrator must, immediately after his appointment, cause to be published in some newspaper of the county in which the estate of the decedent is principally situated, a notice to the creditors of the decedent, requiring all persons having claims to file them. Such notice must be published in such newspaper once each week for not less than 4 weeks. The time expressed in the notice must be 6 months after its first publicatiou, when the estate exceeds in value the sum of $5,000, and 4 months when it does not. All claims of every description against decedent or his estate must be presented to the administrator or executor and the County Court for adjustment within the time limited in uotice to creditors. If any claim is not presented within time limited in notice to creditors it is forever barred, except: if it be not then due, or if it be contingent, it may be preseuted within oue month after it becomes due or absolute; if it be made to appear by the affidavit of the claimant, to the satisfaction of the executor or adiuinistrator aud the Judge of the County Court, that claimant had no notice as provided by law, by reason of being out of the State, it may be presented at any time before decree or distribution is entered. If the claim is rejected the holder must bring suit, in either Justice or District Courts, according to its amount, against administrator or executor, within 3 months after date of rejection if it is due, or 2 months after it becomes due, otherwise it is forever barred. All property of decedent, except the homestead and persoual property set apart for the surviving wife or husband and minor children, shall be chargeable with the payment of the debts of deceased, the expenses of administration, and the allowance of the family.

ALIENS.— Aliens may take, hold, and dispose of real or personal property within the State.

ATTACHMENTS.— In an action on a contract or judgment for the recovery of money only, or for the wrongful conversion of personal property, or for damages whether arising out of contract or otherwise, the plaintiff at or after the commencement thereof may have the property of the defendant attached in the following cases: — 1. When the defendant is not a resident of this State or is a foreign corporation. 2. When the defendant has absconded or concealed himself. 3. When the defendant has removed or is about to remove his property or a material part thereof from this State, not leaving enough therein for the payment of his debts. 4. When the defendant has sold, assigned, transferred, secreted, or otherwise disposed of, or is about to sell, assign, transfer, secrete, or otherwise dispose of his property, with intent to cheat or defraud his creditors, or to hinder or delay them in the collection of their debts. 5. When the defendant is about to remove his residence from the county where he resides, with the intention of permanently changing the same, and fails or neglects on demand to give security for the debt upon which the action is commenced. 6. When the debt upon which the action is commenced was incurred for property obtained under false pretenses. 7. When the defendant is about to remove his property or a material part thereof from the State with the intent or to the effect of cheating or defrauding his creditors, or hindering or delaying them in the collection of their debts. 8. In action to recover purchase money for personal property sold to the defendant, an attachment may be issued and levied upon such property. The plaintiff may bring an action on his claim before it is due and have the property of the defendant attached in any of the cases mentioned in the preceding section except in subdivisions 1, 2, and 5. The proceedings on such attachment shall be conducted in all respects as if the claim was due, but judgment must not be rendered in the action until the debt upon which such action is commenced shall become due, and the complaint must state that the action is commenced before the debt is due for the purpose of obtaining the issuance of an attachment, but need not state the grounds of the attachment, and upon the discharge of such attachment, except under the provisions of section 5371, the action shall be dismissed, but without prejudice to the bringing of a new action. The warrant shall issue upon a verified complaint, setting forth a proper cause of action for attachment in favor of the plaintiff and against the defendant, and an affidavit, setting forth in the language of the statute one or more of the grounds of attachment enumerated above, if the claim is due upon which the action is commenced; and if not due one or more of the grounds of attachment enumerated in subdivisions 3, 4, 6, and 7 of that section. The plaintiff must file an undertaking before the warrant will issue, conditioned that plaintiff will pay all costs awarded to, and all damages sustained by the defendant, by reason of the attachment, not exceeding the sum named in the undertaking, which must be at least the amount of the claim as specified in the affidavit, and in no case less than $250. At any time after the levying of an attachment, and before the satisfaction of the judgment, the defendant may move the Court, upon affidavits, for a dissolution of the attachment. Defendant must answer as in any suit 30 days from service of summons.

CHATTEL MORTGAGES.— All mortgages of personal property must be in writing, subscribed by the mortgagor in the presence of two persons who must sign the same as witness thereto, and no other proof or acknowledgment is required to admit it to be filed. Chattel mortgage is void as against creditors and subsequent purchasers and incumbrancers in good faith for value, unless the original or an authenticated copy is filed with Register of Deeds of the county where the mortgaged property, or any part thereof, is at such time situated. The filing of mortgage with Register of Deeds as above stated operates as notice thereof to all subsequent purchasers and incumbrancers. The mortgage ceases to be valid as against creditors and subsequent purchasers and incumbrancers in good faith after the expiration of 3 years from the filing thereof, unless within 90 days next preceding the expiration of such term a copy of mortgage and a statement of amount of existing debt for which the mortgagee or assignee claims a lien, sworn to and subscribed by him, his agent or attorney, are filed anew with Register of Deeds in the county in which mortgage was originally filed, and in like manner the mortgage and statement of debt must be again filed every 3 years or it ceases to be valid as against the parties above mentioned. A lien by contract upon crops shall attach only to the crop next maturing after the delivery of such contract. When mortgage debt or any part thereof becomes due, or if the mortgagor voluntarily removes or permits the removal of the mortgaged property from the county in which it was situated at the time it was mortgaged, the mortgagee or his assignee may proceed to foreclose the same by action or advertisement. If the latter, notice must be published 1 week before sale, unless waived. Report of sale must be made in 10 days and filed with Register of Deeds. The mortgagee or his assignee may be a purchaser at the sale. Redemption may be made within 5 days after sale upon payment of amount for which property sold with cost sale added. Possession of property is retained by Sheriff during the 5 days. When property is pledged or mortgaged for the payment of money or performance of any contract, the right and interest in such property of the person pledging or mortgaging the same may be attached and sold on execution, and the purchaser at such sale acquires all the right and interest of such pledgor or mortgagor. A chattel mortgage may be given upon a crop to be grown upon a certain tract of land during a certain season, and if any such crop be grown, the lien of the mortgage will attach thereto.

CORPORATIONS.— Any foreign or domestic corporation may in its by-laws empower any one or more of its officers severally or conjointly to execute and acknowledge in its behalf, conveyances, transfers, assignments, release, or other instruments affecting liens upon titles to or interests in real estate. In the absence of any by-laws the President or Secretary of any corporation, and the President, Secretary, Treasurer, or Cashier of any loan, trust, or banking corporation may execute and acknowledge such instruments when authorized by resolution of the board of directors.

Domestic.— Private corporations can be formed by three or more persons, under general incorporation acts only. Legislature cannot grant private charters or privileges. The articles of incorporation must be subscribed and acknowledged by three or more persons, one-third of whom must be residents of this State, and must be filed with the Secretary of this State. The Secretary of this State must issue to the corporation a certificate that the articles have been so filed, and that they contain the necessary statement of facts, and thereupon the persons signing such articles shall be a body politic and corporate. In all elections for directors or managers of a corporation each member or shareholder may cast the whole number of his votes for one candidate, or distribute them upon two or more candidates, as he may prefer. No corporation shall engage in any business other than that expressly authorized in its charter. No corporation shall issue stock or bonds, except for money, labor done, or money or property actually received; and all fictitious increase of stock or indebtedness shall be void. The stock and indebtedness of corporations shall not be increased except in pursuance of general law, nor without the consent of the persons holding the larger amount in value of the stock first obtained at a meeting to be held after 60 days' notice given in pursuance of law. No law shall be passed by the Legislative Assembly granting the right to construct and operate a street railroad, telegraph, telephone, or electric light plant within any city, town, or incorporated village, without requiring the consent of the local authorities having control of the street or highway proposed to be occupied for such purposes. Every corporation for profit except building and loan associations, county mutual insurance companies, corporations for manufacture of dairy products, agricultural fair corporations, and corporations whose capital does not exceed $500,000, formed for the purchase and maintenance of male animals for the improvement of stock, shall, at or before the filing of articles

of incorporation, pay into the State treasury, the sum of $50 for the first $50,000 or fraction thereof of the capital stock of such corporation, and the further sum of $5 for every additional $10,000 or fraction thereof of its capital stock. No increase of the capital stock of any corporation heretofore or hereafter formed, other than those above excepted, shall be valid until such corporation shall have paid into the State treasury the sum of $5 for every $10,000, or a fraction thereof, of such increase. A duplicate receipt for such payments must be filed with the Secretary of State at the time of filing the articles of incorporation or instrument evidencing such increase. Each stockholder of a corporation is individually liable for the debts of the corporation only to the extent of the amount that is unpaid upon the stock held by him. The term stockholder, as here used, shall apply not only to such persons as appear by the books of the corporation to be such, but also to every equitable owner of stock, although the same appear on the books in the name of another.

Foreign.— No foreign corporation, association, or joint stock company, created or organized under the laws of any other State or Territory, except corporations or associations created for religious or charitable purposes solely, and insurance companies, shall transact any business within this State, or acquire, hold, and dispose of property, real or personal, within this State, until such corporation shall have filed and recorded in the office of the Secretary of this State a duly authenticated copy of its charter or articles of incorporation. Such corporation, association, or joint stock company shall by a duly executed instrument filed in the office of the Secretary of State constitute and appoint the Secretary of State and his successors its true and lawful attorney upon whom all process in any action or proceeding against it may be served, and therein shall agree that any process which may be served upon its said attorney shall be of the same force and validity as if served upon it personally in this State, and that such appointment shall continue in force irrevocable so long as any liability of the corporation, association, or joint stock company remains outstanding in this State. Service upon such attorney shall be deemed sufficient service upon the corporation, association, or joint stock company. Whenever process against any foreign corporation, association, or joint stock company, doing business in this State, shall be served upon the Secretary of State he shall forthwith mail a copy of such process, postage prepaid, and directed to such corporation, association, or joint stock company at its principal place of business, or if it is a corporation, association, or joint stock company of a foreign country, to its resident manager in the United States, or to such other person as may have been previously designated by it by written notice filed in the office of the Secretary of State. As a condition of valid and effectual service the plaintiff shall pay to the Secretary of State at the time of the service, the sum of $2, which the plaintiff shall recover as taxable costs if he prevails in his action. The Secretary of State shall keep a record of all such process which shall show the time and hour of service. Any failure to comply with the provisions of this code shall render each and every officer, agent, and stockholder of any corporation, association, or joint stock company failing to comply therewith, jointly and severally liable on any and all contracts of such corporation, association, or joint stock company made within this State during the time such corporation, association, or joint stock company is so in default. Every contract made by or on behalf of any corporation, association, or joint stock company, doing business in this State, without first having complied with the provisions above mentioned shall be wholly void on behalf of such corporation, association, or joint stock company and its assigns, but any contract so made in violation of the provisions of this section may be enforced against such corporation, association, or joint stock company. This also applies to insurance companies. In case of foreign insurance companies the Commissioner of Insurance is to be appointed the attorney to accept service of process.

COURTS.— The judicial power of the State is vested in a Supreme Court, District Courts, County Courts, Justices of the Peace, and in such other Courts as may be created by law for cities, incorporated towns, and villages. The Supreme Court has appellate jurisdiction only, except as otherwise provided by the constitution; also power to issue writs of *habeas corpus*, *mandamus*, *quo warranto*, *certiorari*, injunction, and such other original and remedial writs as may be necessary to the proper exercise of its jurisdiction, and shall have authority to hear and determine the same. The Court consists of 3 Judges, a majority of whom shall be necessary to constitute a quorum. Appeals to Supreme Court must be within 1 year if from judgment, and 60 days if from an order. The District Courts have original jurisdiction, except as otherwise provided in the constitution, or all cases, both at law and equity. They and the Judges also have jurisdiction and power to issue writs of *habeas corpus*, *quo warranto*, *certiorari*, injunction, and other original and remedial writs, with authority to hear and determine the same. The State is divided into 7 judicial districts. Appeals lie from the Courts to the Supreme Court. At least 2 terms of the District Court shall be held annually in each organized county. The County Courts have exclusive original jurisdiction in probate and testamentary matters; are Courts of Record, and, in counties where voters desire it, have concurrent jurisdiction with the District Courts in all civil actions where the amount does not exceed $1,000, and in criminal cases below grade of felony. Justices of the Peace have concurrent jurisdiction with District Courts where the amount in controversy, exclusive of costs, does not exceed $200. Police Courts are provided for in cities, towns, and villages with jurisdiction similar to Justice of the Peace.

DEEDS.— Estates in real property, other than at will or for a term not exceeding 1 year, can only be transferred by operation of law or by an instrument in writing. Absence of subscribing witness or the seal of the grantor from any deed or grant of real estate, does not invalidate or impair the same, if the acknowledgment be proper. If the execution of a deed is not duly acknowledged, it may be proved by the party executing it, or a subscribing witness, or the execution thereof may be established by proof of the handwriting of the party and of a subscribing witness, in case the party and such witness are dead or absent from the State. Deeds or grants of land may be made by either husband or wife without the other joining therein, except in case of the transfer of the homestead, in which case, if the owner be married, husband and wife must join in the execution of the deed. Acknowledgments of instruments may be made at any place within this State before a Justice or Clerk of the Supreme Court, or a Notary Public, and before the following named officers within their jurisdiction: A Judge or Clerk of a Court of Record; a Mayor of a city; a Register of Deeds; a Justice of the Peace; a United States Circuit or District Court Commissioner; a County Clerk or a County Auditor. Acknowledgments may be made without the State and within the United States, before any officer authorized by the laws of the State or Territory where the acknowledgment is made, to take such acknowledgments. Acknowledgments may be made without the United States before either (1) a Minister, Commissioner, or *Charge d'Affaires* of the United States resident and accredited in the country where the proof of acknowledgment is made; or (2) a Secretary of Legation, a Consul, vice-Consul, or Consular Agent of the United States, resident in the country where the acknowledgment is made; or (3) a Judge, Clerk, Register, or Commissioner of a Court of Record of the country where the proof of acknowledgment is made; or (4) a Notary Public of such country; or (5) an officer authorized by the laws of the country where the proof or acknowledgment is taken to take proof or acknowledgment; or (6) when any of the officers mentioned are authorized to appoint a Deputy, the acknowledgment or proof may be taken before such Deputy. A certificate of the official capacity of an officer taking an acknowledgment out of the State is not required. To entitle a deed to record, all delinquent taxes upon the property conveyed must be paid, and the certificate of the County Auditor to that effect indorsed on the deed. At the last session of the Legislature, an act was passed requiring Notaries Public to indorse on acknowledgments the date of the expiration of their commissions.

EVIDENCE.— No person offered as a witness is excluded by reason of his having an interest in the result of the action or of his being a party thereto, nor because of his or her being the husband or wife of a party thereto. But a husband cannot be examined against his wife without her consent, nor a wife against her husband without his consent, except in a civil action or proceeding by one against the other, or in a criminal action for a crime committed by one against the other. The statutes or other written law enacted by any other State or Territory or foreign government, purporting or proved to have been published by the authority thereof, will be admitted by the Courts and officers of this State as presumptive evidence of the existing law of such States or Territories or foreign countries. Properly authenticated copies of the records and judicial proceedings of any Court of any State or Territory of the United States will have such faith and credit given to them in the Courts of this State, as they have in the Courts of the State or Territory from which they are taken. Attorneys, clergymen, doctors, and public officers cannot be examined as witnesses regarding confidential communication.

EXECUTION.— Execution may issue at any time within 10 years after entry of judgment. The execution must be returned to the Clerk of Court by the officer within 60 days after its receipt by him. Real property sold upon execution may be redeemed by the judgment debtor or his successor in interest, or by a creditor having a judgment lien or mortgage upon the premises sold, at any time within 1 year after the sale. There is no stay of execution in this State except upon appeal from judgment and filing an undertaking conditioned for the payment or performance of the judgment in case the same be affirmed by the Appellate Court.

EXEMPTIONS.— The following property is absolutely exempt to a head of family, as defined in homestead, from attachment on mesne process and from levy and sale on execution: All family pictures; a pew or any other sitting in any house of worship; a lot or lots in any burial grounds; the family Bible and all school books used by the family and all other books not exceeding in value $100; all wearing apparel and clothing of the debtor and his family; provisions for the debtor and his family necessary for 1 year's supply, and also fuel necessary for 1 year, and the homestead as created, defined, and limited by law. Aside from these absolute exemptions, the debtor may select from all other of his personal property, goods, chattels, merchandise, or money not to exceed in the aggregate $1,000; or in lieu thereof he may select books and musical instruments of the value of $500; kitchen and household furniture and bedding of the value of $500; 3 cows, 10 swine, 1 yoke of cattle, 2 horses or mules, 100 sheep and their lambs under 6 months old, and all wool therefrom, and all cloth or yarn manufactured from such wool and the food necessary to keep such animals for 1 year; also 1 wagon, 1 sleigh, 2 plows, 1 harrow, and farming utensils, including tackle for teams, not exceeding $300 in value; the tools of any mechanic used and kept for the purpose of carrying on his trade, and, in addition thereto, stock in trade of the value of $200; the library and instruments of any professional person not exceeding $600 in value. None but the absolute exemptions above specified are allowed to either a corporation for profit, a non-resident, a debtor who is in the act of removing from the State with his family, a debtor who has absconded, taking his family with him, or any person against whom an execution or other process issues upon a debt incurred for property obtained under false pretenses, or as against an execution issued for the recovery of laborers' or mechanics' wages or physicians' bills. No exemption exists as against execution issued for the purchase money of property, real or personal. A partnership firm can claim but 1 exemption of $1,000, or the alternative property, and not a several exemption for each partner.

HOMESTEAD.— Every family resident in the State may hold as a homestead within a town, a tract of land not greater than 2 acres, and if not within a town, a tract not exceeding 160 acres. The homestead not to exceed in value $5,000. Homestead exempt, except for a debt created for the purchase thereof, or for taxes thereon, or work, and labor, and materials furnished, or debt secured by mortgage executed and acknowledged by husband and wife, or an unmarried claimant. Head of family includes husband or wife, but in no case are both husband and wife entitled each to homestead. Every person who has residing on the premises with him or her and under his or her care and maintenance, his or her child, child of his or her deceased wife or husband whether by birth or adoption, a minor brother or sister, or minor child of a deceased brother or sister, a father, mother, grandfather, grandmother, the father, mother, grandfather, grandmother of a deceased husband or wife, an unmarried sister or any other of the relatives mentioned above who have attained the age of majority and are unable to take care of or support themselves, are entitled to benefits of homestead law.

INJUNCTION.— The writ of injunction as a provisional remedy is abolished, and an injunction by order is substituted. The order may be made by the Court where the action is brought, or a Judge thereof, at the time of commencing the action or at any other time before judgment. It is substantially the same as in other States.

INSOLVENCY.— The operation of all laws relating to matters under this title is suspended during the continuance of the National Bankruptcy Act. Insolvent debtors residing in this State may be discharged from their debts in the manner prescribed in and upon compliance with the provisions hereinafter set forth. The filing of the petition for an adjudication in insolvency, either by the debtor in his own behalf, or by any creditor against the debtor shall be deemed the commencement of proceedings in insolvency. The proceedings in all cases of insolvency shall be deemed matters of record, but the same shall not be required to be recorded at length, but shall be carefully filed, copied, and numbered in the office of the Clerk of the Court, and a docket only, or short memorandum thereof, copied in books provided for that purpose, which shall be open to public inspection. Copies of such records duly certified under the seal of the Court, shall in all cases be presumptive evidence of the facts therein stated.

Voluntary Insolvency.— Any person residing in this State and owing debts, provable in insolvency to the amount of at least $500, may apply by petition to the District Court of the county in which he resides, or of the county to which the county in which he resides is attached for judicial purposes, setting forth his place of residence, his inability to pay all his debts in full, his willingness to surrender all his estate and effects for the benefit of his creditors, except such as is by law exempt from execution, and his desire to obtain a discharge from his debts, and shall annex to his petition a schedule and affidavit in compliance with the next 2 sections. The filing of such petition shall be an act of insolvency, and such petitioner shall be adjudged an insolvent. Such schedule must contain: 1. A true and complete list of all his creditors. 2. The place of residence of such creditors, if known to the debtor; and if not known, that fact shall be stated. 3. The sum owing to each creditor and the nature of each demand, whether arising on written security, on account, or otherwise. 4. The true cause and consideration of such indebtedness in each case, and the place where such indebtedness accrued. 5. A statement of any existing judgment, mortgage, or collateral or other security for the payment of debts. 6. A full and true inventory of all the estate, both real and personal, and of all choses in action, debts due, and moneys in the hands of such debtor, whether the property is claimed as exempt or not, of the incumbrances existing thereon, and of all the books, vouchers, and securities relating thereto. An affidavit in the following form shall be annexed to such petition and schedule, and shall be sworn to and subscribed by the debtor:

> I, ——, do swear (or affirm as the case may be) that the schedule which is annexed to my petition and herewith delivered, is in all respects just, true, and complete, and that I have not at any time or in any manner whatever, disposed of or made over any part of my estate for the future benefit of myself or family, or in order to defraud any of my creditors; and that I have in no instance created or ac-

knowledged a debt for a greater sum than I honestly or truly owed, and that I have not paid, secured to be paid, or in any way compounded with any of my creditors, with a view, fraudulently, to obtain the prayer of my petition.

Involuntary Insolvency.— Any person residing in this State and owing debts, provable in insolvency, to the amount of at least $500: (1) Who departs from this State with intent to defraud his creditors, or being absent, remains absent with such intent; or (2) who conceals himself to avoid the service of legal process, in any action for the recovery of a debt or demand provable in insolvency; or (3) who conceals any of his property to avoid its being seized on legal process; or (4) who makes any assignment, gift, sale, conveyance, or transfer of his property, rights, or credits, either within this State or elsewhere, with intent to delay, defraud, or hinder his creditors; or (5) who, being insolvent or in contemplation of insolvency, makes any payments, gift, grant, sale, conveyance, or transfer of property, rights, or credits, or procures or suffers a judgment against himself, or procures or suffers his property to be taken on legal process, with intent to give preference to one or more of his creditors, or to any person or persons who are or may be liable for him as indorsers, sureties, or otherwise, or with the intent by such disposition of his property to defeat or delay the operations of this chapter; or (6) who being insolvent, has suffered execution for $500 or more, to be returned unsatisfied, or, being a merchant or tradesman, has suspended and not resumed payment of commercial paper for 30 days for $500 or more, unless the party or parties holding such paper have in writing waived the right to proceed under this subdivision, shall be deemed to have committed an act of insolvency, and shall become liable to be adjudged an insolvent. Proceedings in insolvency may be instituted by the filing of a verified petition of one or more creditors, the aggregate of whose provable debts amounts to at least $400, against any debtor residing in this State owing debts to the amount of at least $500, who has committed an act of insolvency, as above set forth, provided such petition is brought within 6 months after the parties in interest shall have had an opportunity to be advised of the fact that an act of insolvency has been committed. The petition may from time to time be amended and corrected by leave of the Court before which the proceedings are pending, so that the same shall conform to the facts. The petition shall be accompanied by an undertaking with sufficient surety, to be approved by the Clerk of the Court, in the sum of at least $500, conditioned that if the debtor shall not be declared an insolvent, the petitioner will pay all costs and damages, including a reasonable attorney's fee, that the debtor may sustain by reason of the filing of the petition. The Court may upon motion direct the filing of an additional undertaking with sufficient surety when deemed necessary. If the debtor is about to leave the State, or fraudulently dispose of his property, a warrant may be issued to the Sheriff to arrest the debtor, or seize his property without arresting debtor. An order to show cause is issued to the debtor on the filing of the petition and on the return day the issue as to the debtor's insolvency is tried by the Court unless the debtor demands a trial by jury. If upon the hearing the debtor is adjudged an insolvent, the Court makes an order requiring debtor within not exceeding 10 days to transmit to the Clerk of Court a schedule the same as the one described in voluntary insolvency above mentioned. The debtor in all cases is allowed to amend his schedule to conform to the facts. Upon an adjudication of insolvency the Clerk of the District Court gives the following notices:

Notice is hereby given that an adjudication of insolvency has been made against —— and that the payment of any debts and the delivery of any property belonging to such debtor to him, or for his use, and the transfer of any property by him are forbidden by law.

Notice is hereby given that a meeting of creditors of —— who has been adjudged an insolvent, will be held at the courthouse in the city of —— in the county of —— in the State of North Dakota, at —— o'clock —— M. on the —— day of ——, 19—, for the purpose of choosing one or more assignees of the estate of said insolvent.

At any time after an adjudication in insolvency the creditors named in the schedule and any other creditors, who may appear, may choose an assignee in the manner herein provided, without waiting for the expiration of the time fixed in the notice, and thereupon publication of the notice must be discontinued. Creditors may act at all meetings by attorney. At the first meeting the creditors who have proved their debts choose one or more assignees, the choice to be made by a majority in the amount of claims proved. If the assignee does not accept the trust the Court may fill the vacancy. No person who has received any preference contrary to the provisions of this chapter shall vote for or be eligible as assignee; but no title to property, real or personal, sold, transferred, or conveyed by an assignee shall be affected or impaired by reason of his ineligibility. As soon as an assignee is appointed and qualified the Clerk of the Court shall, by an instrument under his hand and the seal of the Court, assign and convey to the assignee all the property, real and personal, of the debtor, with all his deeds, books and papers relating thereto, except such property as is by law exempt from execution, and such assignment shall relate back to the commencement of the proceedings in insolvency, and by operation of law shall vest the title to all such property, both real and personal, in the assignee, although the same is then held under any process as the property of the debtor, and shall dissolve any levy made under such process within 60 days next preceding the commencement of the insolvency proceedings. Such assignment shall be approved by the Court as to its form and manner of execution, and shall be recorded in the office of the Register of Deeds of every county in which any real estate conveyed thereby is situated. Full powers are given to the assignee for the recovery of the estate and effects due to the debtor. Provision is made for the resignation and removal of assignee and the filling of vacancies. The debtor shall be allowed such exemptions as are provided for by law and shall be permitted to use and occupy his homestead, household furniture, and absolute exemptions until his homestead and exemptions shall have been selected in the manner hereinafter prescribed. Insurances upon the life of a debtor do not pass to the assignee by the assignment, unless the debtor by an instrument in writing shall expressly consent thereto. No property held by the insolvent in trust shall pass by the assignment. The assignee gives notice of his appointment by publication. The assignee thereupon inventories the debtor's estate, including exemptions, gives notice thereof to the debtor, and the debtor or certain persons who are permitted to act for him, must, within 10 days, select his homestead or exemptions. The assignee accounts for all property at its appraised value. The debtor or other person authorized by law shall, within 10 days after written notice of the filing of the report of the appraisers is served, select his homestead and exemptions to the amount allowed by law. In making appraisement debtor selects one person, assignee another, and these two a third. All must be residents of county where insolvent resides, and disinterested. If the two fail to agree the Clerk of Court must select. Upon the selection of the homestead and exemptions a report and inventory of the same shall be presented to the District Court by the assignee, and the Court, if satisfied that the debtor or other person claiming the same as exempt is entitled thereto, shall make an order setting apart such homestead and exemptions to the debtor or other person claiming the same. All debts due and payable from the insolvent at the time of the commencement of the proceedings in insolvency, and all debts then existing but not payable until a future day, a rebate of interest being made when no interest is payable by the terms of the contract, may be proved against the estate of the insolvent. All demands against the insolvent for or on account of any personal property wrongfully taken, converted, or withheld by him may be proved and allowed as debts to the amount of the value of the property so taken or withheld with interest. When the insolvent is liable for

unliquidated damages arising out of any contract or promise, or on account of any contract or promise, or on accouut of any personal property wrongfully taken, converted, or withheld, the Court may cause such damages to be assessed in such mode as it may deem best and the sum so assessed may be proved against the estate. In all cases of contingent debts and contingent liabilities contracted by the iusolvent and not herein otherwise provided for, the creditor may make claim therefor and have his claim allowed, with the right to share in the dividend, if the contingency happens before the order for final dividend; or he may at any time apply to the Court to have the present value of the debt or other liability ascertained or liquidated, which shall then be done in such manner as the Court shall order, and he shall be allowed to prove for the amount so ascertained. When the insolvent is bound as drawer, indorser, surety, bail, or guarantor upon any bill, bond, note, or any other contract, or for any debt of another person, but his liability does not become absolute until after the adjudication of insolvency, the creditor may prove the same after such liability becomes fixed and before the final dividend is declared. Any person liable as bail, surety, guarantor, or otherwise for the insolvent, who shall have paid the debt, or any part thereof in discharge of the whole, shall be entitled to prove such debt to the extent of his payment in respect thereof or to stand in the place of the creditor if the creditor has proved the same, although such payment shall have been made after. Where there are mutual credits and debits between the debtor and any other person an account between them is stated and balauce allowed or paid as case may be. When a creditor has a mortgage or pledge of real or personal property of the debtor or a lien thereon for securing the payment of a debt claimed by him, the property so held as security shall, if he requires it, be sold and the proceeds applied towards the payment of his debt, and he shall be admitted as a creditor for the residue. The sale shall be made in such manner as the Court orders and the creditor and assignee respectively shall execute all deeds and papers necessary or proper for effectiug the conveyance. If the creditor does not require such sale and join in effecting the conveyance, he may release and deliver up to the assignee the property held as security and be admitted as a creditor for the whole of his debt. If the property is not so sold, or released and delivered up, the creditor shall not be allowed to prove any part of his debt. No debt shall be proved or allowed unless the creditor, or his agent or attorney having knowledge of the facts, makes oath in substance as follows:

> I, ——, do swear (or affirm as the case may be) that —— by (or against) whom proceediugs in insolvency have been instituted at and before the date of such proceedings was and still is justly and truly indebted to me in the sum of —— dollars, for which sum, or any part thereof, I have not, nor has any other person to my use, to my knowledge or belief, received any security or satisfaction whatever beyond what has been disposed of agreeably to law. And I do further swear (or affirm as the case may be) that such claim was not procured by me for the purpose of influencing the proceedings in this case, and that I have not directly or indirectly made or entered into any bargain, arrangement, or agreement, express or implied, to sell, transfer, or dispose of my claim, or any part thereof. against such debtor, nor have I directly or indirectly received or taken, or made or entered into any bargain, arrangement, or agreement, express or implied, to take or receive directly or indirectly any money, property, or consideration whatsoever to myself, or to any person or persons to my use or beuefit, under or with any understanding or agreement, express or implied, whereby the debtor's discharge is or shall be in any way affected, influenced, or controlled, or whereby the proceedings in this case are or shall be affected, influenced, or controlled.

In case the above oath is made by an agent or attorney the Court may require such further proof of the truth of the statements therein as it deems expedient. Claims may be altered or expunged if founded in fraud, illegality, and mistake. The debtor and other witnesses may be examined as to claims presented. From a claim rejected an appeal lies to the District Court. At the end of 3 months the assignee exhibits to Court and creditors his accounts and a dividend is made unless Court otherwise directs. A second dividend is made at such time within 18 months as the Court directs, which is final, unless suits are pending or other property comes to hands of assignee, in which case there is another dividend which is final. At final dividend assignee renders his account and receives his discharge. Reservation may be made to pay claims which have not been proved by reason of the distant residence of creditor, or for other sufficieut reasons. The following claims shall be entitled to priority and to be first paid in full in their order:—1. All debts due to the United States and all debts due to and taxes assessed by this State or any county, city, or town therein. 2. All debts owing for the wages of servants, laborers, mechanics, and clerks for labor performed within 1 year next preceding the commencement of proceedings in insolvency. 3. All debts due to physician for medical attendance on the debtor or his family, reudered within 6 months prior to the commencement of proceedings in insolvency to an amount not exceeding $50. 4. All debts due to persons, who by the law of the United States or of this State, are or may be entitled to a priority or preference in like manner as if this chapter had not been enacted. 5. Legal fees, costs, and expenses of suit, and for the custody of property attached, and the costs of such attachment, when the attachment has been dissolved by bond given by the defendant, if the claim upon which the action was commenced is proved agaiust the estate of the debtor. At any time after the expiration of 6 months from the adjudication of insolvency, or, if no debts have been proved against the insolvent, or if no assets have come to the hands of the assignee at any time after the expiration of 60 days, the insolvent may apply to the Court for a discharge from his debts. No discharge shall be granted or, if granted, shall be valid in auy of the following cases:—1. If such debtor has wilfully sworn falsely in his affidavit, annexed to his petition or schedule or upon any examination in the course of the proceediugs in iusolvency, in relation to any material fact. 2. If after the presentation of the petition in insolvency, he shall sell or in any way transfer or assign any of his property or collect any debts due him, and shall not give a just and true accouut thereof on the hearing of his application, and shall not also pay over to the assignee all money so collected or the value of the property so assigned. 3. If he shall secrete any part of his estate or any books or writiugs relative thereto with inteut to defraud his creditors. 4. If he shall fraudulently conceal the names of any of his creditors or the amouut of any sum due to any of them. 5. If he shall pay or cousent to the payment of any portion of the debt of any of his creditors, or shall grant or consent to the granting of any gift or reward to any such creditor upon auy express or implied coutract or trust that the creditors so paid or rewarded should abstain or desist from opposing the discharge of such insolvent. 6. If he shall be guilty of any fraud whatever contrary to the true inteut of this chapter. If it appears to the Court that the debtor has made a full disclosure and delivery of his estate, and conformed in all respects to law, he shall be granted a discharge which shall discharge him absolutely from debts agaiust his estate and debts provable under the insolvency law founded on contracts made subsequent to January 1st, 1896, and while a resident of the State to be performed within the State, or due to any person residing therein at the time of the first publication of notice to creditors, and from all demands against him for or on account of any personal property wrongfully obtained, taken, or withheld by him, No debt created by the debtor's defalcation as a public officer, executor, administrator, guardian, receiver, trustee, or assignee of an insolvent estate, or by the fraud or embezzlement of the debtor, or claim for goods attached or taken on execution by the debtor as an officer, or for misfeasance in office, shall be discharged under this chapter, but the dividend declared thereon shall be payment of so much of said debt or claim. A claim for necessaries furnished to

the debtor or his family shall not be so discharged unless the claim is proved against his estate. A discharge shall not release or discharge a person liable for or with the debtor for the same debt as a partner, joint contractor, indorser, surety, or otherwise. A discharge shall not be granted to a debtor a second time insolvent, whose assets do not pay 50 per cent. of the claims due against the estate, unless the assent in writing of three-fourths in value of his creditors who have proved their claims, is filed in the case at or before the time of the hearing of the application for discharge. No discharge shall be granted to a debtor a third time insolvent, except that a debtor who has paid all debts owing by him at the time of his previous insolvency, or who has been voluntarily released therefrom by his creditors, shall be entitled to a discharge in the same manner and with the same effect as if he had not been previously insolvent. Transfers made within 60 days prior to the filing of petition are void and levies under attachment or execution within same time are dissolved; judgments on actions which have been pending more than 6 months, and in which judgment is not docketed until within 30 days before the filing of the petition, are not a lien on debtor's real property. Partnership proceedings in insolvency may be brought by or against firms, special provisions being made for election of assignees and distribution of the partnership estate and the separate estates of the partners.

INTEREST AND USURY.—Legal rate of interest 7 per cent. per annum. Excess above 12 per cent. usury, and usury is forfeiture of entire interest. Judgments draw interest at 7 per cent. per annum only regardless of the rate specified in the contract upon which the judgment is recovered.

JUDGMENTS.—All judgments entered by Clerk upon order of the Judge of the Court rendering them. Courts are always open for the entry of judgment. From the time of the docketing of a judgment, the same becomes a lien upon all the real property of the defendant, except the homestead, situated in the county where the judgment is docketed and such judgment remains a lien thereupon for the period of 10 years from the date of docketing.

LIENS.—Any person who performs labor or furnishes materials, machinery, or fixtures for the construction or repair of any work of internal improvement or for the erection, alteration, or repair of any building or other structures upon the land, or in making any other improvement thereon, including fences, sidewalks, paving, wells, trees, grades, drains, or excavations under a contract with the owner of such land, his agent, trustee, contractor, or sub-contractor, or with the consent of such owner shall have a lien therefor upon any such building, erection, or improvement and upon the land upon which the same is situated or to improve which the work was done or things furnished. But no person who furnishes any materials, machinery, or fixtures as aforesaid, for a contractor or sub-contractor, shall be entitled to file such lien unless he notify the owner of the land by registered letter previous to the completion of said contract that he has furnished such materials, machinery, or fixtures. The owner is presumed to have consented to the doing of any such labor or the making of any such improvement, if at the time he had knowledge thereof, and did not give notice of his objection thereto to the person entitled to the lien. Persons who desire to obtain lien must file with Clerk of the District Court a verified statement of their account within 90 days after the work is done or materials furnished. The taking of security does not affect lien unless by express agreement given and received in lieu of such lien. Upon the written demand of the owner, his agent or contractor, served upon the person holding the lien, requiring him to commence suit to enforce such lien, such suit shall be commenced in 30 days thereafter or the lien shall be forfeited. Otherwise the action to enforce may be commenced at any time within 6 years after the cause of action accrues.

LIMITATIONS.—The periods within which actions may be commenced in this State are as follows: Within 20 years: Actions for the recovery of real property or the possession thereof, but all titles to real property vested in any person or persons who have been or hereafter may be in the open, adverse, and undisputed possession of the land, under such title for a period of 10 years and shall have paid taxes and assessments legally levied thereon are good and valid. Within 10 years: Actions upon judgments or decrees of any Court of the United States or of any State or Territory within the United States; actions upon contracts contained in any conveyance or mortgage of or instrument affecting real property, except a covenant or warranty, as action on which must be commenced within 10 years after final decision against title of covenantor. Within 6 years: Actions upon contracts, obligations, or liabilities expressed or implied, excepting those above specified; actions upon statutory liabilities other than penalties or forfeitures; actions for trespass upon real property; actions for taking, detaining, injuring, or for the recovery of personal property; actions for criminal conversation, or other injuries to the persons or rights of others, not arising on contract, except as hereinafter specified; actions for relief on the ground of fraud, in cases which were heretofore solely cognizable by a Court of Chancery, the cause of action in such cases not to be deemed to have accrued until the discovery of the facts constituting the fraud. Within 3 years: Actions against Sheriffs, Coroners, or Constables, upon liabilities incurred by the performance of official acts, or the omission of official duties, excepting actions for the escape of prisoners under civil arrest; actions upon statutes for penalties or forfeitures where the right of action is given to the party aggrieved, or to such party and the State. Within 2 years: Actions for libel, slander, assault, battery, or false imprisonment; actions upon statutes for penalties or forfeitures to the people of the State. Within 1 year: Actions against Sheriffs or other officers for the escape of prisoners arrested or imprisoned on civil process. All other actions must be brought within 10 years after the cause of action shall have accrued. An action is deemed commenced when the summons is served on the defendant, or when it has been placed in the hands of the proper officers with intent that it shall be actually served. If at the time a cause of action accrues against a person he is not a resident of the State, the time limited for the commencement of an action against him does not begin to run until he returns; if after the cause of action accrues he leaves the State, the period of his absence is not a part of the time limited for the commencement of the action.

MARRIED WOMEN.—As to their individual property, married women in the State have the same rights and powers as unmarried women. The earnings of the wife are not liable for the debts of the husband.

MINORS.—Minors are males under the age of 21 years, and females under the age of 18 years.

MORTGAGES OF REAL ESTATE.—All mortgages of real estate must be in writing, and must be executed and recorded same as deeds. Upon default in any condition of a mortgage containing a power of sale, whereby such power of sale becomes operative, such mortgage may be foreclosed either by advertisement or action. No sale of any real estate under mortgage foreclosure can lawfully be made by any agent or attorney of any mortgagee, assignee, person or persons, firm, corporation, executor, administrator, trustee, or guardian owning or controlling any real estate mortgage, until he shall receive a power of attorney from such mortgagee, assignee (or other persons above named), authorizing such foreclosure, and any sale of real estate made upon foreclosure by any agent or attorney shall not be valid for any purpose unless said power of attorney shall be procured and filed in the office of the Register of Deeds of the county wherein said real estate is located before the day fixed or appointed to make the sale. If foreclosed by advertisement, notice of foreclosure must be published in some newspaper of the county where the property is situated, 6 times, once in each week for 6 successive weeks. If foreclosed by action, judgment may be entered for deficiency, if any arise upon the sale. All foreclosure sales must be by public auction in the county where the mortgaged property is situated. The mortgagee may be a purchaser at such sale, but no purchaser at such sale is entitled to possession of the

premises until the expiration of the period of 1 year, allowed for redemption from such sale. The Sheriff or person making sale shall immediately give to the purchaser a certificate of sale, and at the expiration of 1 year, if redemption be not sooner made, such Sheriff or other person, or his successor, shall execute and deliver to such purchaser a deed of the premises so sold.

NEGOTIABLE INSTRUMENTS.— Negotiable instruments, payable to bearer, may be transferred by a simple delivery, if to order, by indorsement. A negotiable instrument made payable to the order of the maker thereof, or to a fictitious person, has the same effect against the maker and all other persons having notice of the facts as if payable to bearer. Days of grace are abolished upon bills of exchange and promissory notes. Attorneys' fees stipulated for in a promissory note or mortgage is void, and cannot be collected, but the collection of the note may be enforced. Protest is required on no instrument, except foreign bills of exchange, which are defined to be those not drawn in the State. A promissory note may be drawn to be paid with exchange, whether fixed or at the current rate. It may be made payable in stated instalments with a provision that upon default in payment of any instalment or of interest the whole shall become due ; it may authorize the sale of collateral securities or authorize a confession of judgment if not paid at maturity ; it may waive the benefit of any law intended for the advantage or protection of the obligator or give the holder an election to require something to be done in lieu of payment of money. None of the above provisions render a note non-negotiable. A note need not state the value given or that any value has been given therefor. Where the instrument is wanting in any material particular, the person in possession thereof has a *prima facie* authority to complete it by filling up the blanks therein. Protest is required on no instrument except foreign bills of exchange which are defined to be those not drawn in the State, but presentment must be made and notice of dishonor given to drawers and indorsers in all cases. An acceptance of a bill must be in writing duly signed.

OATHS AND AFFIDAVITS.— Oaths may be administered by each Justice of the Supreme Court, each Judge of the District Court, County Auditors, and Register of Deeds and their deputies, Notaries Public, Clerks of the Supreme or District Courts and their deputies, County Commissioners, Judges of Probate, and Justices of the Peace within their respective counties. Affidavits may be made in and out of the State before any person authorized to administer an oath.

PARTNERSHIPS.— A partner, unless his copartners have wholly abandoned the business to him or are incapable of acting, has no authority to make an assignment of partnership property, or any portion thereof, to a creditor, or for the benefit of his creditors ; to dispose of the good will of the business ; to dispose of the whole of the partnership property at once unless it is wholly merchandise ; to do any act which would make it impossible to carry on the partnership business ; to confess a judgment or to submit a partnership claim to arbitration. A partnership doing business under a fictitious name or designation not showing the names of the persons interested, must file with the Clerk of the District Court a certificate stating the name in full of all the members of such partnership and their places of residence, and publish the same once a week for 4 weeks. Until such certificate is filed the partnership cannot maintain an action on account of contracts made in the partnership name. Excepting as above, the general rules regulating general, special, and limited partnerships are about the same as in most of the other States.

PREFERENCES.— A debtor may pay one creditor in preference to another, or may give to one creditor security in preference to another.

PROVISIONAL REMEDIES IN CIVIL ACTIONS — ARREST AND BAIL.— The statutes provide as follows: The defendant may be arrested in a civil action in the following cases: 1. In an action for the recovery of damages for an injury to person or character, or for injuring or for wrongfully taking, detaining, or converting property. 2. In an action for money or property embezzled or fraudulently misapplied or converted to his own use by a public officer, or an officer of a corporation, or an attorney, factor, broker, agent, or other person in a fiduciary capacity, in the course of his employment as such. 3. In an action to recover the possession of personal property unjustly detained, when the property, or any part thereof, has been concealed, removed, or disposed of, so that it cannot be found or taken by the Sheriff and with the intent that it should not be found or taken, or with the intent to deprive the plaintiff of the benefit thereof. 4. When the defendant has been guilty of a fraud in contracting the debt or in incurring the obligation for which the action is brought, or in concealing or disposing of the property, for the taking, detention, or conversion of which the action is brought, or when the action is brought to recover damages for fraud or deceit. 5. When the defendant has removed or disposed of his property or is about to do so with the intent to defraud his creditors. But no female can be arrested in any action, except for wilful injury to person, character, or property. The order of arrest must be procured from the Judge of the Court in which the action is brought. The Sheriff executes the order by arresting the defendant, and will keep him in custody until he has furnished a bond for or deposited the sum mentioned in the order. The defendant may be arrested either before or after judgment. After judgment is obtained against the defendant in such an action, and an execution against the defendant's property returned unsatisfied in whole or in part, an execution may issue against the person of the defendant, and he shall then be committed to the county jail until the judgment is paid or he is discharged according to law. Every person so committed to jail will be discharged at the end of 10 days, upon application, if it appears to the satisfaction of the Court, upon hearing, that the defendant has no property with which to satisfy the judgment, and that since judgment he has not disposed of any of his property with design to secure the same to his own use or to hinder, delay, or defraud his creditors. But if the Court is satisfied, upon the examination, that those facts do not exist, the defendant will be recommitted to jail, but may renew his application for discharge every 10 days. The expense of the keeping of such defendant while in jail, must be paid to the jailor by the plaintiff, or the defendant will be released.

Claim and Delivery of Personal Property.— The plaintiff in an action to recover the possession of personal property, may, at the time of issuing summons, or at any time before answer, make an affidavit setting forth that he is the owner, or entitled to the possession of the property therein claimed, by reason of a special property therein, the facts in respect to which shall be set forth ; that the property is wrongfully detained by the defendant ; the alleged cause of detention ; that the same has not been taken for a tax, assessment, or fine pursuant to a statute, or seized under an execution, or attachment against property of the plaintiff, or, if so, that it is exempt from such seizure ; and the actual value of the property ; and, by indorsement in writing upon the affidavit, require the Sheriff of the county where the property is, to take the same from the defendant and deliver it to the plaintiff. The plaintiff must deliver to the Sheriff at the same time, a bond in double the value of the property, conditioned for a return of the same to the defendant if the judgment be against the plaintiff, and for the payment of all costs and damages which defendant may recover against the plaintiff. The defendant may, within 3 days after the taking and service of the notice, indemnify the Sheriff, and retain possession of the property. The judgment in this action, in case a delivery of the property cannot be had, may be for the value of the property as proved upon the trial.

SALES.— All reservations of the title to personal property, as security for the purchase money thereof, shall, when the possession of such property is delivered to the vendee, be void as to subsequent creditors without notice and purchasers and incumbrancers in good faith and for value, unless such reservation is in writing and filed and indexed the same as a mortgage of personal property. In indexing such instruments the Register of Deeds shall treat the purchaser as mortgagor and the vendor as mortgagee.

SEAL.— Not essential to the validity of an instrument. All distinctions between sealed and unsealed instruments are abolished.

STATUTE OF FRAUDS. — The following contracts are invalid unless the same, or some note or memorandum thereof, be in writing and subscribed by the party to be charged or his agent: — 1. An agreement that, by its terms, is not to be performed within a year from the making thereof. 2. A special promise to answer for the debt, default, or miscarriage of another except in the following cases: (*a*) Where the promise is made by one who has received property of another upon an undertaking to apply it pursuant to such promise; (*b*) by one who has received a discharge from an obligation in whole or in part in consideration of such promise, or where the creditor parts with its value, or enters into an obligation, in consideration of the obligation in respect to which the promise is made, in terms or under circumstances such as to render the party making the promise the principal debtor, and the person in whose behalf it is made his surety; (*c*) where the promise being for the antecedent promise of another is made upon the consideration that the party receiving it cancels the antecedent obligation accepting the new promises as a substitute therefor, or upon the consideration that the party receiving it releases the property of another from a levy, or his person from imprisonment under an execution on a judgment obtained upon the antecedent obligation, or upon a consideration beneficial to the promiser whether moving from either party to the antecedent obligation or from another person; (*d*) where a factor undertakes for a commission, to sell merchandise and guarantee the sale; (*e*) where the holder of an instrument for the payment of money, upon which a third person is or may become liable to him transfers it in payment of a precedent debt of his, or for a new consideration, and in connection with such transfer enters into a promise respecting such instrument. 3. An agreement made upon consideration of marriage other than a mutual promise to marry. 4. An agreement for the sale of goods, chattels, or things in action at a price not less than $50, unless the buyer accept or receive part of such goods and chattels, or the evidences of some of them, of such things in action, or pay at the time some part of the purchase money. 5. An agreement for the leasing for a longer period than 1 year, or for the sale of real property, or of an interest therein, and such agreement, if made by an agent of the party sought to be charged is invalid, unless the authority of the agent be in writing, subscribed by the party sought to be charged. Where a contract, which is required by law to be in writing is prevented from being put in writing by the fraud of a party thereto, any other party who is by such fraud led to believe that it is in writing, and acts upon such belief to his prejudice, may enforce it against the fraudulent party.

TRUST DEEDS.— Same as mortgages, and subject to same provisions.

WILLS.— Every person over the age of 18 years, of sound mind, may, by last will, dispose of all his real and personal property. A married woman may dispose of her separate estate by will without the consent of her husband. A will that is entirely written, dated, and signed by the hand of the testator, is subject to no other form, and need not be witnessed. Every will other than a nuncupative or olographic will, must be executed and attested as follows: It must be subscribed at the end thereof by the testator himself, or some person in his presence and by his direction must subscribe his name thereto; the subscription must be made in the presence of the attesting witnesses, or be acknowledged by the testator to them, to have been made by him or by his authority; the testator must at the time of subscribing or acknowledging the same, declare to the attesting witnesses that the instrument is his will, and there must be two attesting witnesses, each of whom must sign his name as a witness, at the end of the will, at the testator's request, and in his presence. The witnesses should also write with their names, their places of residence. A will of real or personal property, or both, made out of this State by a person not having a domicile in this State, is valid as to property in this State, if it is executed according to the law of the place where made.

OHIO.

ACKNOWLEDGMENTS.— A deed, mortgage, or lease of any estate or interest in real property, shall be signed by the grantor, mortgagor, or lessor, and such signing shall be acknowledged by the grantor, mortgagor, or lessor, in the presence of 2 witnesses, who shall attest the signing and subscribe their names to the attestation, and such signing shall also be acknowledged by the grantor, mortgagor, or lessor before a Judge of a Court of Record in this State, or a Clerk thereof, a County Auditor, County Surveyor, Notary Public, Mayor, or Justice of the Peace, who shall certify the acknowledgment on the same sheet on which the instrument is written or printed, and subscribe his name thereto. A deed, mortgage, or lease of any estate or interest of a married person in real property, shall be signed, attested, acknowledged, and certified in the manner above described. Leases for terms not exceeding 3 years are by statute excepted from the above requirements. The acknowledgment of an instrument for the conveyance or incumbrance of lands, tenements, or hereditaments situate within this State, may be made without this State before a Commissioner appointed by the Governor of this State for that purpose, or a Consul of the United States resident in any foreign country; and all deeds, mortgages, powers of attorney, and other instruments of writing for the conveyance or incumbrance of lands, tenements, or hereditaments situate within this State executed and acknowledged, or proved, in any other State, Territory, or country, in conformity with the laws of such State, Territory, or country, or in conformity with the laws of this State, shall be as valid as if executed within this State in conformity with the foregoing provisions.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— No person can be imprisoned for debt under the constitution in any *mesne* or final process, unless in case of fraud. An order for the arrest of the defendant shall be made by the Clerk of the Court in which the action is brought, when there is filed in his office an affidavit of the plaintiff, his authorized agent or attorney, made before a Judge or Clerk of any Court of the State, or a Justice of the Peace, stating the nature of the plaintiff's claim, that it is just, and the amount thereof as nearly as may be, and establishing one or more of the following particulars: 1st. That the defendant has removed or begun to remove any of his property out of the jurisdiction of the Court, with intent to defraud his creditors; 2d, that he has begun to convert his property, or a part thereof, into money, for the purpose of placing it beyond the reach of his creditors; 3d, that he has property, or rights of action, which he fraudulently conceals; 4th, that he has assigned, removed, disposed of, or begun to dispose of his property, or a part thereof, with intent to defraud his creditors; 5th, that he fraudulently contracted the debt, or incurred the obligation, for which suit is about to be or has been brought. The affidavit shall also contain a statement of the facts claimed to justify the belief in the existence of one or more of such particulars. The order of arrest shall not be issued until there is executed by sufficient sureties of the plaintiff a written undertaking, to the effect that plaintiff shall pay to the defendant all damages, not exceeding double the amount of the plaintiff's claim stated in the affidavit, which he may sustain by reason of the arrest if the order be wrongfully obtained. Death of defendant does not satisfy the judgment.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— All bonds, notes, bills, and checks, payable at a day certain after date, or after sight, are due and payable on the day mentioned for the payment of the same, without grace; except that when such day mentioned be upon the first day of the week, or a legal holiday, then the day of payment shall be upon the next succeeding busi-

uess day. The 1st day of January, 22d day of February, 30th day of May, 4th day of July, first Monday in September, 25th day of December, and any day appointed and recommended by the Governor of this State, or the President of the United States, as a day of fast or thanksgiving, and any day which may hereafter be made a legal holiday, are legal holidays, and are treated and considered as the first day of the week. When any of said holidays shall be the first day of the week, the succeeding Monday is also considered as the first day of the week. Notes and bills payable to any person or order or bearer or assigns are negotiable by indorsement thereon, so as absolutely to transfer and vest the property thereof to each indorsee successively. A demand of payment from drawer or maker, upon date of payment, and notice of non-payment thereof to the indorser within a reasonable time, is adjudged such due diligence as to enable any indorsee in his own name to maintain an action thereon, unless the indorsement shall express in writing other conditions. All parties severally liable upon the same obligation, may be included in the same action at the option of the plaintiff. An indorsee to whom any such bond, note, bill of exchange, or check, is made payable by indorsement (or a holder by delivery of such paper payable to bearer), may, in his own name, institute and maintain an action thereon for the recovery of the money due on the same, against the maker, drawer, or obligor, or after the use of due diligence to obtain the money of the maker, drawer, or obligor, or acceptor; such action may be instituted against the indorser. The law relating to negotiable instruments was codified by the legislature of 1902 and embodied in the revised statutes. The act contains minute and specific provisions as to the form and interpretation of negotiable instruments, the consideration, negotiation, rights of holders, liabilities of parties, presentation for acceptance and payment protest and notice of dishonor, acceptance and payment, for honor, and discharge. The general purpose of the act is to establish a law uniform with the laws of other States on negotiable instruments and in accordance with the law merchant in cases not specifically provided for.

COMMENCEMENT OF SUIT.—A civil action must be commenced by filing, in the office of the Clerk of the proper Court, a petition, and causing a summons to be issued thereon. A precipe must also be filed stating the names of the parties to the action, and demanding that a summons issue. The summons is returnable on the second Monday after its date; but when issued to another county it may be made returnable, at the option of the party having it issued, on the third or fourth Monday after date. The answer or demurrer of the defendants must be filed on or before the third Saturday after the return day. The mode of procedure in actions before Justices of the Peace is as follows: The creditor files a statement of the nature and amount of the claim, upon which a summons issues, returnable in 3 days, at the end of which time a trial is had. If complaint upon a book account is sworn to, judgment may be taken upon it, without further proof, if the defendant does not appear. In an action upon an account, or written instrument for the payment of money only, or in foreclosure, judgment may be entered at any time during the term after the defendant is in default for an answer; but the Court may, for good cause shown, give further time for answer.

CONDITIONAL SALES.—Where any personal property shall be sold to any person to be paid for in whole or in part in instalments, or shall be leased, rented, hired, or delivered to another on condition that the same shall belong to the person purchasing, leasing, renting, hiring, or receiving the same, whenever the amount paid shall be a certain sum, or the value of such property, the title to the same to remain in the vendor, lessor, renter, hirer, or deliverer of the same, until such sum or the value of such property, or any part thereof, shall have been paid, such condition, in regard to the title so remaining until such payment shall be void as to all subsequent purchasers and mortgagees in good faith, and creditors, unless such condition shall be evidenced by writing, signed by the purchasers, lessor, renter, hirer, or receiver of the same, and also a statement thereon, under oath, made by the person so selling, leasing, or delivering any property as herein provided, his agent or attorney, of the amount of the claim, or a true copy thereof, with an affidavit that the same is a copy, deposited with the Clerk of the township where the person signing the instrument resides at the time of the execution thereof, if a resident of the State, and if not such resident, then with the Clerk of the township in which such property is sold, leased, rented, hired, or delivered, is situated at the time of the execution of the instrument; but when the person executing the instrument is a resident of a township in which the office of County Recorder is kept, or where he is a non-resident of the State, and the property is within such township, the instrument shall be filed with the County Recorder; and the officer receiving any such instrument shall proceed with the same in all respects, as he is required to do by section 4152 of the revised statutes of Ohio (the statute regulating filing of chattel mortgages and the record thereof), and shall receive the same fees as are allowed by law for similar service in other cases. Whenever such property except machinery equipment and supplies for railroads and contractors, and for manufacturing brick, cement, and tiling, and for quarrying and mining purposes, is so sold or leased, rented, hired, or delivered, it shall be unlawful for the vendor, lessor, renter, hirer, or deliverer, or his or their agent or servant, to take possession of said property, without tendering or refunding to the purchaser, lessor, renter, or hirer thereof, or any party receiving the same, the sum or sums of money so paid, after deducting therefrom a reasonable compensation for the use of such property, which shall in no case exceed 50 per cent. of the amount so paid, anything in the contract to the contrary, notwithstanding, and whether such condition be expressed in such contract or not, unless such property has been broken or actually damaged, and then a reasonable compensation for such breakage or damage shall be allowed, but the vendor shall not be required to tender or refund any part of the amount so paid unless said amount so paid exceeds 25 per cent. of the contract price of the property.

CONSIGNMENTS.—A commission merchant who, with intent to defraud, fails to pay over proceeds of consigned goods, is liable to be imprisoned in the penitentiary not more than 4 years, nor less than 1 year.

CORPORATIONS.—All manufacturing and business corporations are now created under one general law. Every corporation organized under the laws of this State, for profit, and every foreign corporation maintaining an office and having a part or all of its capital employed in this State or engaged in business other than interstate commerce, must file a report annually with the Secretary of State, setting forth the name of the corporation, the location of its principal office, the names and post-office addresses of its officers, the date of the annual election of officers, the amount of the authorized capital stock and the par value of each share, the amount of capital stock subscribed, the amount of capital stock issued, and the amount of capital stock paid up, the nature and kind of business in which the company is engaged and its place or places of business, and the changes if any in the above particulars since the last preceding annual report. Foreign corporations in addition to the foregoing must state in their reports the place or places of business without the State, the name and location of their offices in Ohio, the names and addresses of the officers or agents in Ohio in charge of the business, the value of the property owned and used by them in Ohio, where situated and the value of the property and its location outside of Ohio. From the facts reported the Secretary of State fixes an annual tax of one-tenth of one per cent. upon the subscribed or issued and outstanding stock of domestic corporations and the same per cent. on the proportion of the authorized capital stock represented by property owned and used and business transacted

in Ohio, by foreign corporations. If all the property of a foreign corporation is in Ohio, this tax is assessed on the authorized capital. Relative to the liability of stockholders in its modified form, the following amendment was made to the Constitution of the State of Ohio, in November, 1903:

"Dues from private corporations shall be secured by such means as shall be prescribed by law, but in no case shall any stockholder be individually liable otherwise than for the unpaid stock owned by him or her."

The statutes do not provide for any liability to creditors of the officers, directors, or trustees generally, but trustees of corporations created for a purpose other than profit, are personally liable for all debts of the corporation by them contracted. But a cause of action may arise at common law, in favor of corporation creditors, against the officers, trustees, or directors, for their fraudulent acts, as for example, a conspiracy to cheat and defraud creditors, or fradulently diverting the assets of a corporation from its creditors, and appropriating them to their own use, etc. A creditor of a corporation can only obtain priority over its other creditors by the ordinary processes of attachment, garnishment, and execution. A corporation for profit, organized under the laws of this State, after it has become insolvent, and ceased to prosecute the objects for which it was created, cannot by giving some of its creditors mortgages on the corporate property to secure antecedent debts without other consideration, create valid preferences in their behalf over the other creditors, or over a general assignment thereafter made for the benefit of creditors. The appointment of a receiver in Ohio is a provisional remedy controlled by statutory law, for the more speedy getting in of assets, and the better securing the safety thereof, for the benefit of all creditors entitled thereto. A receiver may be appointed in the cases provided in Section 5587 of the Revised Statutes of Ohio, "when a corporation has been dissolved, or is insolvent, or is in immediate danger of insolvency, or has forfeited its corporate rights," and in all other cases where receivers have heretofore been appointed by the usages of equity. [There are special statutes, in addition to the foregoing, affecting the appointment of receiver, upon the application of its officers only.] The receiver must distribute the fund realized from the assets of the corporation, under the direction of the Court, to all of the creditors entitled thereto, in the order of the priority of their respective claims.

Foreign Corporations.— No foreign stock corporation, other than a banking or insurance corporation, or foreign building and loan associations, or foreign co-operative or investment companies, or foreign companies organized to sell certificates or debentures on the instalment or partial payment plan, or foreign corporations doing business on the service dividend plan, who have deposited with the Treasurer of the State securities satisfactory to him of a value of not less than $25,000, and shall annually thereafter deposit securities to the satisfaction of said Treasurer equal in value to 10 per cent. of the gross receipts on the amount of business done in Ohio for the preceding year, until the whole amount so deposited has reached the sum of $100,000, for the protection of the holders of such certificates or debentures, shall do business in this State without first having procured from the Secretary of State a certificate that it has complied with all the requirements of law to authorize it to do business in the State, and that the business of the corporation to be carried on in the State is such as can be lawfully carried on by a corporation incorporated under the laws of this State for such or similar business, or if more than one kind of business, by two or more corporations so incorporated for such kinds of business exclusively. No such foreign stock corporations doing business in the State without such certificate shall maintain any action in the State upon any contract made by it in the State until it shall have procured such certificate. Before obtaining such certificate every such foreign corporation must file in the office of the Secretary of State a sworn copy of its charter or certificate of incorporation, and a statement under its corporate seal particularly setting forth the amount of capital stock, the business or objects of the corporation which it is engaged in carrying on, or which it proposes to engage in or carry on within the State, and the place within the State which is to be its principal place of business, and designating in a manner prescribed in the code of civil procedure, a person upon whom process against such corporation may be served. The person so designated must have an office or place of business where such corporation is to have its principal place of business within the State. The designation shall continue in force until revoked by an instrument in writing, designating in like manner some other person upon whom process may be served. Any agent so designated by such foreign corporation may, in the name or behalf of such corporation, bring or prosecute actions in any of the Courts of the State in the same manner and with like effect as if done by an officer of such corporation. If an agent for service die, or remove from the place where such corporation has its principal place of business within the State, the corporation must, within 30 days after such death or removal, designate in like manner another agent for the service of process, upon penalty of a revocation of its authority to do business within the State, and service in the meantime may be made upon the Secretary of State. At the time of service plaintiff in the suit must pay the Secretary of State $2, to be taxed in the costs, and the Secretary of State must then mail a copy of such notice to the corporation, if its address or the address of any officer thereof is known to him. For each certificate issued, the Secretary of State shall be entitled to receive and shall be paid fees according to the amount of capital stock of each such corporation, proportionate to the amount of the capital stock. For a company with a capital of $100,000 or less, $15; more than $100,000 and not exceeding $300,000, $20; more than $300,000 and not exceeding $500,000, $25; more than $500,000 and less than $1,000,000, $30; $1,000,000 or more, $50. The act provides that such foreign corporations as comply with this provision shall not be subject to process of attachment on the ground that they are foreign corporations, or non-residents of the State. If any person solicits, or transacts, within the State, any business for any such foreign corporation, until it shall have complied with all the provisions of this section, he shall be deemed guilty of a misdemeanor, and upon conviction, shall be fined not less than $10 nor more than $500, or be imprisoned not less than 10 days nor more than 6 months, or both. Every foreign corporation, incorporated for purposes of profit, now or hereafter doing business in the State and owning or using a part or all of its capital or plant in the State, shall, before it proceeds to do business in the State, under the oath of the President, Secretary, Treasurer, Superintendent, or managing agent in the State of such corporation, make and file with the Secretary of State, a statement, setting forth the number of shares of authorized capital stock of the company, and the par value of each share, the name and location of the office or offices of the company in Ohio, the name and address of the officers or agents of the company in charge of its business in Ohio, the value of the property owned and used by the company in Ohio, where situate, and the value of the property owned and used outside of Ohio, and the proportion of the capital stock of the company which is represented by property owned and used and by business transacted in Ohio. The Secretary of State shall then charge and collect from the company, for the privilege of exercising its franchises in Ohio, one-tenth of 1 per cent. upon the proportion of the authorized capital stock of the corporation, represented by property owned and used and business transacted in the State, the same fee required to be paid by domestic corporations. Upon payment of said fees, said corporation shall be entitled to a certificate showing its compliance with the law and authorizing it to do business in the State. Foreign insurance, banking, savings, and loan, or building and loan companies, or foreign co-operative or investment companies organized to sell certificates or debentures on the instalment or partial payment plan, or companies doing business on the service dividend plan, who have deposited with the Treasurer of the State securities to the value of not less than $25,000 and who shall annually thereafter deposit securities equal in value to 10 per cent. of the gross receipts of the amount of business done in Ohio for the preceding year, until the whole amount so deposited has reached the sum of $100,000, for

the protection of the holders of said certificates or debentures, or express, telegraph, telephone, railroad, sleeping car, transportation or other corporations engaged in Ohio in interstate commerce business, or foreign corporations entirely non-resident soliciting business or making sales in the State by correspondence or by traveling salesmen, are not included with the provisions of the act. Any foreign corporation shall have the right, on application, to be heard by the Secretary of State, touching the matter of the determination of the proportion of its capital stock represented by property used and business done in the State. A provision is made for appeal within 10 days to the Auditor, Treasurer, and Attorney-general of the State, whose decision shall be final. Every foreign corporation, subject to provisions of the law, which shall neglect or fail to comply with its requirements, shall be subject to a penalty of $1,000 and an additional penalty of $1,000 for every month that it continues to transact any business in Ohio, without complying with the requirements of the law. No foreign corporation of the classes enumerated above shall maintain any action in the State on any contract made by it in the State until it shall have complied with the reqnirements of the law, and procured the requisite certificate. Upon an increase of the capital stock of such corporations, an additional statement must be filed, setting forth the same facts, and a fee of one-tenth of 1 per cent. of the amount of increase represented by property owned or business done in the State must be paid. If any person solicits or transacts within the State any business for such foreign corporation, until it shall have complied with all the provisions of this law, he shall be deemed guilty of a misdemeanor, and, on conviction, shall be fined not less than $10 or more than $500, or be imprisoned not less than 10 days or more than 6 months, or both. Provision is also made that, when property of such a foreign corporation in this State is listed for taxation in the corporate name, and a statement is made to the Secretary of State showing the stockholders of the corporation resident of Ohio, and when the aggregate amount of the capital stock owned by residents of Ohio does not exceed the aggregate amount of property returned for taxation in the name of such corporation in Ohio, the Ohio resident stockholders shall not be required to list said stock for taxation.

ESTATES OF DECEASED PERSONS.— Eighteen months are allowed an executor or administrator to close estates of deceased persons. Claims against the estate, properly verified, should be presented to the executor or administrator within 1 year after his appointment.

FRAUDULENT SALES.— A sale or other disposition of an entire stock of merchandise in bulk, or any portion of a stock of merchandise, otherwise than in the ordinary course of trade, and in the regular and usual prosecution of the seller's business, shall be fraudulent and void as against the creditors of the seller unless the seller at least 6 days before such sale or disposition shall comply with the specific directions of the statute requiring a delivering to the purchaser of a full statement of the names and places of residence or business of the seller's creditors and the amount due each. Also a delivering to the purchaser of the books or invoices showing the cost price of the goods, and notification to creditors of the proposed sale and the terms thereof. A penalty is imposed for a violation of this statute which became effective April 4th, 1902.

INTEREST.— The legal rate is 6 per cent. Special contracts may be entered into, stipulating for the payment of interest at any rate not exceeding 8 per cent.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— If judgment is entered for the creditor during term time, it is a lien on the real property of the debtor, within the county where the suit was brought, from the first day of the term. Judgments by confession, and judgments rendered at same term at which the action is commenced, bind such lands only from the day on which such judgments are rendered. A judgment ceases to operate as a lien if execution is not issued within 5 years. If execution be not levied within 1 year from the rendition of the judgment, the lien of the judgment shall not operate to the prejudice of any other *bona fide* judgment creditor. All executions issued from the Court of Common Pleas or Superior Court are returnable within 60 days from the date thereof; from a Justice of the Peace, within 30 days from the time of the receipt of the same by the Constable. The creditor, after 10 days from the day of the rendition of the judgment, may file a transcript of a judgment, recovered by him before a Justice of the Peace, in the Clerk's office of the Court of Common Pleas; and, if filed during term, it becomes a lien on the real estate of the debtor from the day it is filed; if filed in vacation, the lien commences on the first day of the next term thereafter. When two or more writs of execution against the same debtor shall be sued out, during the term in which judgment was rendered, or within 10 days thereafter, and when two or more writs of execution against the same debtor shall be delivered to the officer on the same day, no preference shall be given to either of such writs; but if a sufficient sum of money be not made to satisfy all executions, the amount shall be distributed to the several creditors in proportion to the amount of their respective demands. In all other cases, the writ of execution first delivered to the officer shall be first satisfied. On judgment obtained before a Justice of the Peace, the debtor is entitled to a stay of execution, on giving good security, and the stay will be graduated as follows: $5 and under, 60 days; exceeding $5 and under $20, 90 days; over $20 and under $50, 150 days; over $50, 240 days.

JURISDICTION OF COURTS.— Justices' Courts have exclusive original jurisdiction of any sum not exceeding $100, and concurrent jurisdiction with the Court of Common Pleas of any sum from $100 to $300. Superior Courts of Cincinnati have the same general jurisdiction in actions for debt that is exercised by the Courts of Common Pleas. Common Pleas Courts have original jurisdiction where the amount in controversy exceeds $100.

LIMITATIONS.— For recovery of title or possession of real estate within 21 years after the cause of such action accrues. Actions for forcible entry and detention, or forcible detention only, within 2 years after such cause accrnes; upon a sealed instrument, or an agreement, contract, or promise in writing, 15 years. Actions upon a contract not in writing, express or implied, and actions upon a liability created by statute, other than a forfeiture or penalty, 6 years; for trespass on real estate, for recovery of personal property, or for taking or injuring the same; action for injury to rights not arising by contract, actions for fraud (except that time does not run until discovery of fraud), 4 years; libel, slander, assault, battery, malicious prosecution, false imprisonment, actions upon a statute for a penalty or forfeiture (unless otherwise expressly provided in said statute), 1 year; upon bond or undertaking of an officer, assignee, trustee, executor, administrator, or guardian, or on the bond or undertaking given by virtue of a statute, and all other actions not herein enumerated, 10 years. Persons of unsonnd mind, or under imprisonment, or minors, can bring above actions after such disability is removed (except for a penalty or forfeiture) within the time limited. In actions for recovery of title or possession of real estate, such person may, after the expiration of 21 years from the accruing of the cause of action, bring such actiou, if within 10 years after the removal of such disability. If, when a cause of action accrues, the debtor absconds, or is out of the State, or conceals himself, the period to commence the action does not begin until he again comes into the State, or while he has absconded or concealed himself; or if after the cause of action accrues, he departs from the State, or absconds or conceals himself, the time of such absence, concealment, etc., is not to be computed as a part of the time within such action may be brought. If the laws of the State or couutry where an action arose bar such action, it is also barred in this State. Where payment has been made upon any demand founded on contract, or a written acknowledgment thereof, or promise to pay the same has been made and signed by the party to be charged, an action may be brought thereon within the time limited after such payment, acknowledgment, or promise. Where claims are presented to an

executor or administrator for allowance, aud such claim rejected, suit may be brought thereon within 6 months after such rejection; if claim is not due at time of its rejection, 6 mouths after it is due. Judgmeuts are dormant if no execution is issued withiu 5 years after its date, or if more than 5 years intervene between executions. An action to revive dormant judgment must be brought within 21 years after it becomes dormant. Miuors, insaue persous, or persons imprisoned, have 15 years after the disability is removed.

PARTNERSHIP.—Every partnership transacting business iu this State uuder a fictitious name, or a designation uot showing the uames of the persons iuterested as partners in such business (except a commercial or baukiug partnership, established and transacting business without the United States), must file with the Clerk of the Court of Common Pleas of the county in which its principal office or place of business is situated, a certificate stating the names in full of all the members of such partnership and their places of residence, and publish the same once a week for 3 successive weeks iu a newspaper published in the county, if there be one, and if there be none such, then in one published in an adjoining county. Said certificate must be signed by the partners and acknowledged before some officer authorized to take acknowledgments of couveyances of real estate. On every change in the members of such a partnership as the aforesaid, a new certificate must be filed with the Clerk, and a new publicatiou made, as is required on the formation of such partuership. Auy persons doiug business as partners contrary to the above provisions, after the 19th day of May, 1894, shall not maintain an action on account of any contracts made, or transactions had iu their partnership name in any Court of this State, until they shall have first filed the certificate and made the publication required as outlined above; but if such partners shall at auy time comply with such provisions, then such partuership shall have the right to maintain an action on all such partnership contracts and transactions entered into before as well as after such compliance.

REPLEVIN.—In an action to recover the possessiou of specific persoual property, an order for the delivery of the property to the plaintiff may be issued by the Clerk of the Court iu which the action is brought when there is filed in his office an affidavit of the plaintiff, his agent or attorney, showing: 1. A descriptiou of the property claimed. 2. That the plaintiff is the owner of the property or has an iuterest therein, and if the owuership or iuterest is special or partial, the facts should be stated. 3. That the property is wrongfully detaiued by the defendant. 4. That it was not taken on process issued against the plaintiff, and is not claimed by him under a title acquired mediately or immediately by a transfer from one from whom such property had been taken by such execution, order, or process, nor for a tax; or if taken on such process, that the property was exempt from execution expressly or upon demand or selection by the plaintiff. Substautially similar provisions are made for actions iu replevin before a Justice. The owner, from whom goods have been purchased upon frauduleut representation may replevy them from the purchaser or from one to whom the fraudulent vendee has transferred them in consideration of a pre-existing debt. Veudor of goods on credit, who discovers that his vendee is insolvent, may replevy them iu transitu, although they may have been attached by a creditor of the vendee. A contract for the purchase of goods on credit, made with intent on the part of purchaser not to pay for them is fraudulent — and if the purchaser has no reasonable expectation of being able to pay, it is equivalent to an intention not to pay.

SYNOPSIS OF THE ASSIGNMENT LAWS.—Any person, partnership, association, or corporation may assign for the benefit of creditors. The assignment does not become operative until filed in the office of the Probate Judge of the county in which assignor resided at time of the execution of the same. The assignee must enter into a bond, payable to the State, in such sum and with such sureties as shall be approved by the Court within 10 days after the execution of the deed. In the event of failure to file assignment, or of the assignee to file bond within 10 days after the date thereof, the Court, on application of assignor, or of any of his creditors, makes an order removing such assignee and appoints a trustee iu his place. Whenever any creditor or creditors of the assignor shall file a complaint alleging that the assignee or assignees named in the deed of assignment, or the trustee or trustees appointed by the Court are uot suitable persons to administer the trust, or that their admiuistration thereof will not be for the best interest of the creditors of the assignor and such assignor, the Court shall thereupon issue a citation to such assignee or assiguees, or trustee or trustees and to the assignor if resident within the State, to appear before such Court at a time to be named thereiu. And, if on the hearing of such complaint, it be made to appear to the satisfactiou of the Court that such complaint is true, and a petition is filed with the Court, signed by creditors of the assignor, who own not less thau $1,000 of debts against the assignor, and the validity of such debts is shown by the schedule of debts on file iu the Court, or otherwise established to the satisfaction of the Court, praying for permission to elect a trustee or trustees, the Court shall, by its order, fix a tiue for such election and cause notices to be sent by mail or otherwise to each of the creditors of the assignor, specifying a time wheu the creditors shall meet at the courtroom for the election of a trustee or trustees; and at the time named in such order, if creditors represeuting 50 per cent. or more of the debts of the assiguor are present or represented by attorney, they may proceed to the election of a trustee or trustees, a majority in value of all the debts so represented at such meeting being necessary to a choice; and the proceedings of the meeting, showing what creditors were present as aforesaid, and the amount of the debts held by them respectively, and who cast their several votes, shall be made out and signed by the President and Secretary of the meeting and filed with the Court; and if the Court approves the choice, and if the trustee or trustees so elected appear within 10 days thereafter and give bond, the Court shall appoint him or them as such trustee or trustees, and remove the preceding assiguee or trustee; provided, that the summary determination of the Court as to who are creditors and the amount of their claims in this section provided, shall have no effect as to the validity of such claims, except for the purpose of such election. Every sale, couveyance, transfer, mortgage, or assignment made by debtor every judgment suffered by him, in contemplation of insolvency, with a design to prefer one or more creditors to the exclusion in whole or in part of others, and every sale, conveyance, transfer, mortgage, or assignment made, or judgment procured by him or them to be rendered in any manner, with intent to hinder, delay, or defraud creditors, shall be declared void as to creditors of such debtor at the suit of any creditor, and shall operate as an assignment and transfer of all the property and effects of such debtor, and shall inure to the equal beuefit of such creditors in proportion to the amount of their respective demands, includiug those which are unmatured. Such sale, conveyance, trausfer, mortgage, or assignment, or such judgment, shall not, however, be avoided unless made or procured with the knowledge of such intent of the debtor on the part of the persous to whom such sale, conveyance, transfer, mortgage, etc., was made, or in whose favor such judgment was rendered; provided, that nothing in this section contained shall vitiate or effect any mortgage made in good faith to secure a debt or liability created simultaneously with such mortgage, if the same be filed for record in the county wherein the property is situated, or as otherwise provided by law, within three days after its executiou, and where upon foreclosure or taking possession of such property the mortgagee fully accounts for the proceeds of such property. Any creditor or creditors, as to whom any of the acts or things prohibited in the preceding section are void, whether the claim of such creditor or creditors has matured or will thereafter mature, may commence an action in a Court of competent jurisdiction to have such acts or things declared void, and such Court shall appoint a trustee according to the provisions of this chapter, who, upon being duly qualified, shall proceed by due course of law to recover possessiou of all propeity so sold, conveyed, transferred, mortgaged, or assigned, and to administer the same for the equal benefit of all cred-

itors, as in other cases of assignments to trustees for the benefit of creditors. And any assignee as to whom anything or act mentioned in the preceding section shall be void, shall likewise commence a suit in a Court of competent jurisdiction to recover possession of all property so sold, conveyed, transferred, mortgaged, or assigned, and shall administer the same for the equal benefit of all creditors as in other cases of assignments to trustees for the benefit of creditors; provided, that where such assignee fails or declines, upon notice by any creditor or creditors to institute such suit, such creditor or creditors may themselves institute such suit within 5 days after serving notice upon such assignee to commence suit, and the procedure and administration shall be the same as is hereinbefore provided for suits commenced by any creditor or creditors. An appraisement must be made of assignor's property by 3 disinterested persons appointed by the Court, and a schedule of liabilities filed within 30 days from date of bond. A private sale can be made of assigned property at not less than two-thirds appraised value if Court find it has been made at a fair price and in good faith. The assignor may be required to appear and submit to an examination as to all matters relating to the disposal of his property and estate, upon application of assignee or any creditor. The assignee is compelled to convert all assets into cash immediately. Taxes are first lien and must first be paid. Assignee must file his account within 8 months from giving bond and must declare dividend. The Judge may order compromise of any claim due the estate. The consent of all creditors is necessary to a release of assignment. Claims of creditors must be verified and presented to assignee within 6 months after publication of notice of appointment, otherwise they will not share in dividend. The affidavit must state "that claim is just and lawful, the consideration thereof, and what, if any, set-off or counter-claims exist thereto, and what security, if any, they hold therefor."

TRUSTS.—At the last session of the General Assembly a law was passed defining trusts, and providing for criminal penalties and civil damages. and the punishment of corporations, firms, persons, and associations connected with it. The substance of this law is here given. A trust is a combination of capital, skill, or acts by two or more persons, firms, partnerships, corporations, or associations of persons, or of any two or more of them for either, any, or all of the following purposes: —1. To create or carry out restrictions in trade or commerce. 2. To limit or reduce the production, or increase, or reduce the price of merchandise or any commodity. 3. To prevent competition in manufacturing, making, transportation, sale, or purchase, of merchandise, produce, or any commodity. 4. To fix at any standard or figure, whereby its price to the public or consumer shall be in any manner controlled or established, any article or commodity of merchandise, produce, or commerce intended for sale, barter, use, or consumption in this State. 5. To make or enter into or execute or carry out any contracts, obligations or agreements of any kind or description, by which they shall bind or have bound themselves not to sell, dispose of, or transport any article or any commodity or any article of trade, use, merchandise, commerce, or consumption below a common standard figure or fixed value, or by which they shall agree in any manner to keep the price of such article, commodity, or transportation at a fixed or graduated figure, or by which they shall in any manner establish or settle the price of any article. commodity, or transportation between them or themselves and others, so as to directly or indirectly preclude a free and unrestricted competition among themselves, or any purchasers or consumers in the sale or transportation of any such article or commodity, or by which they shall agree to pool, combine, or directly or indirectly unite any interests that they may have connected with the sale or transportation of any such article or commodity, that its price might in any manner be affected. Every such trust as is defined herein is declared to be unlawful, against public policy and void. For a violation of any of the provisions of this act by any corporation or association mentioned herein, it shall be the duty of the Attorney-general, or the Prosecuting Attoruey of the proper county, to institute proper suits or *quo warranto* proceedings in the Court of competent jurisdiction in any of the county seats in the State where such corporation or association exists or does business, or may have a domicile. And when such suit is instituted by the Attorney-general in *quo warranto*, he may also begin any such suit in the Supreme Court of the State, or the Circuit Court of Franklin county, for the forfeiture of its charter rights, franchises, or privileges and powers exercised by such corporation or association, and for the dissolution of the same under the general statutes of the State. Every foreign corporation, as well as any foreign association exercising any of the powers, franchises, or functions of a corporation in this State violating any of the provisions of this act, is hereby denied the right and prohibited from doing any business in this State, and it shall be the duty of the Attorney-general to enforce this provision by bringing proper proceedings in *quo warranto* in the Supreme Court, or the Circuit Court of the county in which defendant resides or does busiuess, or other proper proceedings by injunction or otherwise. The Secretary of State shall be authorized to revoke the certificate of any such corporation or association heretofore authorized by him to do business in this State. Auy violation of either or all of the provisions of this act shall be and is hereby declared a conspiracy against trade, and any person who may become engaged in any such conspiracy or take part therein, or aid or advise in its commission, or who shall as principal, manager, director, agent, servant, or employer, or in any other capacity, knowingly carry out any of the stipulations, purposes, prices, rates, or furnish any information to assist in carrying out such purposes, or orders thereunder or in pursuance thereof, shall be punished by a fine of not less than fifty ($50) dollars, nor more than five thousand ($5,000) dollars, or be imprisoned not less than six months nor more than one year, or by both such fine and imprisonment. Each day's violation of this provision shall constitute a separate offense. In any indictment for any offense named in this act, it is sufficient to state the purpose or effects of the trust or combination; and that the accused is a member of, acted with or in pursuance of it, or aided or assisted in carrying out its purposes, without giving its name or description, or how, when, and where it was created. In prosecutions under this act, it shall be sufficient to prove that a trust or combination, as defined herein, exists, and that the defendant belonged to it, or acted for in connection with it, without proving all the members belonging to it, or proving or producing any article of agreement, or any written instrument ou which it may have been based, or that it was evidenced by any written instrument at all. The character of the trust or combination alleged may be established by proof of its general reputation as such. Each and every firm, person, partnership, corporation, or association of persons, who shall in any manner violate any of the provisions of this act, shall for each and every day that such violations shall be committed or continued, after due notice given by the Attorney-general or any prosecuting attorney, forfeit and pay the sum of fifty ($50) dollars, which may be recovered in the name of the State, in any county where the offense is committed, or where either of the offenders resides; and it shall be the duty of the Attorney-general, or the prosecuting attorney of any county on the order of the Attorney-general to prosecute for the recovery of same. When the action is prosecuted by the Attorney-general against a corporation or association of persons, he may begin the action in the Circuit Court of the county in which the defendant resides or does business. Any contract or agreement in violation of the provisions of this act, shall be absolutely void and not enforceable either in law or equity. The provisions hereof shall be held cumulative of each other and of all other laws in any way affecting them now in force in this State. It shall not be lawful for any person, partnership, association, or corporation, or any agent thereof, to issue or to own trust certificates, or for any person, partnership, association, or corporation, agent, officer, or employe, or the directors or stockholders of any corporation, to enter into any combination, contract, or agreement with any person or persons, corporation or corpora-

tions, or with any stockholder or director thereof, the purpose and affect of which combination, contract, or agreement, shall be to place the management or control of such combination or combinations, or the manufactured product thereof, in the hands of any trustee or any trustees with the intent to limit or fix the price or lessen the production and sale of any article of commerce, use, or consumption, or to present, restrict, or diminish the manufacture or output of any such article, and any person, partnership, association, or corporation that shall enter into any such combination, contract, or agreement for the purpose aforesaid shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not less than $50, nor more than $1,000. In addition to the criminal and civil penalties herein provided, any person who shall be injured in his business or property by any other person or corporation or association or partnership, by reason of anything forbidden or declared to be unlawful by this act, may sue therefore in any Court having jurisdiction thereof in the county where the defendant resides or is found, or any agent resides or is found, or where service may be obtained, without respect to the amount in controversy, and to recover two-fold the damages by him sustained, and the costs of suit. Whenever it shall appear to the Court before which any proceedings under this act may be pending, that the ends of justice require that other parties shall be brought before the Court, the Court may cause them to be made parties defendant and summoned, whether they reside in the county where such action is pending, or not. The word "person" or "persons," whenever used in this act, shall be deemed to include corporations, partnerships, and associations existing under or authorized by the State of Ohio, or any other State, or any foreign country.

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ACKNOWLEDGMENTS — May be taken and proved before a Judge or Clerk of the Supreme or District Court, a Mayor of a city, a Register of Deeds, a Justice of the Peace, a United States Circuit or District Court Commissioner, a County Clerk, or a County Auditor, or a Notary Public, within the Territory. Outside of the Territory, but within the United States, may be taken before a Justice, Judge, or Clerk of any Court of Record of the United States; a Justice, Judge, or Clerk of any Court of Record of any State or Territory; a Notary Public; or any other officer of the State or Territory, where the acknowledgement is made, authorized by its laws to take such acknowledgment; a Commissioner appointed for the purpose by the Governor of this Territory.

ALIENS.— Have the same right as citizens to own and dispose of personal property and real estate.

ASSIGNMENTS.— May be made generally for the benefit of all creditors; no preference can be made of any creditor; must be in writing and signed by the assignor or his agent, duly authorized in writing; inventory of assets, liabilities, creditors, and property exempt and not exempt must be made and filed in same office with assignment, within 20 days after assignment; assignment must be filed and recorded in office of Register of Deeds; inventory must be verified and assignment must be acknowledged; assignee must give bond within 30 days and report within 6 months; assignment cannot be canceled without consent of every creditor affected thereby.

ATTACHMENTS.— The plaintiff may have attachment at the time of filing his complaint, or afterwards, upon one or more of the following grounds: (1) When defendant, or one of several defendants, is a foreign corporation or a non-resident of the Territory (but no order of attachment shall be issued on these grounds for any claim other than a debt or demand arising upon contract, judgment, or decree, unless the cause of action arose within the limits of the Territory); (2) when the defendant, or one of several defendants, has absconded with intention to defraud his creditors; (3) has left the county of his residence to avoid the service of summons; (4) so conceals himself that a summons cannot be served upon him; (5) is about to remove his property, or a part thereof, out of the jurisdiction of the Court, with the intent to defraud his creditors; (6) is about to convert his property, or a part thereof, into money for the purpose of placing it beyond the reach of his creditors; (7) has property or rights in action which he conceals; (8) has assigned, removed, or disposed of, or is about to dispose of, his property, or a part thereof, with the intent to defraud, hinder, or delay his creditors; (9) fraudulently contracted the debt, or fraudulently incurred the liability or obligations for which suit is about to be or has been brought; (10) where the damages for which action is brought are for injuries arising from the commission of some felony, misdemeanor, or seduction of female; (11) when the debtor has failed to pay the price or value of any article or thing delivered, which, by contract, he was bound to pay upon delivery. A creditor may bring an action and have attachment on claim not due where debtor has sold, conveyed, or otherwise disposed of his property, with the fraudulent intent to cheat or defraud his creditors, or to hinder or delay them in the collection of their debts, or is about to make such sale or conveyance or disposition of his property with such fraudulent intent, or is about to remove his property, or a material part thereof, with the intent or to the effect of cheating or defrauding his creditors, or of delaying them in the collection of their debts. In such case, an order must be had from the Judge of the Court, or in his absence the Probate Judge, allowing the attachment. Attachment binds property from the time of service. Except in case defendant is a foreign corporation, or all defendants are non-residents, undertaking must be filed in double the amount of the claim. In the cases where the debt is fraudulently contracted, it is deemed due, at the time of contract.

CHATTEL MORTGAGES.— Must be executed in the presence of two attesting witnesses. May be foreclosed by action in Court, or by public notice for ten days and public sale. After tender of the mortgage debt and interest to mortgagee by the attachment or execution plaintiff, chattels covered by mortgage may be levied upon. Mortgage, or authenticated copy, must be filed with Register of Deeds; otherwise, it is void against the creditors, or subsequent purchasers and incumbrancers in good faith and for value. Security is invalid as against them, after three years from time of filing, unless mortgagee files a copy and affidavit of renewal within 30 days prior to the lapse of such time. The usual punishment for removing, destroying, concealing, or disposing of chattels.

CONDITIONAL SALES.— Such contracts must be filed or they are void as against innocent purchasers and creditors.

CONTRACTS.— All persons are capable of contracting, except minors, persons of unsound mind, and persons deprived of civil rights. All distinctions between sealed and unsealed instruments are abolished. Where all parties receive some benefit, contract is joint and several.

CONVEYANCES.— All instruments for the conveyance of real estate, for a term of more than one year, and not passing an estate at will, must be in writing, and signed by the party disposing, or by his agent thereunto authorized by writing, and must be acknowledged. Wife must join in the transfer, in order to deprive her of her interest after death of husband. Must be recorded to affect purchasers, *bona fide*, for value.

CORPORATIONS.— May be formed for the usual purposes. Foreign corporations are required to file with the Secretary of the Territory, an authenticated copy of its articles of incorporation, and appoint an agent, resident in the Territory, upon whom service of process may be made, before allowed to transact business or hold or dispose of property.

COURTS.— The Courts of the Territory are Supreme, District, Probate, and Justice of the Peace. The Justice Court has jurisdiction of civil matters for the recovery of money where the amount does not exceed $100. Probate Court has jurisdiction of all matters of probate, and of actions for the recovery of money, outside of probate matters, where the amount involved does not exceed the

sum of $1,000; but like Justice of the Peace, no jurisdiction of actions for malicious prosecutions, misconduct of officers, libel and slander, and real estate contracts. District Court is a Court of general jurisdiction, also has jurisdiction of United States District and Circuit Courts. Supreme Court is a Court of appellate jurisdiction. Justice and Probate Courts are always open for the transaction of business, and the filing of papers and the issuing of process. Actions are commenced in the Justice Court by filing a bill of particulars, and having summons issue, returnable in the Justice Court in not less than 3 days, and not more than 12 days. In the District Court suit is commenced by petition. The summons is returnable in 10 days, and defendant must answer in 20 days from return day. Plaintiff has 10 days to reply. The Probate Court sits as a Justice of the Peace up to $100; and beyond that and up to $1,000, as a District Court. Non-resident plaintiffs must file bond for costs with complaint.

DIVORCE.— Grounds are: (1) When either of the parties had a former husband or wife at time of subsequent marriage; (2) abandonment for one year; (3) adultery; (4) impotency; (5) wife pregnant at time of marriage; (6) extreme cruelty; (7) fraudulent contract; (8) habitual drunkenness; (9) gross neglect of duty; (10) conviction of a felony, and imprisonment therefor, subsequent to marriage. The plaintiff must reside in Territory one year in good faith before commencing action. At the time of commencement of action, he or she must be a resident of the county where commenced.

EXECUTIONS.— Returnable in 60 days, in Court of Record, 30 days before Justice of the Peace. Executions upon personal property become liens from date of seizure. At expiration of 5 years from date of judgment, same is no longer a lien on real estate, and will become dormant if execution is not sued out within 5 years from the date of judgment, or if 5 years intervene between date of the last execution, and the suing out of another writ of execution thereon. In such case, judgment may be revived, upon application, after due notice, if done within 1 year. Levy must be made upon goods and chattels, but if none found then upon real estate. May be issued to Sheriff of any county in the Territory. No priority, but *pro rata* distribution of proceeds, if writs are sued out during the term when judgment was rendered, or within 10 days thereafter. In other cases, writ first delivered to the officer shall be first satisfied.

EXEMPTIONS.— To head of a family, outside of city or town, not to exceed 160 acres, which must be in one tract, with the improvements thereon, and in a city or town, not more than 1 acre; all household and kitchen furniture; lot in cemetery; all implements of husbandry, tools, apparatus, and books used in trade or profession; family library, portraits, and wearing apparel; 5 milch cows and their calves; 1 yoke of oxen, with yokes and chains; 2 horses or mules, and wagon or cart or dray, carriage or buggy; gun; 10 hogs, 20 sheep; saddles, bridles, and harness for use of family; provisions, forage on hand or growing for home consumption, and for the use of exempt stock for 1 year; current wages and earnings for personal and professional services within last 90 days. These exemptions do not apply to corporation for profit; to a non-resident; to a debtor who is in the act of removing his family from the Territory, or who has absconded, taking with him his family. To a single person: lot or lots in cemetery held for sepulchre; all wearing apparel; tools, apparatus, and books belonging to any trade or profession; 1 horse, bridle and saddle or 1 yoke of oxen; current wages for personal services. Exemption of homestead shall not apply where debt is due for purchase money, or part of same; taxes due thereon; work and material used in constructing improvements thereon; lien given by the owner. Exemption of personal property shall not apply when debt is due for rents and advances of landlord to tenant, or to debts secured by lien. No personal property is exempt from execution or attachment for wages of clerk, mechanic, laborer, or servant. All pension money is exempt, and judgment debtor has right to select $600 worth of property, exempt from any levy.

GARNISHMENTS.— The plaintiff may have garnishment of funds or property of the debtor in the hands of third persons, upon filing affidavit showing amount of claim, that defendant's property subject to exécution is not sufficient to satisfy plaintiff's demand, that the plaintiff believes the property sought is not exempt, and by filing bond, and procuring issuance of summons. Garnishee must answer in 20 days or become liable for plaintiff's claim. Plaintiff then takes issue, which is triable as a civil action. Garnishee may defend for defendant, and vice versa.

INTEREST.— The legal rate is seven per cent. No limitations in contracts. (See Judgments.)

JUDGMENTS.— See Executions. Judgments are a lien against real estate for five years. Judgments rendered by Justice of the Peace or Probate Judge become liens by filing certified copy thereof with the Clerk of the District Court. Judgments bear interest at 7 per cent., but in case of contract, the judgment bears that rate up to 12 per cent. per annum.

LIENS.— Both general and special. Liens have priority according to time of creation. Mortgage for purchase price has priority subject to the operation of the recording laws. One who sells real estate has vendor's lien for purchase price unpaid, subject to purchaser or incumbrancer in good faith, for value. Purchaser of personal property has special lien, independently of possession, for such part of amount paid as may be entitled to recover back for failure of consideration. A person in possession of personal property has a special lien for services to owner for protection, improvement, safe keeping, and carriage thereof. Factor has special lien dependent upon possession, on commercial articles entrusted to him by principal; a banker likewise upon property of customer for balance due in the course of business. Mechanics and material men have lien for labor and material. Carriers have lien for freightage. Holders of inferior liens may redeem from prior liens as the owner might do. Hotel keepers have lien on baggage of guests. Seller or consignor may, upon the insolvency of the buyer or consignee becoming known, after parting with the property, stop it while on its transit and resume possession.

LIMITATIONS.— Civil actions, other than for the recovery of real property, can only be brought within the following periods after the cause of action shall have accrued: (1) Within five years, an action upon any contract in writing. (2) Within three years, an action upon a contract not in writing, express or implied, an action upon a liability created by statute, other than a forfeiture or penalty. (3) Within two years, an action for taking, detaining, or injuring personal property, including actions for the specific recovery of personal property, an action for injury to the rights of another, not arising on contract and not hereinafter enumerated, an action for relief on the ground of fraud — the cause of action in such case shall not be deemed to have accrued until the discovery of the fraud. (4) Within one year, an action on a foreign judgment, an action for libel, slander, assault, battery, malicious prosecution, or false imprisonment, an action upon a statute for penalty or forfeiture, except where the statute imposing it prescribes a different limitation. (5) An action on the official bond of an executor, administrator, guardian, sheriff, or any other officer, or upon the bond given in attachment, injunction, arrest, or in any case whatever required by the statute can only be brought within five years. (6) An action for relief, not hereinbefore provided for within five years.

MARRIED WOMEN.— Neither husband nor wife has any interest in the property of the other. Either may enter into any engagement or transaction with the other, or with any other person, respecting property which either might, if married, subject, between them, to rules which control the actions of persons occupying confidential relations. The wife may, without consent of husband, convey her separate property. Woman retains the same legal existence and personality after marriage as before, and receives same protection of her rights as does her husband. She may hold and transfer real and personal property, may buy and

sell goods, give notes or other obligations, and sue and be sued, same as if unmarried.

MORTGAGES.— All transfers of interest to property, as security, except in trust or as a pledge, is a mortgage. Assignment of debt carries with it the security. Executed the same as grant of real property.

NEGOTIABLE INSTRUMENTS.— Include bills of exchange, promissory notes, bank notes, checks, bonds, and certificates of deposit. May be with or without date, and with or without time or place of payment. Three days of grace are allowed upon all notes, bills of exchange, drafts, and notes due on demand. Sundays and holidays must be excluded from days of grace. Demand is not necessary upon principal maker in order to charge him, but if instrument is payable at a particular place he must show ability and willingness to pay. Damages for dishonor and protest are as follows: If drawn on any person in this Territory, 2 per cent.; if drawn on any person in Nebraska, Iowa, Minnesota, Wisconsin, Illinois, Missouri, and Montana, 3 per cent.; any other States or Territories, 5 per cent.; if drawn on any person in any foreign country, 10 per cent. Protest, notice, and presentment may be waived. Without date is payable immediately; without place of payment, is payable at residence or place of business of maker, or wherever found. Protest at maturity necessary to hold indorser. Consideration and indorsement before maturity presumed. May be indorsed without recourse, and in that case no responsibility other than there would be without indorsement. Rendered not negotiable by special indorsement. Indorser for accommodation has rights of surety, but is not entitled to contribution from subsequent indorsers. Indorser of instrument, wholly or partly in blank, is liable to an indorsee in due course, in whatever manner and at whatever time it may be filed, so long as it remains negotiable. The usual regulations regarding protest, and service of notice thereof. A waiver of presentment waives notice of dishonor also, unless contrary is expressly stipulated; but a waiver of notice does not waive presentment. A waiver of protest on any negotiable instrument, other than a foreign bill of exchange, waives presentment and notice.

PROCEDURE.— The pleadings are petition, answer, and reply. Demurrer lies on the ground of want of jurisdiction, misjoinder of parties and causes of action, and failure to state cause of action. Demurrer to the evidence may be interposed by either party, but it does not discharge jury unless sustained. The usual code provisions. Distinction between actions at law and equity abolished. All actions are civil actions.

REPLEVIN.— Upon proper affidavit describing property, alleging ownership, or interest, the facts, and wrongful detention, and that property was not taken in execution of any order or judgment against the plaintiff, or for payment of tax, fine, or assessment, or by virtue of order of delivery, or *mesne* or final process against plaintiff, that property is not exempt and the value of the property, plaintiff may procure order of delivery. The Sheriff serves order, and holds property 24 hours, within which time defendant may give undertaking to plaintiff, and procure possession; otherwise the property is delivered to the plaintiff. Judgment may be had for the possession, or if delivery cannot be had, damages for detention. If property is delivered to plaintiff, and judgment be rendered against him on demurrer, or if he otherwise fail to prosecute his action to final judgment, the defendant may have trial of the right of property and of his right of possession to the property.

OREGON.

ACKNOWLEDGMENTS.— An acknowledgment if taken out of the State, may be taken by any officer appointed by the laws of the State, Territory, or District where made, or before any Commissioner appointed by the Governor of this State for such purpose, and unless the acknowledgment be taken before such Commissioner, or before a Notary Public, certified under his official seal, or before the Clerk of a Court of Record, certified under the seal of the Court, there must be attached a certificate of a Clerk or other proper certifying officer of a Court of Record of the county or district within which such acknowledgment was taken, under the seal of his office, that the person whose name is subscribed to the certificate of acknowledgment was, at the date thereof, such officer as he is therein represented to be, and that he believes the signature of such person subscribed thereto to be genuine, and that the deed is executed and acknowledged according to the laws of such State, Territory, or District.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— When the debtor has removed or disposed of his property, or is about to do so with intent to defraud his creditors; in actions to recover the possession of any personal property unjustly detained, when the property, or any part thereof, has been concealed, removed, or disposed of; in an action for the recovery of money or damages in a cause of action arising out of contract when the debtor is a non-resident of the State, or is about to remove therefrom, or when the action is for an injury to person or character, or for injuring or wrongfully taking or converting property. No female can be arrested in any action, except for an injury to person, character, or property. 1st. In any action for a fine or penalty, or on a promise to marry, or for money received, or property embezzled, or fraudulently misapplied, or converted to his own use, by a public officer, or by an attorney, or by an officer or agent of a corporation in the course of his employment as such, or by any factor, agent, broker, or other person in a fiduciary capacity, or for any misconduct or neglect in office, or in a professional employment; 2d, in an action to recover the possession of personal property unjustly detained, when the property, or any part thereof, has been concealed, removed, or disposed of, so that it cannot be found or taken by the Sheriff, and with intent that it should not be so found or taken, or with the intent to deprive the plaintiff of the benefit thereof.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Negotiable instruments due on a holiday become due the next business day. No days of grace are allowed. Notes in writing signed by any person, whereby he shall promise to pay any sum of money to any other person, or his order, or unto bearer, are negotiable as inland bills of exchange. Notes may be signed by agent. Notes made payable to the order of the maker or of a fictitious person, if negotiated by the maker, have the same effect, as against the maker and all persons having knowledge of the facts, as if payable to bearer. No person can be charged as acceptor of a bill of exchange except the acceptance is in writing. Exchange, interest, and damages at the rate of 10 per cent., are allowed upon foreign bills of exchange drawn or indorsed within this State, and exchange, interest, and damages at the rate of 5 per cent., upon bills of exchange drawn or indorsed in the State, payable within the United States but out of this State.

COMMENCEMENT OF SUIT.— Justices' Courts are always open. The return day named in the summons issued out of said Courts must not be less than 6 nor more than 20 days. Suits and actions in the Circuit and County Courts are commenced by filing a verified complaint with the Clerk of the Court. Summons is served by personally delivering to the debtor or leaving at his dwelling-house or usual place of abode in the county with a member of the family, person over 14 years of age, a copy of the summons and a certified copy of the complaint, and if debtor does not appear or answer in 10 days the creditor may take judgment. In cases of non-resident debtors who have property in the State the Court may order service by publication of the summons. County Court empowered to order publication of summons and personal service made out of the State on the defendant by any person not of interest in or a party to the action is equivalent to service by publication.

CONSIGNMENTS.— If a consignee fails to account for the consigned property, he is guilty of "larceny by bailee," and may be

punished by imprisonment, not less than 1 year nor more than 10. The criminal prosecution must be commenced within 3 years.

CORPORATIONS. — Corporations are formed under general laws, but cannot be created by special laws, except for municipal purposes. The stockholders of all corporations and joint stock companies are liable for the indebtedness of said corporation to the amount of their stock subscribed and unpaid, and no more. Three or more persons may incorporate for the purposes of engaging in any lawful enterprise, business, pursuit, or occupation. Articles of incorporation are executed in triplicate, one copy filed with Secretary of State and one copy with the County Clerk, and the remaining copy retained by the company. No person, except a stockholder and resident of the State, can become a director, except in case of railroad corporations, and those constructing flumes, military, wagon roads, institutions of learning, and those publishing newspapers, and those engaged in mining operations within and without the State, and corporations incorporated for the purpose of conducting any manufacturing business may permit a minority of their directors to reside out of the State. Stock in all private corporations is personal property and subject to attachment, execution, levy, and sale, as such. Directors are not liable for wrongdoing of other directors, if they dissent therefrom, and file their objections thereto as soon as the misconduct shall come to their knowledge. Supplementary articles may be filed when a three-fourths vote of all the stock subscribed shall so determine.

ESTATES OF DECEASED PERSONS. — Administration is granted: 1st, To the widow or next of kin, or both; 2d, to one or more of the principal creditors; 3d, to any other competent person. They are entitled in the order named. Executor or administrator is empowered to redeem or mortgage in the interest of the estate any property and real estate, with consent of the County Court, which the debtor or deceased may have redeemed or mortgaged. The estate is applied to pay: 1st, Funeral charges; 2d, taxes due the United States; 3d, expenses of last sickness; 4th, taxes due the State, county, or other corporation; 5th, debts, preferred by the laws of the United States; 6th, debts which at the death of the deceased were a lien upon his real property; 7th, debts due employees of decedent for wages earned within 90 days immediately preceding the death of the decedent; 8th, all other claims. A widow is entitled to dower of one-half part of all the lands whereof her husband was seized of an estate of inheritance during marriage. The husband is tenant by courtesy for life of wife's real estate, upon her death, even though there has been no issue born of the marriage. Real property descends: 1st, In equal shares to children and the issue of deceased children by right of representation, if no child living then to his other lineal descendants, if all of the same degree equally, otherwise by right of representation; 2d, if no lineal descendants, to wife, or if the intestate be a married woman and leave no lineal descendants, then such real property shall descend to her husband, and if no wife, to father; 3d, if the deceased leaves no lineal descendants, neither husband nor wife, or father, then his real estate descends in equal shares to brothers and sisters, and the issue of any deceased brother or sister by right of representation, and to his mother if living; 4th, if no brothers or sisters are living, such real estate descends to the mother, to the exclusion of the issue of deceased brothers or sisters; 5th, if the deceased leaves no lineal descendants, wife, father, or mother, such real estate descends to the next of kin in equal degree; of those claiming under different ancestors, and of equal degree, those claiming under the nearest ancestor shall be preferred. An illegitimate child is heir to its mother, but cannot inherit, as the representative of its mother, of the lineal collateral kindred of the mother. Upon the death of the husband or wife leaving an issue, such husband or widow is entitled to half the personal property and the issue to the other half; if there is no issue, the husband or widow is entitled to the whole. In other cases the personal property is distributed to the persons who would be entitled to the real property. If the intestate shall leave no lineal descendants or kindred, such real property shall escheat to the State of Oregon.

HOMESTEADS. — The homestead of a family is exempt from judicial sale, but such homestead must be the actual abode of or owned by such family, or some member thereof. It cannot exceed in value $1,500, nor exceed 160 acres in extent if located outside of a town or city. If in a town or city, then such homestead cannot exceed one block. A homestead cannot be reduced to less than 20 acres nor one lot, regardless of value. The Homestead Act does not apply to decrees for the foreclosure of any mortgage, properly executed, but such mortgage must be executed by both husband and wife. A creditor may have the premises claimed as a homestead appraised, and if found to exceed the value of $1,500, all of said property in excess of $1,500 may be sold by lots, or smallest legal subdivisions; but the Sheriff is required to offer the same in the manner directed by the judgment debtor, if he chooses to so direct, otherwise said Sheriff shall sell the same so as to leave the portion thereof appraised at $1,500, which is then designated as the homestead, as compact as possible. In lieu of the proceedings or an appraisement and sale, as above stated, the execution creditor may at any time pay the execution debtor the sum of $1,500 and proceed to sell the homestead, as he might have done but for said Homestead Act, adding the said $1,500 to his lien, but the money is exempt from execution. The homestead is also exempt from sale on judicial process after the death of the person entitled thereto, for the collection of any debt for which the same could not have been sold during his lifetime.

INTEREST. — Six per cent. per annum is the legal rate; but parties may agree in writing for a rate as high as 10 per cent. per annum.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION. — In an action arising upon contract for the recovery of money or damages only, if the debtor does not appear or answer in 10 days from personal service of summons, the creditor may take judgment in vacation before the Clerk. If any pleading is filed by the debtor, judgment can only be had in term time. Justices' Courts are always open. The return day named in the summons in Justices' Courts must be not more than 20, and not less than 6 days. Execution issues immediately upon rendition of judgment, on request of the party in whose favor the judgment is rendered — in Justices' Courts, returnable in 30 days; in County and Circuit Courts, returnable in 60 days. Executions may be stayed 30 days in Justices' Courts upon filing bond. In the Circuit and County Courts there is no stay except by appeal, and then, where the judgment is for money, counter bond may be given and money collected.

JURISDICTION OF COURTS. — Justices' Courts have jurisdiction when the amount does not exceed $250. County Courts have jurisdiction up to $500. Circuit Court has unlimited jurisdiction.

LIMITATION OF ACTIONS. — Actions must be commenced within the following periods: Within 10 years: Actions for the recovery of real property or for the recovery of the possession thereof; actions upon a judgment or decree of any Court of the United States, or of any State or Territory within the United States; actions upon sealed instruments. Within 6 years: An action upon a contract or liability, express or implied, excepting those already enumerated; an action upon a liability created by statute, other than a penalty or forfeiture; an action for waste or trespass of real property; an action for taking, detaining, or injuring personal property, including an action for the specific recovery thereof. Within 3 years: An action against a Sheriff, Coroner, or Constable upon a liability incurred by the doing of an act in his official capacity, and in virtue of his office, or by the omission of an official duty; but this does not apply to an action for an escape; an action upon a statute for penalty or forfeiture to a person. Within 2 years: An action for libel, slander, assault, battery, or false imprisonment, criminal conversation, or for any injury to the person or rights of another not arising on contract, and not herein specially enumerated; an action upon a statute for a forfeiture or penalty to the State. Within 1 year: An action against a Sheriff or other officer for an escape of person arrested on civil process; an

action for any cause not hereinbefore provided for, shall commence within 10 years from time action accrued.

SALE OF GOODS IN BULK.— It shall be the duty of any person who shall purchase any stock of goods in bulk for cash or credit, to demand and receive from the vendor, at least 5 days before the consummation of such purchase and at least 5 days before paying or delivering to the vendor any part of the purchase price, a written statement under oath containing the names and addresses of all of the creditors of said vendor with the amount of indebtedness due or owing, or to become due or owing to each of such creditors, and if there be no such creditors a written statement under oath to that effect; and it shall be the duty of such vendor to furnish such statement at least 5 days before such sale. After receiving said written statement the vendor shall at least 5 days before the consummation of such purchase, and at least 5 days before paying any part of the purchase price, in good faith notify personally or by wire or by registered letter, each of the creditors of the vendor named in said statement, of the proposed purchase by him of such stock of goods; and whenever any person shall purchase any stock of goods in bulk, without having first demanded and received from the vendor the statement herein provided for and without having also notified all of the creditors of the vendor named in such statement, such purchase, sale, or transfer shall as to any and all creditors of the vendor, be conclusively presumed fraudulent and void. Any vendor of a stock of goods in bulk, who shall knowingly or wilfully make or deliver, or cause to be made or delivered, any false statement, or shall fail to include the names of all of his creditors in any such statement shall be deemed guilty of perjury. Any sale or transfer of a stock of goods, wares, or merchandise out of the usual or ordinary course of the business or trade of the vendor, or whenever thereby substantially the entire business or trade theretofore conducted by the vendor shall be sold or conveyed or attempted to be sold or conveyed shall be deemed a sale or transfer in bulk, in contemplation of this act; provided that nothing contained in this act shall apply to sales by executors, administrators, receivers, or any public officer acting under judicial process.

SYNOPSIS OF THE ASSIGNMENT LAWS.— General assignments are regulated by the Act of October, 1878, which law was amended by the laws of 1885. The assignment must be for the equal benefit of all creditors, without preference. It discharges all attachment liens, but not liens acquired under a final judgment and execution issued thereon. The taxable costs and disbursements of attaching creditors must, however, be paid in full. The assignor must, with his assignment, file an inventory of his estate and list of his creditors. The debtor, in the first instance, selects the assignee; but upon application of two or more creditors, the Circuit Judge directs the creditors to meet and select an assignee in lieu of the assignee appointed by the debtor. The assignee must also file an inventory and valuation of the estate, and give bonds in double the amount of the valuation. He must also forthwith publish notice of the assignment for six weeks in the county paper, and send notice by mail to each creditor of whom he shall be informed. At the expiration of three months from the first publication of the notice the assignee must file with the Clerk a list of all creditors who have presented their claims, and a list of the creditors to whom he has mailed notice of the assignment. Creditors who have not then presented their claims shall not receive a dividend until all presented claims have been paid in full. Within three months from the filing of the list of presented claims, any person interested may file with the Clerk any exceptions to the claim of any creditor. The Clerk shall summon such creditor to appear at the next term of Court, and the Court at that term after hearing proof shall render such judgment upon the claim as may be just. After the expiration of the three months allowed for filing exceptions to claims, and after all claims excepted to have been duly adjudicated, the Court shall direct the assignee from time to time to make *pro rata* dividends. The Act also provides that upon payment of 50 per cent. to the creditors, over and above the expenses of administering the estate, the debtor is entitled to a discharge from all his debts, provided he has complied with all the provisions of the Act. The Act gives the Court full power over the assignee to compel him to faithfully execute his trust, and upon cause shown to remove him and appoint another in his place. The assignee is required to publish in a newspaper of the county where the proceedings are pending, 4 weeks' notice of the filing of his account before the estate can be closed.

PENNSYLVANIA.

ACKNOWLEDGMENTS.— Acknowledgments of deeds to be recorded in Pennsylvania may be made before any Mayor, or Chief Magistrate of any city or town incorporated (under the public seal), any Justice or any Judge of any Court of Record, Commissioner for Pennsylvania, before a Notary Public, or before any officer appointed by the laws of the State where taken, if certified by the seal of the Clerk of any Court of Record, that the officer taking such acknowledgment is duly qualified by law to take the same.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— Imprisonment for debt arising on contract is abolished except in proceedings, as for contempt, to enforce civil remedies, actions for fines and penalties, on promises to marry, on moneys collected by a public officer, or for any misconduct or neglect in office, or in any professional employment. In actions in tort, such as the wrongful conversion of money or personal property, personal injury, libel, slander, malicious prosecution, embezzlement, deceit, false imprisonment, and conspiracy to defraud original and final process of arrest still lies. However, a defendant in a suit arising on contract may be arrested after suit brought, upon proof that he is about to remove his property to defraud his creditors, or has done so, or that he fraudulently conceals his property, or that he fraudulently contracted the debt. If these facts or any of them are clearly proved, he may be committed unless he pays the debt, or gives security to do so within 60 days, or gives bond to take the benefit of the insolvent law.

ASSIGNMENT LAWS.— 1. Does there exist in this State a separate, distinct assignment, insolvency or bankrupt law?—A. No; there is a series of statutes relative to voluntary assignments for the benefit of creditors, and, subject to certain conditions, a creditor may aver that a person is insolvent, and ask that a receiver be appointed for the estate.

2. Does the law in this State permit the debtor to make a preferential assignment?—A. He can make no preference in the deed of assignment. If any person, firm, limited partnership, joint stock company, or corporation being insolvent, with a view to give a preference to any creditor, shall suffer or permit any judgment to be entered by confession or otherwise, or any execution to be issued, or shall make any pledge, payment, assignment, or conveyance, such judgment, execution, pledge, payment, etc., shall inure to the benefit of all creditors, if an assignment for the benefit of creditors be made within four months after such judgment, execution, payment, etc.

3. Can a judgment by default or confession be given in favor of relatives or friends, thus defeating the efforts of general or outside creditors?—A. No; a judgment by default or confession inures to the benefit of all the creditors provided an assignment be made or proceedings in insolvency be commenced within four months thereafter, and provided further it is done for the purpose of giving a preference, or is done with the collusion of the creditor.

4. Can conveyance or transfer of property be made immediately anterior to assignment and still be held valid?—A. No; unless it can be shown it was not done to give a preference.

5. Can a debtor in this State obtain a discharge from his obligations without the unanimous consent of creditors, and under what circumstances?—A. No; the unanimous consent would be necessary under an assignment for the benefit of creditors.

6. Does the acceptance of a dividend from an estate under assignment in this State discharge the debtor? — A. At the time of receiving his dividend each creditor signs a release to the insolvent from any aud every debt owing at the date of assignment and agrees not to bring suit or issue execution on any such claim.

7. What is the position of creditors who do not come into an assignment, should one be made? — A. Simply that they fail to get their share in the distribution of the estate. Their claims remain intact.

The wife's dower in real estate assigned is uot barred unless she joins in the deed of assignment. Assignments made by uon-residents are binding in this State on persons having actual uotice thereof as to property here. There is also a preference for wages due laborers and others out of the assigned estate.

BANKS AND BANKERS.— Banks may be chartered by the Governor — the capital beiug at least $50,000. Each stockholder is responsible to the bank's creditors for its debts to the amount of the par value of his stock, in addition to what he may have paid for his stock. A license fee must be paid to the State by banks and bankers. It is an offeuse punishable by fine and imprisonment for a banker, broker, or other person to repledge collaterals unless they have been partly or wholly purchased with their own money or on their credit. Any bank incorporated under laws of Pennsylvania which shall become an association for carrying on banking business under the laws of the United States shall be continued a body corporate for 3 years after surrendering its charter, for the purpose of prosecuting and defending suits by and against it, and of enabling it to close its concerns and dispose of and convey its property; but not for continuing the business for which it was established. Any banker, broker, or officer of any trusts or savings institution, national, state, or private bank, who shall take and receive money from a depositor with the knowledge that he, they, or the bank is insolvent, shall be guilty of embezzlement. *Fine* — Double the amount received, and imprisonment from 1 to 3 years in the penitentiary. Savings banks for the encouragement of saving money may be incorporated without capital stock.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Days of grace have been abolished in this State. Where a person not otherwise a party to an instrument places thereon his signature in blank before delivery, he is liable as indorser in accordance with the following rules: 1. If the instrument is payable to the order of a third person, he is liable to the payee and to all subsequent parties. 2. If the instrument is payable to the order of the maker or drawer, or is payable to bearer, he is liable to all parties subsequent to the maker or drawer. 3. If he signs for the accommodation of the payee, he is liable to all parties subsequent to the payee. Where the instrument is not payable ou demand presentment must be made on the day it falls due. Where it is payable on demand presentment must be made within a reasonable time after its issue. Negotiable instruments given for a patent right must have the words "given for a patent right" prominently written or printed over the signature, and are subject, in the hands of an iudorsee, to the same defenses as in the hands of the original holder. It has been held, however, that papers so given on which the above words are not found, when in the hands of an innocent holder for value before maturity, is unaffected by the above provision.

COMMENCEMENT OF SUIT.— Suit may be commenced at any time. All writs are returnable to the first, second, third, or fourth Mouday of each month. A non-resident plaintiff may be compelled to enter security for costs. A summons from a Magistrate or Justice of the Peace is returnable not less than 5 or more than 8 days after the date of the writ, and must be served on the debtor at least 4 days before the date fixed for the hearing of the case.

CONDITIONAL SALES.— This name is sometimes given to leasiug arrangements whereby the intending seller makes a lease of property at certain specified rental, and superadds an agreement that if all the instalments of rent are paid when due he will transfer title of the thing leased to the lessee. Title remains in the lessor till the instalments are paid, and the property meanwhile can be defended against execution creditors of the lessee. This matter is highly technical, and any form of lease intended to be used iu this State should be scrutinized by counsel familiar with the State decisions.

CONSIGNMENTS.— If the consignee shall apply, or dispose of the consigned goods, or money received therefor, to his own use, iu violation of good faith, and with intent to defraud the owner, he shall be guilty of a misdemeanor, and be sentenced to a fine not exceeding $2,000, and imprisonment not exceeding 5 years. The criminal prosecution must be brought within 2 years.

CONTRACTS.— A promise to answer for the debt or default of auother, exceeding in amount $20, cannot be enforced unless it is in writing signed by the party to be charged therewith, or some other person by him authorized.

Contracts of Married Women.— When made in respect to their own business or property, are binding upon them, but uot when made as an accommodation, indorser, guarantor, or surety for another person. But they cannot mortgage nor convey their real estate unless their husbands join in the deed.

CORPORATIONS.— For manufacturing and business purposes are organized under a general law. Ordinary corporations are required to report, under oath, to the Auditor-General in November of each year, which report is used as a basis of taxation. Manufacturing companies must, in September of each year, file a full report of all their business affairs with the Recorder of Deeds in the county in which their business is located, on penalty of officers and directors beiug held personally reponsible for debts. Stockholders are liable, as individuals, to the amount of stock held, for all work or labor done to carry on the operations of the corporation, except in cases where liability is defined by special statute. Recovery therefor may be had from one or more stockholders.

Foreign Corporations.— In order to do business must file a statement under its seal in the office of the Secretary of the Commonwealth in the required form, showing its title and object, location of office, name of authorized agent therein. It must preserve the certificate of the Secretary of the Commonwealth, certifying its compliance with the above requirements, for inspection in all its offices iu the State. Doiug business without fulfilling these requirements makes agents, officers, and employees liable to 30 days' imprisonment and a fine of $1,000. Foreigu Corporations doing business in the State, in which three or more stockholders are citizens of this State, and the character of whose business is the same for which incorporation may be had under the laws of this State, may become incorporated under the laws of this State on fulfilling certain requirements specified by the Act of Assembly. Foreign Insurance Companies are subjected to special requirements aud come under the regulation of the State Insurauce Commissioner. Foreign Life and Accident Insurance Companies must designate an agent for the State on whom service of process may be made, and it appears such agent is the only person on whom service can be made in the State.

ESTATES OF DECEASED PERSONS.— Executor or administrator is allowed one year to close estate of decedent. Claims should be presented and proved before the Judge of the Orphans' Court when the account is audited.

INTEREST.— Six per cent. A contract for a higher rate is void as to the excess over 6 per cent., and such sum, if paid, may be recovered by suit brought within 6 months. A fair purchase of a bond or uote may be made at any disconnt, without being usurious.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— If the plaintiff file a statement of his demand, and serve a copy thereof on the defendant not less than 15 days before the return day of the writ (see "Commencement of Suit" above), judgment by default may be entered the next day after the return day. If a copy of the statement of claim is not served 15 days before the return day, judgment can be obtained 15 days after service of such

copy. By rule of Court the statement of claim must be verified by affidavit. In all cases the defendant can prevent the entry of judgment by filing a sufficient affidavit of defense and serviug a copy thereof on the plaintiff, or his attorney, of record before plaintiff enters judgment, as above indicated. The judgmeut when entered becomes a lieu upon the real estate of the debtor owned by him at the time of the entry. It does not bind after-acquired property until a levy has been made upon it, or the judgment revived by *scire facias*. Execution cau issue as soon as judgment is obtained. The writ of execution is made returuable to the first Monday of the following month ; but it is the duty of the Sheriff to make his levy at once and he may proceed to sell personal property upon 6 days' notice and distribute the proceeds. Stay of execntion can be taken by giving security on all sums of $200 and under, 6 months ; between $200 and $500, 9 months ; over $500, 12 months. The stay is computed from the return day of the writ. The judgment of a Magistrate or Justice of the Peace may be made a lien on real estate by filing a transcript thereof in the Court of Common Pleas. The judgment of the Common Pleas in one county may be trausferred to that of another couuty aud euforced there. Wages claims, rent for 1 year, and the $300 exemption, in cases where it applies, are paid out of the proceeds of an execution before judgmeut creditors' claims.

Claiming goods levied upon.— Where goods are claimed on the allegation that they do not beloug to the defendant in the execution, the claimants must notify the Sheriff of their claims before the sale takes place. Boud must be given in double the value of the goods claimed. On entering the bond the Sheriff gives the claimant the goods. The coudition of the bond is that the claimant will prove his title in an actiou framed by order of the Court out of which the execution issued, in which the claimant is the plaintiff and other persons claiming the goods, under the levy or otherwise, are defeudants. If the claimant fails to prove his title, any person to whom the right to the goods may be adjndged may bring suit on the bond, and recover their valne. At the time the claim is made the goods are to be appraised and the claimant pays $4 for the cost of making this appraisement. The bond and a statement of the claimant's title mnst be filed within 2 weeks after the Court, on the Sheriff's application, has ordered the action framed as above mentioned. Claimants failing to make good their title have to pay all costs, including an attorney's fee to counsel for the plaintiff in the original execution, snch fee to be fixed by the Court, and, if they have taken away the goods claimed, a jndgment for the value of the goods can be entered against them. In practise such claims are usually made where the goods are alleged to have been secured from the claimants by fraud, or got into the possession of the defendant in the execution under a conditional sale. (See Conditional Sales.) When makiug claims, claimant shonld be present in person or by agent familiar with the claimed goods ; the Sheriff himself will not take the responsibility of identifying and setting aside the claimed goods, they must be pointed ont to him.

JURISDICTION OF COURTS.— Justices' Courts have jurisdiction in cases arising on contract for amonnts nnder $300, except in Philadelphia, where there are instead Magistrates' Courts, having jurisdiction where the claim does not exceed $100. Courts of Common Pleas in the various counties are Courts of origiual jnrisdiction for the collection of debts of any amount, but costs cannot be recovered on a claim nnder $100.

LICENSES.— In Philadelphia and many other parts of the State, commercial travelers for merchants ont of the State must be licensed. In Philadelphia, selling without a license is a misdemeanor punishable by fine or imprisonment. Transient retailers of merchandise must take out a license in each city, borough, or township where they wish to engage iu busiuess. These licenses must be renewed monthly, and selling without them is pnnished by fine and imprisonment. In recent decisious of the Supreme Court of the United States, however, it has been held that any tax in the shape of a license fee, or otherwise, upon sales made by a citizen of another State, through his agents, to residents of this State, is unconstitutional, in that it violates the provision of the Coustitution, that Congress only shall have power to regulate commerce between the States. It is probable, therefore, that these license ordinauces, other than those relatiug to transient retailers, could be successfully resisted on this ground.

LIMITATION OF ACTIONS.— Notes and accounts, 6 years; payment of judgmeuts and instrumeuts under seal will be presumed after 20 years, but this presumption may be rebutted. A verbal or written ackuowledgmeut, with a promise to pay, will revive a debt after 6 years, and the promise will be implied if the acknowledgment is distinct, clear, and uuambiguous.

LIMITED PARTNERSHIP ASSOCIATIONS.— Three or more persons may form a limited partnership association by complying with the statutory requirements. So long as they keep within the provisions of the Act the capital only is liable. The Act provides that no liability shall be incurred except by one or more of the managers and none exceeding $500, unless the same be reduced to writing and signed by at least two managers. No such association can loan its credit, name, or capital to a member, nor to any other person without the consent in writing of a majority in uumber and value of interest. The association may adopt and use a common seal for the execution of deeds, bonds, or mortgages. Service of process may be made on any agent, clerk, director, or manager. These associations have many of the features of corporations, and yet differ from them in esseutial points, most notably, in that members, participating in violation of the directions or regulations of the statutes governing the subject, are liable to creditors as partners.

REPLEVIN.— Replevin issues in Peunsylvauia whenever one man claims goods in another man's possessiou. The object of the writ is to enable the lawful owner to regaiu his property. The plaintiff must give bond to the Sheriff in double the value of the goods; the condition of the bond is that if the plaintiff fails to maintain his title to snch goods, he shall pay to the party thereunto entitled the valne of said goods, and all legal costs, fees, and damages which the defendant or other persons, to whom snch goods belong, may sustain by reason of the issnance of such writ of replevin.

RHODE ISLAND.

ARREST AND IMPRISONMENT FOR DEBT.— A debtor cannot be arrested for debt on contracts made since July, 1870, except as hereinafter stated. (See Commencement of Snit.) No female can be arrested ou original writ in any action founded on contract. The limits of each county are the limits of the jail-yard and any person imprisoned in any civil action, founded on contract, may have the liberty of the jail-yard by leaving with the Sheriff or keeper of the jail a bond to the creditor, with two or more sufficient sureties, being residents of this State, in at least double the sum for which he is imprisoned, conditioned that the prisoner will remain within the limits of the jail-yard, aud will not commit any manner of escape. No person committed on executiou shall have the liberty of the prison-yard for more than 30 days after his commitment, nnless he shall execute an assignment to the keeper of the jail, of all his estate of every kind not exempted from attachment by law, in trust for the equal benefit of all his creditors in proportion to their respective demands. This assignmeut may be transferred to the committing creditor, if a resident of this State, upon his request. The debtor can be discharged from arrest by taking the "poor debtor's oath." Board of a prisouer ($3 per week), committed in a civil action, has to be paid weekly in advance by the plaintiff.

COMMENCEMENT OF SUIT.— If a creditor is a non-resideut, suit must be brought in the county where debtor resides, or may be fonud, nnless the debtor is also a non-resident, in which case suit

may be brought in any county. Writs issuing from a District Court (jurisdiction $300 and under) must be served not less than 6 nor more than 20 days before the return day thereof; and writs issuing from the Common Pleas Division of the Supreme Court (jurisdiction over $300) must be served not less than 10 nor more than 60 days before the return day. Writs are either of arrest, summons, or attachment. An original writ commanding the arrest of any person, not exempt by law from arrest, may be issued from the Common Pleas Division of the Supreme Court, or from any District Court, whenever the plaintiff in an action to be commenced by such writ, his agent or attorney, shall make affidavit, to be indorsed thereon or annexed thereto, that the plaintiff has a just claim against the defendant that is due, upon which the plaintiff expects to recover in the action commenced by such writ a sum sufficient to give jurisdiction to the Court to which such writ is returnable; and also, either that the defendant to be arrested is about to leave the State, without leaving therein real or personal estate whereon an execution that may be obtained in such action can be served, or, that the defendant to be arrested has committed fraud in fact involving moral turpitude or intentional wrong, either in contracting the debt upon which the action is founded or in the concealment of his property or in the disposition of the same. An original writ commanding the attachment of the real or personal estate of the defendant, including his personal estate in the hands or possession of any person, copartnership, or corporation, as the trustee of the defendant, and his stock or shares in any banking association or other incorporated company, may be issued from the Common Pleas Division of the Supreme Court, or any District Court, whenever the plaintiff in the action to be commenced by such writ, his agent or attorney, shall make affidavit to be indorsed thereon or annexed thereto, that the plaintiff has a just claim against the defendant, that is due, upon which the plaintiff expects to recover in such action a sum sufficient to give jurisdiction to the Court to which such writ is returnable.

CONVEYANCES OF REAL ESTATE.— Any form of conveyance in writing passes title without further ceremony, and if it is duly acknowledged and recorded, is operative as to third parties. No seal is required to any deed conveying real estate. Acknowledgment of a deed need not be in any set form, but shall be made by all the parties, grantors, including married women, even though releasing dower only. The form of acknowledgment by married women is the same as that required of other grantors. The usual form of certificate of acknowledgment is as follows:

> State of ——, ——, Sc. In —— this —— day of ——, A. D., 19—, personally appeared before me —— known to me and known by me to be the party executing the foregoing instrument, and acknowledged said instrument to be his free act and deed.

An acknowledgment of a deed conveying real estate in this State, may be made without this State, and in the United States, before any Judge or Justice of a Court of Record, or other Court, Justice of the Peace, Mayor, or Notary Public of the State or Territory in which the acknowledgment is made, or before any Commissioner appointed by the Governor of this State. If, however, the instrument is acknowledged or proved in the manner prescribed by the law of the State or Territory where executed, it shall be deemed to be legally executed. In foreign countries an acknowledgment may be made before any Ambassador, Minister, *Charge d'Affaires*, Consul-General, Vice-Consul General, Consul, Vice-Consul, Consular Agent or Commercial Agent of the United States, or before any Commissioner appointed by the Governor of this State in the country in which the acknowledgment is made.

CORPORATIONS.— Are created either by special act of the General Assembly, or under the provisions of the general law respecting incorporation. The General Laws of Rhode Island, Chapter 176, provide that any 3 or more persons, of lawful age, who shall associate by written articles, which shall express: (1) Their agreement to constitute an ordinary business corporation; (2) the name by which it shall be known, which shall be one which cannot be mistaken for that of a copartnership, and which name is not then in use by any existing corporation in this State; (3) the business for which it is constituted; (4) the town or city in which it is to be located; (5) the amount of capital stock, and whether common or preferred, and how much of each, and the par value of such shares,— and, if preferred, the advantages thereof over the common stock,— shall, upon complying with the requirements hereinafter provided, be and become a corporation for the transaction of any lawful business in this State, or out of this State. Municipal or quasi-municipal corporations, railway companies, canal companies, turnpike companies, or any company which shall need to possess the right to take or condemn lands, or other property, under the power of eminent domain, or to acquire franchises in the streets or highways of towns or cities, or any insurance company, bank or banking corporation, savings bank, trust company, or other corporation trading in bonds, notes, or other evidences of indebtedness, can be incorporated only by special act of the General Assembly, on a petition to the same therefor. The agreement must be signed by the corporators, who must give their residences, and acknowledge the agreement in the same manner as deeds of real estate are required to be acknowledged. The agreement must be filed in the office of the Secretary of State, who, when the lawful fee has been paid, issues a certificate of the fact of such filing, and the corporation is then authorized to do business. The fee above referred to is $100, or if the capital stock of the corporation is $100,000 or more, a sum equal to one-tenth of 1 per cent. of the capital stock. Corporations organized under the general law may increase their capital stock by amending their articles in pursuance of a vote therefor, representing in amount three-fourths of the whole capital stock, and by filing in the office of the Secretary of State a certificate of such vote, together with a certificate from the General Treasurer that the corporation has, with previous payments, paid into the general treasury a sum equal to one-tenth of 1 per cent. of its capital stock when so increased. Such vote shall set forth the particulars as to the amount, kind, and par value of the stock. The first meeting of a corporation organized under the general law is called by notice signed by one or more of the subscribers to the incorporation agreement, and a copy of this notice must be mailed, at least 5 days before the day appointed for the meeting, to each corporator. This notice must state the time, place, and purpose of the meeting, and may be given as soon as the agreement and the certificate of the general treasurer have been filed with the Secretary of State. But such notice may be waived by an agreement in writing to that effect, signed by all the corporators. Every corporation, whether created by special act or under the general law, shall have a place of business within the State, and shall have a Clerk, Treasurer, or other agent, who shall reside in the State. Corporations created by special act must organize within 2 years, or the incorporation is void. Corporations are continued as such for 3 years after dissolution, for the purpose of winding up their affairs. Within this period, suit may be brought by or against it.

Foreign Corporations.— No foreign corporation can lawfully carry on within this State the business for which it was incorporated, unless it appoints, by written power, some competent person, resident in this State, as its attorney, with authority to accept service of all process against such corporation in this State, and upon whom all process, including the process of garnishment, against such corporation in this State may be served, and who, in case of garnishment, shall make the affidavit required by law, and who shall cause an appearance to be entered for such foreign corporation. A copy of the power of attorney must be filed with the Secretary of State. Any person acting within this State as an agent or officer of any foreign corporation which has not complied with the foregoing provisions is liable to a fine of $1,000. The provisions of this section do not apply to foreign insurance companies doing business in this State, nor to banking associations or corporations incorporated under the laws of the United States.

Manufacturing Corporations.— Liability of Officers and Stockholders.— The liability of members of an incorporated manufactur-

ing company, and of the members of such corporation under other statutory provisions for the debts of such company hereafter contracted or for obligations hereafter incurred shall be and hereby is limited to the shares of such members in such corporation paid up to the par value thereof.

ESTATES OF DECEASED PERSONS.—All claims of creditors against estates of deceased persons, whether preferred or not, must be presented to the executor or administrator, or filed in the office of the Probate Clerk, within the period of 6 months from the date of the first advertisement of the notice of his qualification by the first executor or administrator. The Probate Court may allow further time for the presentation of claims, but in no event can the time be extended beyond 1 year from the publicatiou of the first notice. Within 30 days after the expiration of the period allowed by law or prescribed by decree of the Probate Court for the presentation of claims, the executor or administrator shall file a statement in the Probate Court, allowing or denying the validity of claims so presented, and give personal notice to claimants whose claims are contested. The executor or administrator has the right to elect whether contested claims be proved before commissioners or by suit. If no commission is appointed, suit must be brought on the contested claim within 6 months after notice to the creditor that his claim is contested. Two years are allowed an executor or administrator to close an estate.

INSOLVENCY.—There is a special insolvency law which went in force February 1, 1896. Under this law any inhabitant of the State whose indebtedness in the State amounts to $300 or more, may become a voluntary petitioner in insolvency, or, on the application of creditors representing one-fourth of his indebtedness, may be petitioned into insolvency. The question of insolvency is decided by the Appellate Division of the Supreme Court, and the debtor in involuntary proceedings in insolvency is entitled to a jury trial if he so desires. The proceedings in insolvency are under the immediate control of Registers, one for each county, who are appointed by the Court. All preferences, attachments, and levies made within four months prior to the time of the first publication of the notice of the filing of the petitioner are dissolved by the insolvency proceedings. The assignees are chosen by the creditors at their first meeting, or in case of failure of the creditors to appoint, the Register appoints the assignees. The duties of the assignees and the practise in insolvency proceedings are regulated entirely by statute. In order to make a composition with his creditors, the debtor must offer to pay 50 per cent. or more, and his offer must be accepted by creditors representing a majority of his indebtedness, or, if the offer is less than 50 per cent., it must be accepted by creditors representing two-thirds of his indebtedness. If he makes no composition with his creditors he may, if the circumstances warrant, obtain a discharge, whatever dividend, if any, he is able to pay his creditors. Discharge is a bar to all future actions. (Suspended by the National Bankruptcy Law except as to proceedings begun before July 1, 1898.) Assignments may be made at common law for benefit of creditors which dissolves attachments or liens made within four months prior.

INTEREST.—The legal rate of interest is six per cent. when no rate is agreed upon by the parties. Any rate fixed by the contracting parties is legal.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.—Judgments are not liens on real estate, but such a lien may be secured by attachment at the commencement of a suit. (See Commencement of Suit.) In case of default or submission, judgment may be entered at any time. In other cases, it is entered on the seventh day following verdict or decision, unless some notice operating as a stay is filed, or unless the Court otherwise expressly orders. In case of judgment by default or mistake, the Court has jurisdiction to set aside the same and reinstate the case at any time within 6 months from the time when the judgment was entered. Executions issue after 24 hours immediately following the entry of judgment, unless otherwise ordered by the Court. Unless execution is levied on property attached, within 6 months in the case of an execution issued from the Common Pleas Division and within 3 months where the execution is issued from the District Court after judgment, the lien secured by attachment is lost.

JURISDICTION OF COURTS.—District Courts have exclusive jurisdiction in all civil cases wherein the debt or damage laid in the writ does not exceed $300. The Common Pleas Division of the Supreme Court has jurisdiction in all actions at law in which the debt or damage laid in the writ exceed the sum of $300. The jurisdiction in all equity, divorce, and appellate matters, is exercised by the Appellate Division of the Supreme Court. All cases in which jury trial has been waived are certified to the Appellate Division of the Supreme Court.

LIENS—PERSONAL PROPERTY.—Under the provisions of Chapter 206, Section 24 et seq., of the General Laws of Rhode Island, 1896, public warehousemen are given a general lien for charges, and may enforce such lien by a sale of the goods at public auction, in case the claim for storage is one year overdue, by complying with the provisions of sections 25, 26, and 27 of said chapter. Persons having liens on personal property, at common law or by special contract, may apply to the Appellate Division of the Supreme Court, by a petition in equity for an order for the sale of the property if the money due the lienor is not paid within 30 days after a demand in writing, delivered to the owner, or left at his usual place of abode, if within the State, or made by letter mailed to him, if he resides without the State. Upon the filing of this petition, a citation containing the substance of the petition is issued by the Clerk of the Court to the owner of the property, to appear at a time and place designated, to show cause why the lien should not be allowed. In case of default at the time appointed, or if upon hearing, it appears that a lien exists, an order for sale is entered and the property sold in accordance therewith. The proceeds from the sale, after the satisfaction of the lieu, are paid into the Registry of the Court for the party entitled to it.

LIMITATION OF ACTIONS.—Accounts, 6 years; simple promissory notes, 6 years; sealed instruments and judgments, 20 years. An oral promise or partial payment will revive a debt against which the statute of limitation has run.

NOTES, BILLS, ETC.—No grace is allowed upon a sight draft payable within the State. The acceptance of a bill must be in writing, signed by the acceptor or his authorized agent. To hold the drawers and indorsers of an inland bill of exchange, or the indorsers of a promissory note, the note or bill must be presented for payment according to its terms, on the day of its maturity, and if payment is refused, notice must be forthwith given such indorsers and drawers. If the bill is a foreign bill (*i. e.*, drawn or payable without the State of Rhode Island), it must be protested, and due notice of protest must be given. The parties to a bill or note may, all or any of them, be included as defendants in the same action at the option of the plaintiff. But if the plaintiff elects to bring several actions upon one note or bill, or other instrument in writing, he can recover costs in but one of them, provided the parties proceeded against in the other actions were within the State at the time of bringing the first action. The *bona fide* holder of a negotiable promissory note for value before maturity holds it free from the equities and matters of defense between the original parties thereto, except that usury at the time of the inception of the note, or the giving of it for a gambling consideration, makes it absolutely void in whosoever hands it may be. And if a note has been materially altered or the party sought to be charged was, at the time of becoming a party to it, under some legal incapacity, as infancy or lunacy, or, in a certain case, if the maker has been compelled, by a process of garnisment in another State, to pay the note to a judgment creditor of the payee, any of these matters may be a defense even as against a *bona fide* holder before maturity. The mere taking of a promissory note upon account of an existing debt, without relinquishing any security, or giving any new consideration for it, will not make one a holder for value. The rights of holders of paper taken upon account of, or as collateral security for, an existing indebtedness are often dif-

ficult to determine, and it is generally best for such holders to indorse the paper over to an indorsee who pays a new consideration.

RELEASES.— Any instrument purporting to be a release of all claims and demands, or of any special demand whatever, be the consideration expressed therefor, and any discharge of mortgage in whole or in part, is construed to have that effect, although no seal is affixed thereto.

STATUTE OF FRAUDS.— Contracts for sale of real estate and leases thereof for a period of more than 1 year, agreements to pay the debt of another, agreements not to be performed within the space of 1 year from the making thereof, and agreements made upon consideration of marriage, must be in writing and signed by the party to be charged therewith, or by his duly authorized agent. Sales of personal property need not be in writing.

SOUTH CAROLINA.

ACKNOWLEDGMENTS.— Not used in this State. Deeds are proved by affidavit in writing of one or two subscribing witnesses, before a Commissioner of Deeds for South Carolina, Clerk of a Court of Record, or a Notary Public with Clerk of Court's certificate annexed; either officer must use his official seal.

ARRESTS.— The defendant may be arrested in the following cases: 1. In action for money received, or property embezzled or fraudulently misapplied by a public officer, or by an attorney, solicitor, or counselor, or by an officer or agent of a corporation or banking association, in the course of his employment as such, or by any factor, agent, broker, or other person in a fiduciary capacity, or for any misconduct or neglect in office, or in a professional employment. 2. In an action to recover the possession of personal property fraudulently detained, or where the property, or any part thereof, has been fraudulently concealed, removed, or disposed of so that it cannot be found or taken by the Sheriff or Constable, and with the intent that it should not be so found or taken, or with the intent to deprive the plaintiff of the benefit thereof. 3. When the defendant has been guilty of a fraud in contracting the debt, or incurring the obligation for which the action is brought, or in concealing or disposing of the property for the taking, detention, or conversion of which the action is brought, or when the action is brought to recover damages for fraud or deceit. 4. When the defendant has removed or disposed of his property, or is about to do so with intent to defraud his creditors. But no female shall be arrested in any action. 5. Whenever a person domiciled in this State, indebted by bond, note, or otherwise, is about to remove or abscond from the limits of this State, and the said debt is not yet due but payable at some future day, it shall and may be lawful for the obligee, payee, or holder of said demand, or his assignee or indorsee, as the case may be, upon swearing that such a person is indebted to him, and that the demand is just and owing but not yet due, and that the debtor is about to remove or abscond from the limits of this State, and that such a creditor was not aware that the debtor had any intention to remove from the State at the time when the original contract was made, or at the time of such assignment or indorsement, as the case may be, to commence an action by issuing a summons or complaint, and he shall have power to arrest and hold to bail in such manner as is prescribed in cases of debts actually due. An order for the arrest of the defendant must be obtained from the Court in which the action is brought or from a Judge thereof. Before warrant for arrest can issue, the plaintiff must be required to enter into a written undertaking, with or without suretics, that if defendant recover judgment plaintiff will pay all costs awarded to defendant and all damages, not exceeding sum stated, which shall not be less than $100. If no sureties be required, plaintiff must file an affidavit that he is a resident and householder or freeholder within the State, and worth double the sum specified in the undertaking. Nothing is said about the character of the sureties, but it would seem that they should take the same affidavit as the plaintiff does in cases in which no surety is required. The order can be made if plaintiff, or any other person, shows by affidavit that a sufficient cause of action exists, and showing facts from which the officer issuing the warrant can decide if the requirement of the Code is met.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Three days' grace are allowed. Indorsers are liable in conformity with the law, after demand for payment and notice of non-payment and protest. On all bills of exchange drawn on persons resident within the United States, and out of the State, returned protested, damages of 10 per cent. on the sum drawn for are recoverable. On all bills drawn upon persons resident in any other part of North America, or within any of the West India Islands, the damages are 12½ per cent.; and on all bills drawn on persons resident in any other part of the world, the damages are 15 per cent.

COMMENCEMENT OF SUIT.— In all actions brought in the Court of Common Pleas, service may be made at any time without regard to terms of Court; debtor must answer in 20 days, or judgment will go against him by default on the first day of ensuing Court. Accounts forwarded for collection by suit should be itemized and verified by plaintiff's affidavit, stating "that the foregoing account is true and correct, and that no part of the said sum of —— dollars has been paid by discount or otherwise." Verification must be before a Commissioner of Deeds for South Carolina, or a Notary Public, who must affix his seal.

CONSIGNMENTS.— The only remedy for a failure to account for goods consigned is a civil action, in which, if the property was fraudulently misapplied, an order of arrest may be had. The action must be brought within 6 years. To constitute a criminal offense it is necessary to establish that at the time goods were obtained debtor intended to defraud. But if a planter consigns "cotton, rice, or other agricultural produce," to a factor for sale, and he fails to account for the same, he is guilty of embezzlement, and upon conviction shall be imprisoned in the penitentiary not less than 1 nor more than 5 years.

CORPORATIONS.— The charter for any and every corporation except street-railways, turnpike, and canal corporations shall be issued by the Secretary of State. Organization cannot be effected until 50 per cent. of the proposed capital stock has been subscribed by *bona fide* subscribers. Upon completion of the organization of the company and payment to the treasurer of at least 20 per cent. of the capital subscribed, with security for the remainder of the subscription, the board of corporators certify the same to the Secretary of State, who then issues the certificate of incorporation, a copy of which certificate shall be recorded in the office of the Register of Mesne Conveyances or Clerk of Court for each county where such company shall have a business office. Special provisions for building and loan associations. Any charter issued hereunder may wind up the affairs of the corporation by resolution of the stockholders representing a majority of the capital stock, said resolution to be signed by the President and Secretary, or other officers of the corporation, and forwarded to the Secretary of State, to be filed and recorded; provided, that such resolution shall not bar an action for two years thereafter against the corporation or any of its members for any liability incurred during the existence of the corporation. All charters granted under the provisions of this act shall continue in force perpetually unless limited by the terms of the petition; provided, that all corporations shall always have the right to go into liquidation and to wind up their affairs, upon a stockholders' vote representing a majority of capital stock had after 30 days' notice. Provision is made for a reduction or increase of capital stock. Any corporation organized under the provisions of the general law shall cease to exist by a non-user of its franchises for five years at any one time; provided, that this shall not relieve any stockholder of any liability incurred during the existence of said corporation. Every corporation chartered under this act shall have the power to borrow money for the purpose of carrying out the objects of its charter, to make notes, bonds, or other evidences of debt, and

upon a vote of the stockholders, had after at least 30 days' uotice of the time, place, and purpose of said meeting, by the mailing of written notice to each stockholder and by publication in some newspaper published in the county where the corporation has its principal place of business, to secure the payment of its obligations by mortgage or deed of trust on all or any of its property and franchises, both real and personal. Art. IX., Sec. 18, of the Constitution of 1895, reads as follows: "The stockholders of all insolvent corporations shall be individually liable to the creditors thereof only to the extent of the amount remaining due to the corporation upon the stock owned by them; provided, that stockholders in banks or banking institutions shall be liable to depositors therein in a sum equal in amount to their stock over aud above the face value of the same." Charters may also be grauted or renewed by Secretary of State to railroad, steamboat, street railway, and canal compauies.

Foreign Corporations.— Engaged in insurance or like business, except benevolent institutions which insure their members but pay no commissions uor employ any paid agent, aud except national banks not incorporated under the laws of South Carolina, are required to pay a liceuse fee of $100 to the Comptroller General, which license expires on March 31st of each year; and by Civil Code, 1902, Sec. 1808, in addition to said annual license fee, said foreign corporations are required to pay quarterly to the State Treasurer as an additional and graduated license fee for a license, to be delivered by him to such corporation, an amount equal to one-half of 1 per cent. on the gross premiums, iucome, or receipts, as the case may be, which such company has collected during the 3 months immediately precediug the payment of such license fee. It shall be unlawful for any one of such foreign corporations to transact any business in this State until they shall have and keep some duly appointed resident agent in this State on whom legal process may be served, so as to bind the company he represents, and service of process upon his agent at his main office shall be sufficient to give jurisdiction to the Court issuing the same in any county in this State. Every resident agent shall return to the County Auditor of each county his gross receipts from said counties for taxation as other property is returned for taxatiou. Failure to comply with the provisions of said act incurs certain statutory penalties. By Civil Code, 1902, Sec. 1780 each foreign corporation shall file with the Secretary of State, within 60 days after commencing to do business in this State, declaratiou iu writing of its principal place of business iu this State at which all legal papers may be served by delivery to any of its agents or employees. It shall also file with the Secretary of State a copy of its charter and by-laws, with all amendments thereof; also, on or before January 31st, anually, a sworn statement showing resideuce and post-office address of such corporation, amount capital stock actually paid, and names, residences, and post-office addresses of the President, Secretary, and Directors. Penalty is provided for failure to carry out said requirements. An action against a foreign corporation may be brought in the Circuit Court: 1. By any resident of this State for any cause of action. 2. By a plaintiff not a resident of this State when the cause of action shall have arisen, or the subject of the action shall be situated within this State. Civil Code, 1902, Secs. 1784–1788 makes it a further condition precedent to the right of auy foreign corporation to do business in this State, that all actions or suits arising out of the business or dealings of such corporation with any citizeu or corporation of this State, or pertaining thereto, commenced iu the Courts of this State, shall be tried thereiu, notwithstanding any usage or law to the contrary, and submission to the jurisdictiou of the State Courts shall be taken and deemed to be a part of all coutracts, and shall be a conditiou precedent to doing business in the State. (See Civil Code, 1902, Secs. 1811–1815.) Civil Code, 1902, Sec. 1795 limits the number of acres of land which any alien, or any corporation controlled by aliens, may own withiu this State. Owners or stockholders of each and every railroad company created or organized under or by virtue of the laws of any government or State, other than this State, desiriug to own property or carry on business or exercise any corporate franchise in this State whatsoever, must become incorporated, as a corporation of this State; and at least one of the petitioners for such charter of incorporation, and at least one of the incorporators of such railroad companies must be a resideut of this State. (A. A. 1902.)

INTEREST.—No greater rate of interest than seveu per cent. per annum can be charged upon any contract arising in the State, except upon written contracts, whereiu, by express agreement, a rate of interest not exceeding *eight* per cent. may be charged. No person or corporation lending or advanciug mouey, or other commodity upon a greater rate of interest shall be allowed to recover in auy Court in this State auy portion of the interest so unlawfully charged, but may ouly recover the principal so lent or advanced without auy interest and without costs. Any person or corporation receiving a greater rate of interest than eight per cent. shall uot only forfeit the interest, but also double the sum received, to be collected by a separate actiou, or allowed as a counterclaim to any action brought to recover the principal. Civil Code, 1902, Sec. 1664 provides: That the borrower, and his heirs, devisees, legatees, or personal representative, or any creditor or auy persou having a legal or equitable interest in the estate or assets of such borrower, may plead the beuefit of the provisions of this act, as plaintiff or defendant, and the same shall be effectual at any suit at law, or in equity, and any person offending against the same shall be compelled to answer, on oath, any complaint that may be exhibited agaiust him for the discovery of auy sum of money or things in action, so charged, agreed upon, reserved, or taken, in violatiou of the foregoing provisions, or either of them. A. A. 1902 provides, that no corporation shall by way of defense, or otherwise, avail itself of any of the foregoiug provisions, to avoid or defeat the payment of any interest which it has agreed upon, allowed, or contracted to pay, in any issue or sale of its coupon or registered bonds, heretofore or hereafter made by it. Open accounts do not bear interest, except by written agreement, except ou claims against corporations. Judgments bear iuterest at 7 per cent.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Judgments are taken ou the 1st day of the Court when no answers are filed. If answers are filed they are taken during the Court. Executions cau issue, and are enforceable by the Sheriff, 5 days after the Court has adjourned for the term, and are returnable within 60 days. By Code of Civil procedure, 1902, Sec. 352. "If the judgment appealed from directs the sale or delivery of possessions of real property, the execution of the same shall not be stayed, unless a written undertaking be executed ou the part of the appellant, with two sureties, to the effect that, during the possession of such property by the appellant, he will not commit or suffer to be committed, any waste thereon, and that, if the judgment be affirmed, he will pay the value of the use aud occupation of the property from the time of the execution of the undertaking until the delivery of the possession thereof, pursuant to the judgment, not exceeding a sum to be fixed by a Judge of the Court by which judgment was rendered, and which shall be specified in the undertaking. When the judgment directs the sale of lands to satisfy a mortgage or other lieu, the undertaking shall provide that in the case of judgment appealed from be affirmed and the said land be finally sold for less than the judgment debt and costs, then the appellaut shall pay for any waste committed or suffered to be committed on said lands, aud shall pay a reasonable rental value for the use aud occupation of said land from the time of the execution of said undertaking to the time of said sale, but not exceeding the amouut of such deficiency, which said sums shall be duly entered as a payment of said judgment and also for payment of taxes and interest." A final judgment recovered in any Court of Record in this State constitutes a lien upon the real estate of the judgment debtor in the county where the same is entered for a period of ten years from the date of entry thereof. And a transcript of such judgment may be filed in the office of the Clerk of the Court of Common Pleas of any other county, and when so filed shall constitute a lien on the real property of the judgment debtor in that county from the date of the filing thereof, with the same force and effect as the

original judgment, for the period of ten years from the entry of said original judgment. A final judgment may be revived at any time within the period of ten years from the date of the original entry thereof; and such judgment shall thereupon constitute a lien upon the real estate of the judgment debtor, then owned or thereafter to be acquired by him in the county where the judgment is entered for a period of 10 years from the entry of the decree reviving the judgment, but such lieu shall not revert back to the date of the original entry of such judgment, and a transcript of the summons and decree can be filed in any other county; provided, that a judgment shall not in any case constitute a lien on any property of the judgment debtor in any county after the lapse of 20 years from the date of the original entry of the judgment. Fiual judgments are in no case, however, a lien on the real property of the judgment debtor exempt from attachment, levy, and sale by the Constitution. A judgment obtained in a Magistrate's Court is not a lien unless a transcript thereof is entered up in the office of the Clerk of the Court of Common Pleas.

JURISDICTION OF COURTS.— Magistrates' Courts have jurisdiction where the amount of the debt does not exceed $100. Courts of Commou Pleas have unlimited jurisdiction in all cases.

LIMITATION OF ACTIONS.— Actions on judgments or decrees of any Courts of the United States, or of any State or Territory within the United States, aud upon sealed instruments other than a sealed note and personal bond for the payment of money only, 20 years. Actions on a bond or other contract in writing secured by a mortgage of real estate, 20 years. Actions on a contract, obligatiou, or liability, express or implied; actions on a liability created by statute, other than a penalty or forfeiture, actions for trespass upon real property, actions for taking, detaining, or iujuriug goods or chattels, including actions for the specific recovery of personal property, and on sealed notes and persoual bonds for the payment of money only, 6 years.

SYNOPSIS OF THE INSOLVENT LAWS.— The Constitutiou of 1868 abolishes imprisonment for debt, except in cases of fraud. The insolvent laws were euacted prior to that date, and there are no amendments at this time.

Supplementary Proceedings.— Whenever an execution against a judgment debtor has been returned unsatisfied, or upon execution issued, and affidavit is made that the judgment debtor has property which he will not apply to the judgment, the Judge may require the debtor to appear and answer by examination. Either party may call witnesses. The attendance can be enforced, and defendant made to give bond, with sureties, that he will attend such examinations, aud that he will not dispose of his property, if upon the examination it appears to the Judge that there is danger that he is about to leave the State or conceal himself. In default of bond he can be committed to prison. An insolvent under arrest in a civil action may be released from arrest under these circumstances: He must file a petition to the Court of Common Pleas, in the county in which he is confined, containing a full statement of his real and personal property, setting forth the cause of his imprisonment. The Court will order the prisoner to be brought before it; all creditors to be summoned by public notice in a county paper; if none, in some paper circulated in the county, said notice to be published for 3 months, for creditors to appear at some day certain after the expiratiou of said 3 months, to show cause, if any, against the discharge of the prisoner. On the day fixed an examination is made into the truth of the petition, and the petitiouer examined, on oath, as to the facts therein coutained, of the disposition made of his property; and the oath, as provided by statute, is administered. If the Court is satisfied, the debtor is allowed the property exempted by law, and if the head of a family his homestead. Upon the delivery of the property set forth in the petition, the debtor is discharged from arrest, and released from the claims of all creditors acceptiug a dividend.

Assignments for the benefit of creditors are of two kinds: 1. Voluntary; 2. assignment under process. When a debtor assigns his property for the beuefit of creditors, the creditors can, if they desire, name an agent or agents, equal in number to that of the assiguees, to act with them. The assignees are required to call the creditors within 10 days from the date of assignment. If the creditors neglect or refuse to appoint an agent, the assignees can act alone. Their compensation is 5 per ceut. on receiving, two and a half per cent. on paying. A debtor under coufinement or arrest can, by surrendering all his estate, obtain his discharge from arrest. A creditor is not affected unless he participates in the dividend.

SOUTH DAKOTA.

ACTIONS.— Civil actions in Circuit or County Court are commenced by service of summons, and the defendant has 30 days, exclusive of the day of service, within which to answer, before judgment by default can be entered. Unless the complaint is served at the same time with the summons, the latter must state where the former is or will be filed; in which case defendant may appear in person or by attorney within 30 days and demand service of copy of complaint, which must be made within 20 days thereafter. Where defendant cannot with reasonable diligence be found within the State, upon a proper showing by affidavit an order may be obtaiued for service of summons by publication at least once a week for 6 weeks in a designated newspaper, and by mailing copy of summons and complaiut to defendant at his last known place of residence. Such order may be obtained in the followiug cases, among others: Where defendant is a foreign corporation, has property within the State or the cause of action arose therein; where defendant, being a resideut of the State, has departed therefrom with intent to defraud creditors or to avoid service of summons, or keeps himself concealed, with like intent; where he is not a resident, but has property in the State and the Court has jurisdiction of subject of action; where subject of action is real or personal property in the State, and the defendant has or claims an actual or contingent interest or lien therein, or the relief demanded consists wholly or partly in excluding defendant from any lien or interest therein. In these cases service is deemed complete at expiration of time prescribed by the order for publication. When publication ordered, personal service of copy of summons and complaint out of the State deemed equivalent to publication and deposit in post-office, in which case service is complete at the time when so made personally. In Justice Court actions are also commenced by service of summons or by voluntary appearance and pleading of parties, and the summons is returnable in not less than 3 nor more than 12 days from date of service. Circuit Courts have unlimited jurisdiction. County Courts have original probate jurisdiction, and civil jurisdiction concurrent with the Circuit Court only in counties where the population is over 20,000, aud then only to the amount of $1,000. They do not have jurisdiction in actions of forcible entry and detainer or equitable jurisdiction. Justice Courts, in actions where the sum claimed or the value of the property does not exceed $100, and where the questiou of title to real estate is not involved. The Supreme Court has appellate jurisdiction to review every actual determination of the Circuit or County Court, and upon such appeal to review any intermediate order involving the merits and necessarily affecting the judgment; also an order affecting a substantial right, when it in effect determines the action and prevents a judgment from which an appeal might be taken; or discontinues the action, or strikes out a pleading or any part of one; or an order arising upon any interlocutory proceeding or any questiou of practise, which does not involve any question of discretion; or an order granting or refusing a new trial, sustaining or overruling a demurrer, or passiug upon a provisional remedy.

ALIENS.— The civil code provides that any person, whether citizen or alien, may take, hold, and dispose of property, real aud personal, within the State.

APPEALS.— An appeal lies from a judgment or order of the Circuit Court to the Supreme Court. An appeal from an order must be taken within 60 days after written notice of the order shall have been given the party appealing. An appeal from a judgment may be taken within 2 years from the time the judgment is entered. An appeal lies from the County Court to the Circuit Court in probate matters, and must, if taken by a party or a person interested, who was present at the hearing, be taken within 10 days from the date of the judgment, decree, or order appealed from, and if taken by a person interested who was not a party and not present at the hearing, it must be taken within 30 days from such date. An appeal from the decision of the Circuit Court iu such a case upon questions of law alone, will lie to the Supreme Court. An appeal lies from a decision of a Justice Court to the Circuit Court, and must be taken within 30 days after the rendition of the judgment.

ARREST IN CIVIL ACTIONS.— The defendant may be arrested in the following cases: 1. In an action for the recovery of damages on a cause of action, not arising out of contract, where the defendant is not a resident of the State, or is about to remove therefrom, or where the action is for an iujury to person or character, or for injuring, or for wrongfully taking, detaining, or converting property. 2. In an action for a fine or penalty, or on a promise to marry, or for money received, or for property embezzled or fraudulently misapplied, by a public officer or by an attorney, solicitor, or counselor, or by an officer or agent of a corporation or banking association, in the course of his employmeut as such, or by any factor, agent, broker, or other person in a fiduciary capacity, or for any misconduct or neglect in office, or in a professional employment. 3. In an action to recover the possession of personal property, unjustly detained where the property or any part thereof has been concealed, removed, or disposed of, so that it cannot be found or taken by the Sheriff, and with the intent that it should not be found or taken, or with the intent to deprive the plaintiff of the benefit thereof. 4. When the defendant has been guilty of a fraud in contracting the debt, or incurring the obligation for which the action is brought, or in concealing or disposing of the property, for the taking, detentiou, or conversion of which the action is brought, or when the action is brought to recover damages for fraud or deceit. 5. When the defendant has removed or disposed of his property, or is about to do so, with the intent to defraud his creditors. But no female shall be arrested in any action except for willful injury to person, character, or property.

ASSIGNMENTS.— The operation of all laws relating to matters under this title is suspended during the continuance of the National Bankruptcy Act. An insolvent debtor may, in good faith, execute an assignment of property to one or more assignees in trust toward the satisfaction of his creditors; but such assignment shall not be valid if it be upon or contain any trust or condition by which any creditor is to receive a preference or priority over any other creditor; but in such case the property of the insolvent shall become a trust fund to be administered in equity, in the Circuit Court, and shall inure to the benefit of all the creditors in proportion to their respective claims or demands. A debtor is insolvent when he is unable to pay his debts from his own means as they become due. An assigment may provide for any subsisting liability of the assignor which he might lawfully pay, whether absolute or contingent. An assignment is void against any creditor not assenting thereto if it tend to coerce any creditor to release or compromise his demand, or if it provide for the payment of any claim known to the assignor to be false or fraudulent, or for the payment of more upon any claim than is known to be justly due from the assignor; or if it preserve any interest in the assigned property, or in any part thereof, to the assignor or for his beuefit, before all his existing debts are paid, other than property exempt by law from execution; or if it confer upon the assignee any power which, if exercised, might prevent or delay the immediate conversion of the assigned property to the purposes of the trust; or if it exempt him from liability for neglect of duty or misconduct. The assignment must be in writing and subscribed by the assignor, or by his agent thereunto, authorized in writing and must be acknowledged. It must be recorded in the office of the Register of Deeds of the county where the assignor resides at the date of the assignment, or, if a non-resident, in the office of the Register of Deeds of the county in which the assignor had, at the time the assignment was made, his principal place of business, and if he had not then a place of business in the State, in the office of the Register of Deeds of the county in which the principal part of the assigned property was situated. Within 20 days after an assignment is made the assignor must make and file in the office of the Register of Deeds where assignment is recorded an inventory showing: (1) All the creditors of the assignor; (2) the place of residence of each creditor, if known to the assignor, or if not known, that fact must be stated; (3) the sum owing to each creditor and the nature of each debt or liability, whether arising on written security, account, or otherwise; (4) the true consideration of the liability in each case, and the place where it arose; (5) every existing judgment, mortgage, or other security for the payment of any debt or liability of the assignor; (6) all property of the assignor at the date of the assignment, which is exempt by law from execution; (7) all the assignor's property at the date of the assignment, both real and personal, of every kind not exempt, and the encumbrance existing thereon, and all vouchers and securities relating thereto, and the value of such property according to the best knowledge of the assignor. This inventory must be verified by the assignor. Unless the assignment is recorded and the inventory filed as stated the assignment is void against creditors and against purchasers and encumbrancers in good faith and for value. Within 30 days after the assignment the assignee must enter into a bond in double the value of the property assigned, with sufficient sureties, to be approved by the Judge of the Circuit Court and conditioned for the faithful discharge of the trust. At any time, after the lapse of 6 months from the date of filing his bond, the assignee, ou motion of any one of the creditors, with 10 days' notice, accompanied by an affidavit of the creditor, his agent or attorney, setting forth his claim and the amouut thereof, and that no account has been filed within 6 months, may be ordered by the Court, or by the Judge thereof, at any place in his judicial circuit, to render an account of his proceedings within a given time, to be fixed by the Court, or the Judge thereof, not to exceed 15 days. The Judge of the Circuit Court may, from time to time, in his discretion, on the petition of any one or more creditors, by order, citation, attachment, or otherwise, require any assignee to render accounts and file reports of his proceedings and of the condition of such trust estate, and may order or decree distribution thereof; and such Judge may, in his discretion, for cause shown, remove any assignee or assignees and appoint another instead, who shall give such bonds as the Judge may direct. Whenever an assignee so removed shall have fully accounted for and turned over to the assignee or assignees appointed by the Judge all the trust estate and made a full report of all his doings, and complied with all orders of the Judge touching such estate, and also whenever an assignee has fully complied with his trust, he may, by order of the Judge, be fully discharged from all further duties, liabilities, and responsibilities connected with the trust. In either such case the assignee shall give notice by publication in some newspaper of the county, if there be one printed and published therein, if not, in newspaper published at the capital of the State, once in each week for at least 3 weeks, that he will apply to such Judge for such discharge, at a time and place to be stated in such notice, which time shall not be more than 3 weeks after the last publication of the notice. If, upon the hearing, the Judge shall be satisfied the assignee is entitled to his discharge, he shall make an order accordingly. An assignment which has been executed and recorded so as to transfer the property to the assignee, cannot afterwards be cancelled or modified by the parties thereto without the consent of every creditor affected thereby. A partner as such has not authority to make an assignment of the partnership property for the benefit of creditors

unless the copartners have wholly abandoned the business to him or are incapable of acting. Every assignor who makes fraudulent representations, books, vouchers, etc., in such assignment, or practises any fraud upon a creditor with intent to induce him to petition for or consent to a discharge, or conspires with or induces any person fraudulently to unite as creditor in a petition for discharge, or to practise any fraud in aid thereof, is guilty of a misdemeanor, punishable by imprisonment in county jail not exceeding 1 year, or fine not exceeding $500, or by both fine and imprisonment.

ATTACHMENTS.—In all actions against a corporation created by or under the laws of any other Territory, State, Government, or country which has not complied with the laws of this State relative to the appointment of agents upon whom service of process may be made; or against a defendant who is not a resident of this State; or against a defendant who has absconded or concealed himself; or whenever any person or corporation is about to remove any of his or its property from this State; or has assigned, disposed of, or secreted, or is about to assign, dispose of, or secrete any of his or its property with intent to defraud creditors, the plaintiff, at the time of issuing the summons, or at any time afterwards, may, upon giving the proper affidavit and undertaking, have the property of such defendant or corporation attached. The undertaking in attachments in the Circuit or County Court must be in an amount not less than $250, and at least the amount of the claim specified in the affidavit. This proceeding may issue out of the Justice Court also. In that Court it must be issued at the time of or after issuing the summons and before answer, and the undertaking must have two or more sufficient sureties and be in a sum not less than $50 nor more than $300.

CHATTEL MORTGAGES.—Chattel mortgages may be very simple in form in this State. It is only necessary to say in substance this:

> This mortgage made this —— day of ——, in the year ——, by A. B., of ——, by occupation, ——, mortgagor, to C. D., of ——, by occupation ——.
>
> Witnesseth: .....
>
> That the mortgagor mortgages to the mortgagee [here describe the property] as security for the payment to him of —— dollars on or in the presence of the attesting witnesses, or be acknowledged by the testator to them, before the —— day of ——, in the year ——, with interest thereon [or as security for the payment of note or obligation, describing it.]
>
> In presence of ——. Signed A. B.

The mortgagee of every chattel mortgage at the time of the making and delivery thereof must prepare for and deliver to the mortgagor a true and complete copy of the mortgage without additional cost.

A chattel mortgage is invalid unless executed in the presence of two witnesses, and unless it appears upon the mortgage over the signature of the mortgagor, that a true copy of the mortgage has been delivered to and received by the mortgagor — being so executed requires no other proof or acknowledgment whatever to entitle it to record. The mortgage, or an authenticated copy thereof, must be filed in the office of the Register of Deeds of the county where the mortgaged property or any part thereof is situated, or it will be void as against creditors of the mortgagor and subsequent purchasers and encumbrancers in good faith and for value. A mortgage ceases to be valid as against the original mortgagor attaching or execution creditors of the mortgagor and subsequent purchasers or encumbrancers in good faith after the expiration of 3 years from the filing thereof, unless the lien of the mortgage is continued by filing in the office of the Register of Deeds of the proper county, within 30 days immediately preceding the expiration of 3 years from the date of filing thereof, a copy of such mortgage, together with a statement of the amount or balance of the mortgage debt for which a lien is still claimed, duly subscribed and sworn to by the then owner of the mortgage, his agent or attorney; and in like manner the copy and statement of debt must be again filed every 3 years or the mortgage shall cease to be valid. Unless a chattel mortgage is foreclosed by action the foreclosure thereof must be carried on as follows: The notice of sale must contain the name of the mortgagee and mortgagor, the name of the person by whom the mortgage is owned, the date of the instrument, the amount due thereon, the nature of the default, a description of the property to be sold, in the language of the mortgage, and the place of sale. It is the duty of the Boards of County Commissioners of the several counties at the regular quarterly meetings in April to designate not less than 5 public places in their respective counties which shall be the only market places for the sale of chattels under foreclosure. The mortgagor may, however, at the time of seizure designate in writing any other place in the county as the place of sale, which written notice or designation shall be delivered to the mortgagee or his agent, and shall be attached to and filed with the report of sale. Growing or harvested crops, grain in bulk, stocks of merchandise, or buildings may be sold without moving the same to the place of sale, and stocks of merchandise may be sold where they are located. The notice must be published once, at least 6 days prior to the sale, in the newspaper of general circulation, printed and published nearest the place of sale in the county wherein the mortgage is filed, or at the option of the mortgagor, and in lieu of publication the notice may be posted conspicuously and for at least 10 days in 5 public places in the county, provided that the notice of sale shall be by publication, unless the mortgagor or his agent shall notify the mortgagee or his representative in writing at the time of seizure of his election to notice by posting. All sales must be between the hours of 12 o'clock, M., and 4 o'clock, P. M., on Saturday, within 20 days after the seizure of the property unless the sale shall be postponed. A sale may be postponed for 1 week for lack of bidders, or by request of the mortgagor. The provisions in regard to foreclosure can not be waived by stipulation in the chattel mortgage.

CONDITIONAL SALES.—There is no statute providing for conditional sales, but they are sustained by decisions of the Courts. A conditional sale agreement must be filed the same as a chattel mortgage, or it is invalid as against creditors, subsequent purchasers or incumbrances, in good faith, for value.

CORPORATIONS.—Private corporations may be formed by the voluntary association of three or more persons, upon complying with certain statutory provisions, below mentioned, for the following purposes, among others: Mining, manufacturing, mechanical, quarrying, and other industrial pursuits, and for other lawful business; construction or operation of railroads, wagon roads, irrigation ditches; for conducting the business of insurance, banks of discount and deposit (but not of issue); and for loan, trust, and guarantee associations. But no insurance company can be incorporated except by the voluntary association of seven or more persons. The articles of incorporation, setting forth name, purpose, place of business, etc., must be signed by three or more persons, one-third of them residents of the State, and must be acknowledged and filed with the Secretary of State, who then issues the certificate of incorporation. The directors of corporations must not make dividends except from the surplus profits; nor divide, withdraw, nor pay to any of the stockholders any part of the capital stock. Any corporation for profit may amend its articles of incorporation at any general meeting provided for in said articles of incorporation or in the by-laws of the corporation; so as to change the corporate name, change the corporate seal to conform with the change of name, change the place where the principal business shall be transacted to any other place in the State, and may change the place of holding corporate meetings to any other place within the State, by a vote of three-fourths of the stockholders who shall represent at least two-thirds of the stock of the corporation, after notice given that a vote upon the proposition to make such changes will be taken at such meeting by publication at least 3 consecutive weeks in a newspaper printed at the place of principal business of the corporation and signed by the President and Secretary. The amended arti-

cles must be signed by the President and Secretary of the corporation who must certify under the amended seal that the provisions of this act have been complied with, and when so certified said amended articles shall be filed with the Secretary of State, the same as provided for articles. Any corporation for profit may amend its certificate or articles of incorporation so as to modify or enlarge its business or purposes, change the number of its directors, change its name or location within the State, increase or diminish its capital stock, or provide anything which might have been provided originally in such certificate or articles of incorporation. Such amendment or amendments may be made at any annual meeting of the stockholders or at any special meeting called for that purpose, by a vote of the stockholders representing a three-fourths majority of all outstanding stock, after 30 days' notice in writing given to each stockholder and stating the proposed amendment or amendments which will be voted on at such general or special meeting. The amended articles must be signed and acknowledged by a majority of the board of directors, and a copy thereof, with a certificate affixed, signed by the President and Secretary, and sealed with the corporate seal, stating the fact and date of the adoption of such amended certificate and how adopted and that such copy is a true copy of the original, must be filed with the Secretary of State and thereafter shall have the same force as if originally adopted. For a violation of these provisions the directors under whose administration the same happened (except those not present at the time, or whose dissent is entered at large in the minutes) are individually, jointly, and severally liable to the corporation and creditors, in case of dissolution, to the full amount of the capital stock divided, withdrawn, paid out, or reduced, or debt contracted; and no statute of limitations is a bar to suit against such directors in such case. Each stockholder is individually and personally liable for the debts of the corporation to the extent of the amount unpaid upon his stock, except in the case of a banking corporation where each stockholder is liable to the extent of the amount of his stock at par. Every insurance company doing business in the State must send to the State Auditor on January 1 of each year a statement of its condition and business for the year ending December 31 preceding, which must be published at least 3 times in a newspaper of general circulation in each judicial circuit where the company has an agency. The law further provides specifically what such statement shall contain. The Auditor may require special statements at any time, on such points as he may deem necessary to elicit a full exhibit of their business. Every foreign insurance company doing business in the State is required to pay a tax of 2½ per cent. of the gross amount of premiums received in the State during the preceding year, which shall be in full of all taxes. Corporations for mining, manufacturing, and other industrial pursuits are limited to a term of 20 years. Every such corporation is required annually, within 20 days from January 1, to publish in some newspaper, at or near the place of business, a report stating the capital stock and the amount paid in, the amount and nature of indebtedness, etc. This report must be signed by the President and a majority of the directors, and verified by the President or Secretary, and filed in the office of the Register of Deeds of the county where the business is carried on. Any person who wilfully neglects, fails, or refuses to make, sign, or publish such reports, is guilty of a misdemeanor, punishable by fine or imprisonment, or both. A wilful violation of any of the provisions of law as to such corporations, resulting in insolvency, renders the directors ordering or assenting to such violation jointly and severally liable for all debts contracted after such violation. The statute makes it a misdemeanor for any party to engage in banking business within the State unless organized under the banking laws of the State. This does not apply to persons transacting as individuals such business, who were engaged in it prior to July 1, 1891, and who have continued it since that date.

Foreign Corporations.— The statute of 1895 enacts that no foreign corporation (not created for religious and charitable purposes only), shall transact any business within the State, or acquire, hold, and dispose of either real or personal property within the State, or maintain any action in any of the Courts of the State, until the corporation has filed in the office of the Secretary of State an authenticated copy of its charter or articles of incorporation, nor until it has appointed an agent residing within the State to accept service of process in actions in which the corporation is a party, which appointment must be filed and recorded in the office of the Secretary of State and in the office of the Register of Deeds in the county where the agent resides. The statute provides that no action shall be commenced, or maintained, in any Court of the State by such a corporation on any contract, agreement, or transaction, made or entered into in the State by the corporation until the corporation has fully complied with the provisions of the Act. The statute also makes it unlawful for any person to act within the State as an agent or officer of any such corporation until such an appointment has been made, and declares that any person so acting shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than $10, or more than $100, or by imprisonment for not less than 10 nor more than 30 days, or by both such fine and imprisonment at the discretion of the Court. Another statute provides that any failure on the part of a foreign corporation to comply with the laws of this State as to "duties of foreign corporations" shall render each and every officer, agent, and stockholder of any such corporation so failing therein, jointly and severally liable on any and all contracts of such corporations made within this State during the time such corporation is so in default.

DEEDS.— In order to entitle a deed of real estate to be recorded it must be properly acknowledged. The absence of the seal of the grantor or his agent will not invalidate a deed. A deed of real estate may be in the following form:

> This grant made the —— day of ——, in the year —— between A. B. of the first part and C. D. of the second part, witnesseth: that the part —— of the first part hereby grants to the part —— of the second part in consideration of —— dollars now received, all the real estate situated in —— and bounded or described as follows:
>
> Witness the hands of the party of the first part, A. B.

The use of the word grant in any conveyance by which an estate of inheritance or fee simple is to be passed will imply the following covenants unless restrained by the express terms of the conveyance: (1) That previous to the time of the execution of such conveyance, the grantor has not conveyed the same estate or any right, title, or interest therein to any person other than the grantee; (2) that such estate is at the time of the execution of such conveyance free from encumbrance done, made, or suffered by the grantor or any person claiming under him. Such covenants may be sued upon in the same manner as if they had been expressly inserted in the conveyance.

DEPOSITIONS.— The deposition of any witness may be used in the following cases: (1) When the witness does not reside in the county where the action or proceeding is pending, or is sent for trial by change of venue, or is absent therefrom; (2) when from age, infirmity, or imprisonment, the witness is unable to attend Court, or is dead; (3) where the testimony is required upon a motion or in any other case where the oral examination of the witness is not required. Depositions may be taken within the State, before a Judge or Clerk of the Supreme Court or Circuit Court or before the Justice of the Peace, Notary Public, United States Circuit or District Court Commissioner, or any person empowered by a special commission. They may be taken out of the State by a Judge, Justice or Chancellor or Clerk of any Court of Record, a Justice of the Peace, Notary Public, Mayor or Chief Magistrate of town corporate, a Commissioner appointed by the Governor of the State to take depositions, or any person authorized by a special commission from any Court of the State. The officer taking the depositions must not be a relative or attorney of either party or otherwise interested in the event of the action or proceeding. Unless the deposition is under a special commission, a written notice specifying the action or proceeding, the name of the Court or tribunal in which it is to be used, and the time and place of tak-

ing the same must be served on the adverse party, his agent or attorney or left at his usual place of abode. The notice must be served so as to allow the adverse party sufficient time, by the usual route of travel, to attend, and one day for preparation, exclusive of Sundays and the day of service, and the examination may, if so stated in the notice, be adjourned from day to day. The deposition must be written by the officer, or in his presence by the witness or some other disinterested person, and must be subscribed by the witness. The officer taking the deposition shall annex thereto a certificate showing the following facts: (1) That witness was first sworn to testify the truth, the whole truth, and nothing but the truth; (2) that the deposition was reduced to writing by some proper person, naming him; (3) that the deposition was written and subscribed in the presence of the officer certifying thereto; (4) that the deposition was taken at the time and place specified in the notice; (5) that the officer taking the deposition is not an attorney for, relative of, or in any way interested in the case. The deposition should then be sealed up and indorsed with the title of the cause and the name of the officer taking the same, and by him addressed and transmitted to the Clerk of the Court where the action or proceeding is pending.

ESTATES OF DECEASED PERSONS.— Letters of administration on the estate of an intestate will be granted to the following persons in the order named: (1) The surviving husband or wife, or some competent person whom he or she may request to have appointed; (2) the children; (3) the father or mother; (4) the brothers; (5) the sisters; (6) the grandchildren; (7) the next of kin entitled to share in the distribution of the estate; (8) the creditors; (9) any person legally competent; of several persons claiming and legally entitled to administer males are preferred to females, and relative of the whole-blood to those of the half-blood. A married woman must not be appointed administratrix, and when an unmarried woman, appointed administratrix, marries, her authority is extinguished. Executors and administrators, immediately after their appointment, are required to publish in a newspaper of the county a notice to creditors, which publication must not be less than once a week for four weeks. The notice specifies time for presentation of claims, as follows: Six months after first publication if the estate exceeds $5,000 in value, and 4 months when it does not exceed such an amount. If a claim arising upon a contract be not presented within the time specified, it is barred forever except as follows: If it appears by affidavit to the satisfaction of the executor or administrator and the Probate Judge that the claimant had no notice, by reason of being out of the State, it may be presented at any time before a decree of distribution is entered. A claim for a deficiency upon mortgage sale must be made within 1 month after the deficiency is ascertained. But this does not prohibit the foreclosure of a real estate mortgage according to the general statute, except as to a claim for deficiency as above. The order of preference of claims, after funeral expenses and those of last sickness, is: funeral expenses, expenses of last sickness, expenses of administration, debts to servants and employees contracted within 60 days preceding decease, debts having preference by United States Laws; all other demands, saving, however, to mortgages, pledges, attachments, judgments, and levies, such priority of lien on the specific property affected as may have been acquired. One year from his appointment the executor or administrator must render a full account; and if the estate be then ready for final settlement and distribution, the Court appoints a day for the same and a decree of distribution is then entered. Executors and administrators appointed in but residing out of the State are required, before entering upon their duties, to appoint an agent in the county where they were appointed, for the service of process.

EXECUTIONS.— There are three kinds of execution: One against the property of the judgment debtor, one against his person, and one for the delivery of real or personal property, or such delivery with damages for withholding the same. The party in whose favor a judgment is rendered may at any time within 5 years after the entry thereof enforce the same by execution. On notice to the judgment debtor the Court may grant leave to issue execution after the expiration of 5 years. An execution against the property of a judgment debtor may be issued to the Sheriff of any county where the judgment is docketed, when it requires the delivery of real or personal property it must be issued to the Sheriff of the county where the property or some part thereof is situated. An execution against the person will issue where judgment has been rendered in an action where an order of arrest was granted or wherein the defendant would be entitled to an order of arrest by reason of nature of the action, and an execution against the property of the defendant has been returned unsatisfied in whole or in part. Where real estate is sold under an execution the judgment debtor and subsequent lienors may within 1 year from date of sale redeem from such sale by paying the amount bid thereon, with interest at 7 per cent., together with the amount of any taxes paid by the purchaser after the purchase, and interest thereon at the same rate, and if the purchaser be also a creditor, having a prior lien to that of redemptioner, other than the judgment under which such purchase was made, the amount of such lien with interest.

EXEMPTIONS.— Absolute exemptions are: All family pictures; a pew or other sitting in any house of worship; lot or lots in burial ground; family Bible and all school books used by family, all other books used as part of family library, not exceeding $200; all wearing apparel and clothing of debtor and family, provisions, and fuel necessary for 1 year's supply for himself and family; and the homestead. In addition, debtor, if head of family, may select $750 worth of other personal property; and, if single person, $300. Any debtor wishing to avail himself of this last exemption must prepare a verified schedule of all his personal property and deliver it to the officer having the execution or other writ within 3 days from the date of the levy. Any property owned by the debtor and not included in this schedule shall not be exempt. The appraisement of the personal property must be at the actual value of the articles at the place where situated. The appraisement is made by 3 disinterested persons, one chosen by each of the parties, and they selecting the third. If they cannot agree upon the third, the Sheriff or officer having the writ selects him. Instead of the $750 exemption the debtor may select property as follows: books and musical instruments for use of family, not exceeding $200 in value; household and kitchen furniture, not exceeding $200; 2 cows, 5 swine, 2 yokes of oxen or 1 span of horses or mules, 25 sheep and their lambs under 6 months old, all wool of the same and all cloth or yarn manufactured therefrom, necessary food for the animals mentioned for 1 year; also 1 wagon, 1 sleigh, 2 ploughs, 1 harrow, and farming utensils, including tackle for teams, not exceeding $1,250 in value; the necessary tools and implements of a mechanic, and in addition stock in trade not exceeding $200 in value; the library and instruments of a professional man, not exceeding $300 in value. But no exemptions except the absolute ones are allowed against an execution or other process issued upon a debt incurred for property obtained under false pretenses. The same is true as to a judgment for laborers' or mechanics' wages; and also for physicians' bills, with certain restrictions; and no exemptions are allowed against an execution levied on property for the purchase money of such property. A corporation for profit, a non-resident, a debtor who is in the act of removing with his family from the State, or who has absconded, taking with him his family, cannot claim any but absolute exemptions. A partnership firm can claim but 1 exemption of $750, and not several exemptions for each partner.

FRAUDS, STATUTE OF.— The following contracts are invalid unless the same, or some note or memorandum thereof, be in writing and subscribed by the party to be charged or his agent: 1. An agreement that, by its terms, is not to be performed within a year from the making thereof. 2. A special promise to answer for the debt, default, or miscarriage of another (except in the following cases — (*a.*) Where the promise is made by one who has received property of another upon an undertaking to apply it pursuant to such promise. (*b.*) By one who has received a discharge from an

obligation in whole or in part in consideration of such promise; or where the creditor parts with its value, or enters into an obligation, in consideration of the obligation in respect to which the promise is made, in terms or under circumstances such as to render the party making the promise the principal debtor, and the person in whose behalf it is made his surety. (*c.*) Where the promise being for the antecedent promise of another is made upon the consideration that the party receiving it cancels the antecedent obligation accepting the new promises as a substitute therefor, or upon the consideration that the party receiving it releases the property of another from a levy, or his person from imprisonment under an execution on a judgment obtained upon the antecedent obligation, or upon a consideration beneficial to the promiser, whether moving from either party to the antecedent obligation or from another person. (*d.*) Where a factor undertakes for a Commissioner to sell merchandise and guaranty the sale. (*e.*) Where the holder of an instrument for the payment of money, upon which a third person is or may become liable to him, transfers it in payment of a precedent debt of his, or for a new consideration, and in connection with such transfer enters into a promise respecting such instrument. 3. An agreement made upon consideration of marriage other than a mutual promise to marry. 4. An agreement for the sale of goods, chattels, or things in action at a price not less than $50, unless the buyer accept or receive part of such goods and chattels or the evidences of some of them, of such things in action, or pay at the time some part of the purchase money. 5. An agreement for the leasing for a longer period than 1 year, or for the sale of real property, or of an interest therein; and such agreement, if made by an agent of the party sought to be charged, is invalid, unless the authority of the agent be in writing, subscribed by the party sought to be charged. Where a contract, which is required by law to be in writing, is prevented from being put in writing by the fraud of a party thereto, any other party who is by such fraud led to believe that it is in writing, and acts upon such belief to his prejudice, may enforce it against the fraudulent party.

HOMESTEAD.—A homestead containing not to exceed 160 acres of land, with the improvements thereon, the land and improvements not to exceed $5,000; or a house and lot or lots in any town or city, not exceeding 1 acre of ground, which lot or lots and improvements shall not exceed $5,000 in value, is exempt from execution or forced sale except in the following cases: On debts secured by mechanics' liens for work, labor, or material done or furnished exclusively for the improvement of the same, or on debts created for the purchase thereof and for all taxes accruing thereon. A conveyance of the homestead will be valid if the husband and wife, in case the owner is married, shall both execute the conveyance, whether the same be by joint instrument or by separate instruments. Where, in the opinion of the creditor or officer holding an execution against a person, the premises claimed by him or her as a homestead is worth more than $5,000, such officer shall summon three householders having the qualifications of electors of the county as appraisers, who shall upon oath, to be administered by such officer, appraise said premises. If the property is found to exceed $5,000 in value the debtor may elect to pay within 60 days the surplus over and above $5,000, or he may require that the whole premises be sold, in which case the officer may advertise and sell the premises and out of the proceeds he shall pay to the debtor the sum of $5,000. If the debtor does not elect to pay the surplus or require the premises to be sold, the appraisers shall set off to the debtor so much of said premises, to be selected by the debtor, as in their opinion shall be worth $5,000, and the residue of the premises shall be sold by the officer. If in the opinion of the appraisers the value of the premises is more than $5,000, and cannot be divided as above stated, they shall make and sign an appraisal of the value thereof and deliver the same to the officer, who shall deliver a copy thereof to the debtor, or some one of the family of suitable age to understand the nature thereof, with a notice attached that unless the debtor shall pay to the officer the surplus over $5,000 within 60 days thereafter that the property will be sold.

INDIAN RESERVATIONS.—The State Courts have no civil jurisdiction in the reservations, and no judgment can be entered under service made within the reservations, nor execution levied upon property there, except in the United States Court, and that Court has no jurisdiction over claims less than $2,000 in amount.

INTEREST.—The legal rate of interest is 7 per cent. per annum, but persons may contract in writing for interest up to the rate of 12 per cent. per annum. The penalty for taking interest above the rate allowed is the forfeiture of the entire interest contracted for. If interest above the rate allowed has been paid, the person who paid it can recover from the person receiving the same the amount of interest paid. The taking of a greater amount of interest than is allowed by law is a misdemeanor, and is punishable by fine and imprisonment or both.

JUDGMENTS.—Judgment may be entered by default in the Circuit and County Courts after 30 days from service of summons; and in Justice Court upon the return day of summons. Money judgments are liens upon all property of the judgment debtor (except homestead) in any county where the judgment or a transcript is docketed, which he may have at that time or may acquire at any time for 10 years thereafter.

LIMITATIONS.—No action for the recovery of real property, or for the recovery of the possession thereof can be maintained unless it appears that the plaintiff, his ancestors, predecessors, or grantor was seized or possessed of the premises in question within 20 years before the commencement of the action. The following actions must be commenced within the times mentioned after the cause of the action has accrued: Within 20 years an action on a sealed instrument and a judgment of a Court of this State; within 10 years an action upon a judgment or decree of any Court of the United States or of any State or Territory within the United States other than this State; within 6 years: (1) An action upon a contract, obligation, or liability, express or implied, except on a judgment or sealed instrument; (2) an action upon a liability created by a statute other than a penalty or forfeiture; (3) an action for trespass upon real property; (4) an action for taking, detaining, or injuring any goods or chattels, including action for the specific recovery of personal property; (5) any action for criminal conversation, or for any other injury to the person or rights of another not arising on contract and not hereinafter enumerated; (6) an action for relief on the ground of fraud, the cause of action in such case not to be deemed to have accrued until the discovery by the aggrieved party, of the facts constituting the fraud. Within 3 years: (1) An action against a Sheriff, Coroner, or Constable for a liability incurred by the doing of an act in his official capacity, and in virtue of his office, or by the omission of an official duty including the non-payment of money collected upon an execution, but excepting an action for an escape; (2) an action upon a statute for a penalty or forfeiture where the action is given to the party aggrieved or to such party, and the people of the State. Within 2 years: (1) An action for libel, slander, assault, battery, or false imprisonment; (2) an action upon a statute, for a forfeiture or penalty to the people of the State; (3) an action for the recovery of damages resulting from malpractise; an action for relief not hereinbefore provided for must be commenced within 10 years from the time the cause of action accrued.

MARRIED WOMEN.—A wife may enter into any engagement or transaction with her husband or with any other person, respecting property which she might, if unmarried, subject to the general rules controlling the actions of persons occupying confidential relations with each other, as in the case of trusts; she may also convey her separate property without her husband's consent. Such property is liable for her debts contracted before or after marriage. Estates of dower and courtesy are abolished. Neither husband or wife, however, if both are residents of the State, can convey or encumber the homestead, but their conveyance is valid whether the same be by joint instrument or by separate instruments.

MECHANICS' LIENS.—Every mechanic, or other person who shall do any labor upon, or furnish any materials, machinery, or

fixtures for any building, erection, or other improvements upon land, including those engaged in the construction or repair of any work of internal improvement, by virtue of any contract with the owner, his agent, trustee, contractor, or sub-contractor, upon complying with the provisions of the Code of Civil Procedure, shall have for his labor done, or materials, machinery, or fixtures furnished, a lien upon such building, erection, or improvement, and upon the land belonging to such owner, on which the same is situated, to secure the payment of such labor done, or materials, machinery, or fixtures furnished. The entire land upon which any such buildiug, erection, or other improvement is situated, including that portion of the same not covered therewith, shall be subject to all such liens, to the extent of all the right, title, and interest owned therein by the owner thereof, for whose immediate use or benefit such labor was done or things furnished, and when the interest owned in said land by such owner of such building, erection, or other improvement, is only a leasehold interest, the forfeiture of such lease for the non-payment of rent, or for non-compliance with any of the other stipulations therein, shall not forfeit or impair such liens so far as it concerns such buildings, erections, and improvements, but the same may be sold to satisfy said lien, and be removed within 30 days after the sale thereof by the purchaser. No person is entitled to a mechanic's lien who takes collateral security on the same contract. A lien is created by the filing of a verified statement of the account of the demand due the lienor and a description of the property to be charged, in the office of the Clerk of the Circuit Court. Sub-contractors must file a statement of account and description of property within 4 months after the last material is furnished, or labor performed. Other persons wishing to avail themselves of a lien have 4 months within which to file the statement of lien. Liens so filed have priority over and are preferred to all other liens and incumbrances which may be attached to or upon such building, erection, or improvement, and to the land upon which the same is situated or either of them made subsequent to the commencement of the building or other improvement.

MORTGAGES, REAL ESTATE.— A mortgage of real estate may be substantially in the following form:

> This mortgage made the —— day of ——, in the year —— by A.B. of —— mortgagor, to C.D. of —— mortgagee, witnesseth: That the mortgagor mortgages to the mortgagee [here describe the property], as security for the payment to him of —— dollars, on or before the —— day of ——, in the year —— with interest thereon [or as security for the payment of an obligation, describing it].

Any provision in a mortgage for an attorney's fee in case of default or foreclosure is void. Attorneys' fees in such cases are provided by statute. Every mortgage containing a power of sale may upon default be foreclosed by advertisement. Notice of such foreclosure must be given by publishing the same once a week for 6 successive weeks in a newspaper in a county where the mortgaged premises or some of them are situated, and if there be no such newspaper then in the nearest newspaper published in the State. The notice must specify: (1) The names of the mortgagor and mortgagee and the assignee, if any; (2) the date of the mortgage; (3) the amount claimed to be due thereon at the date of the notice; (4) a description of the mortgaged premises; (5) the time and place of sale The sale must be at public auction between the hours of 9 o'clock in the forenoon and the setting of the sun, and must be held in a county where the mortgaged premises or some of them are situated, and must be made by the person appointed for that purpose in the mortgage, or by the Sheriff of the county or his deputy. The mortgagor, his successors, a creditor having a lien by judgment or mortgage on the property sold may redeem from the sale within 1 year by paying the amount for which the property was sold with interest at 7 per cent. If the mortgagor or his successor in interest at the expiration of 1 year from the date of sale shall pay all taxes due on the land and all interest due under the provisions of the mortgage, and interest for 1 year in advance, then the time of redemption will be extended for 1 year. Mortgages may also be foreclosed by action and the provisions in regard to redemptiou apply to such foreclosures.

NOTES, DRAFTS, AND BILLS OF EXCHANGE.— Three days of grace are allowed unless expressly stipulated to the contrary, on all sight drafts, foreign and inland time drafts and promissory notes, as well as demand notes. Sundays and holidays are excluded from the computation of days of grace. Wheu a bill of exchange is payable at a specified time after sight, the drawer and indorsers are exonerated if it is not presented for acceptance within 10 days after the time which would suffice with ordinary diligence to forward it for acceptance, unless presentment is excused. An unconditional promise in writing to accept a bill of exchange, is a sufficient acceptance in favor of any person who has taken the bill for value or other good consideration on the faith of such promise. The acceptance of a bill admits the signature of the drawer, but does not admit that of any indorser to be genuine. Mere delay in presentiug for payment a bill payable with interest at sight or on demand does not exonerate any party thereto. Notice of the dishonor of a foreign bill (*i. e.*, one not drawn or payable within the State) can be given only by notice of protest by a Notary Public; or if one cannot with reasonable diligence be obtained, by any reputable persou iu the presence of two witnesses. If a promissory note payable on demand or at sight, without interest, is not duly presented for payment within 6 mouths after date, indorsers are exonerated unless presentment excused. One who sells or agrees to sell a negotiable instrument thereby warrants the instrument to be what it purports to be, and to be binding according to its purport upon all the parties thereto; warrants that he has no knowledge of any facts which tend to prove it worthless, such as the insolvency of the parties thereto, the extinction of its obligations or its validity for any cause. An agent employed to collect a negotiable instrument must do so promptly, and take all measures necessary to charge the parties thereto iu case of dishonor; and if a bill of exchange, present it for acceptance with reasonable diligence. In order to hold the maker, indorser, guarantor, or surety of any check or draft deposited with or forwarded to any individual or bank for collection, or owned by any individual or bank, it is sufficient for said individual or bank to forward the same to their direct correspondents in the usual commercial way in the regular course of business. This is considered due diligence in the collection thereof. The general provisions of the State code as to negotiable instruments are in accord with general mercantile laws ou the subject.

WILLS.— Every person over 18 years of age of sound mind may by last will dispose of all his real and personal estate. Where will is entirely written, dated, and signed by the hands of the testator himself, it is subject to no particular form and need not be witnessed. Every other will must conform to the following requirements: 1. It must be subscribed at the end thereof by the testator himself, or some person in his presence and by his direction must subscribe his name thereto. 2. The subscription must be sworn to have been made by him or by his authority. 3. The testator must at the time of subscribing or acknowledging the same, declare to the attesting witnesses, that the instrument is his will. 4. There must be two attesting witnesses, each of whom must sign his name as a witness at the end of the will at the testator's request and in his presence.

TENNESSEE.

ACKNOWLEDGMENTS.— The acknowledgment of deeds in another State of the Union may be taken before any Court of Record or before the Clerk of any such Court, Notary Public, or Commissioner of the State of Tennessee. The acknowledgment before a Notary or a Commissioner under his seal of office is sufficient without further proof of his official character. An acknowledgment before a Judge of a Court of Record must be accompauied

with the Clerk's certificate, with seal, to the official character of the Judge; if before a Court of Record, a certified copy of the entry on the minutes, with the Clerk's seal attached thereto, must accompany the certificate of acknowledgment; if before the Clerk of a Court of Record it must be under seal, and the presidiug Judge must certify to the official character of the Clerk. The form must be as follows:

State of ——
County of —— } *ss.*

Personally appeared before me —— Notary Public, in and for said State and couuty (or Commissioner of Deeds for the State of Tennessee, etc.) —— the within named bargainor, with whom I am personally acquainted, and who acknowledged that he executed the within instrument or the purposes therein expressed.

Witness my hand at office, this —— day of ——, 19—.

....

(SEAL.) Notary Public (or Com., etc.).

If acknowledgment of a married woman is taken, add to above after the word "expressed," the following:

And —— wife of —— having appeared and been examined before me, privately and apart from her husband, the said —— acknowledged, that she executed the said instrument freely, voluntarily, and understandingly, without compulsion or constraint from her said husband, and for the purposes therein expressed.

Witness my hand, etc., as above.

The husband must not be in the room during the taking of the wife's acknowledgment. For want of this privy examination, a wife's deed is absolutely void, and does not estop her. She cannot convey by power of attorney, nor bind herself by title bond.

A deed or other instrument in writing executed by a corporation may be acknowledged in the following form:

State of ——
County of —— } *ss.*

Before me —— the State and county aforesaid, personally appeared —— with whom I am personally acquainted, and who, upon oath, acknowledged himself to be the president (or other officer authorized to execute the instrument) of the —— the within named bargainor, a corporation, and that he as such —— beiug authorized so to do, executed the foregoing instrument for the purpose therein contained, by signing the name of the corporation by himself as ——.

Witness my hand and seal, at office in —— this —— day of ——.

ASSIGNMENTS.— In this State assignments are divided into 2 general classes, namely: (1) General assignments; and (2) partial assignments. In general assignments, all creditors of the assignor share the trust fund *pro rata*, and any attempts to prefer creditors in a general assignment renders the instrument fraudulent, and it will be set aside upon application to a Court of Equity. In partial or "special" assignments, preferences may be made without affecting the validity of the assignment; and a partial or "special" assignment may include all of the debtor's property, just so it does not profess to do so; but it would be better to leave out some portion of the dehtor's property as the whole subject of assignments is upon somewhat unsettled grounds. General assignments are the creatures of statute, are very technical, and have been practically abandoned even though the debtor seeks to protect all of his creditors. Partial or "special" assignments are governed by the rules of common law, and are not technical. The tendency of the Courts is to construe liberally in favor of partial assignments, but the language of the Legislature compels a strict construction in reference to general assignments. Creditors not particularly mentioned in a general assignment, may, by petition, be allowed to share *pro rata* the trust fund, with the creditors named in the instrument. Creditors not included in partial or "special" assignments have no remedy except by reaching property of the assignor which may not have been included in the instrument, or by having the assignment set aside, provided, of course, that there be grounds for such action. Actual fraud must ordiuarily he proven before this can be done. Acceptance of the benefits of an assignment, either general or partial, is presumed of all creditors named therein, but if a creditor repudiates the benefits he loses his *pro rata* of the fund, and is in the same position as any other unnamed creditor. He may obtain judgment against the assigning debtor, and any property not assigned, or auy after acquired property may be subjected to the satisfactiou of the judgment. A general assignment must strictly follow the statute. (Acts of 1881, Ch. 121.) It must purport to convey all of the debtor's property, for the benefit of all his creditors; it must have annexed a schedule of assets aud liabilities sworn to. The assets must be set out with sufficient particularity to enable a stranger to find and identify them from the description and location in the instrument. It would be hetter to consult a lawyer before attempting to draw a general assignment. A partial or "special" assignment is merely a deed of trust to a third person, of certain property, for the benefit of certaiu creditors. Both general and special assignments should be acknowledged the same as deeds.

COMMENCEMENT OF SUIT.— The warrant of a Justice of the Peace is returned for a trial at a time fixed by the officer when he serves it, indorsed on his return, generally 1 or 2 days after suit is begun. In the Circuit Court writs served 5 days prior to a term of Court are returnable to that term. Likewise in Chancery Court. In chancery divisions the Chancellor also appoints a return day to which all cases are made returnable except suits for divorce. The return day is generally the first Monday in each month, sometimes every Monday, but the writ must be served 5 days before the return day.

CONDITIONAL SALE.— A conditional sale is nothing more nor less than a sale of property with the title retained in the seller as security for the unpaid part of the purchase price. The title remains in the seller until the price is all paid, and then vests in the purchaser. It must be in writing, but need not be registered. When property is sold upon condition that the title is to remain in the veudor until the purchase price is paid, the vendor may resume possession upon the failure to meet any one or more of the different payments. If the purchaser refuses to give possession, the vendor may recover the property by action of replevin. Justices of the Peace have jurisdiction of such replevin suits to the extent of $500 valuation of the property. Circuit and Chancery Courts have jurisdiction of such suits, irrespective of their value. After the vendor regains possession, either by consent of the purchaser or by power of law, he must within 10 days advertise the property for sale, for cash, for a period of 10 days, and unless the debt is satisfied before the day advertised, the property must be offered for sale at auction. The vendor may become a bidder. The proceeds of the sale are to be applied, first, to the satisfaction of the vendor's debt and cost of advertisement and sale; and the remainder, if any, paid to the original purchaser. This right to have the property sold may be waived by the original purchaser either at the time of the purchase, or afterward. Should the sale fail to realize the amount due the vendor, the balance remains a legal claim against the purchaser. Should the vendor fail to comply with the provisions as to advertisement and sale, the original purchaser may recover of the vendor the amount paid on the original price. After a sale as above, should the vendor fail or refuse to pay to the original purchaser any balance which may be received at the auction sale, it may be recovered of the vendor by the original purchaser hy motion before a Justice of the Peace or a Court of Record upon giving 5 days' written notice to the vendor of the time and before what Justice of the Peace or Record the said motion is to be made. The notice is to be served by a Constable, Sheriff, or Deputy.

CONSIGNMENTS.— Unless the consignee fraudulently misappropriates the consigned property, or its proceeds, his failure to

account for it is the subject of a civil action only. A fraudulent misappropriation is punishable as a felony.

CORPORATIONS.— Domestic corporations are organized under a general law which is Sections 1691–1990 of the Code of 1884. They can only be organized for the purposes enumerated therein. A report of the financial condition of the corporation is required to be published in a newspaper annually in January. But, as no penalty is imposed for a failure to do so, such a report is not usually published. If dividends are declared, when the company is insolvent, or if by a declaration of dividend the capital stock is thereby diminished, the directors assenting thereto are individually liable to creditors for the amount of dividends thus declared. The stockholders are individually liable for moneys due to laborers, servants, and clerks of the corporation in case of the insolvency of the same. The directors being trustees for the stockholders of the company, and for the creditors, are liable for bad faith, want of care and attention to the affairs of the company. Directors of mining or manufacturing corporations assenting to the creation of debts in excess of the capital stock paid in are individually liable for same.

Foreign Corporations.— Any foreign corporation desiring to own property or carry on business of any kind or character in this State, must first file in the office of the Secretary of State, a certified copy of its charter, and cause an abstract of the same to be recorded in the office of the Register in each county in which such corporation desires or proposes to carry on its business, or to acquire or own property. A violation of this law may be punished by a fine of from $100 to $500. All contracts made by foreign corporations which have not complied with the foregoing provisions are illegal and void, and no right of property or right of action can arise out of the same. In addition to the above, foreign building and loan associations must deposit with the State Treasurer or some other approved depository, from $25 to $50,000 of security, at the option of the Treasurer; and both foreign building and loan associations, and all insurance companies (other than life, plate glass, and live stock insurance companies) shall comply with special regulations. The former with Chapter 2, and the latter with Chapter 47 of the Acts of 1891. Those acts are too lengthy to quote, and such corporations could not safely attempt to comply with them without the advice of a competent lawyer.

DEEDS AND MORTGAGES.— Deeds and mortgages are executed as in other States, but must be acknowledged as set forth under the head of "Acknowledgments." The wife should join the husband in all deeds and mortgages; she must join him if it is the homestead that is conveyed, and unless he has $1,000 worth of unencumbered real estate, besides that conveyed. A chattel mortgage must be in writing, and must be registered to be valid against creditors of the mortgagor and other third persons.

ESTATES OF DECEASED PERSONS.— Actions against personal representatives of the decedent must be brought by residents of the State within 2 years and 6 months from the qualification of such representatives, and by non-residents within 3 years and 6 months, and the representative is bound to plead the statute of limitations if the action is not brought within this time. No action can be brought against such representative within 6 months from his qualification, and no execution can issue against him within 12 months therefrom. If the representative ask for delay, the time granted is not counted as part of the 2 years and 6 months, or 3 years and 6 months, as the case may be.

INTEREST.— Six per cent. is the legal rate of interest; any contract for a higher rate of interest is usurious. Usury appearing on the face of an instrument renders it void altogether; otherwise the debtor can avoid only the excess over legal interest.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— In Justices' Courts, judgment may be rendered immediately after trial. In Circuit Court the case stands for trial at the next term succeeding the term to which suit was brought. Judgment by default may, however, be taken at the term succeeding service of the writ, if no defense is interposed. A decree or judgment rendered in any Court of Record, against a debtor in the county of his residence, binds or is a lien on all his lands in the State for 12 months; but if a judgment be rendered in any other county than the one in which debtor resides, a certified copy of the same, registered in the county of his residence, or, if the debtor be a non-resident, then in the county where the land lies, is a lien on his lands throughout the State for 12 months. Executions from Justices' Courts are returnable in 30 days; from Circuit Court to the succeeding term after issuance. Stay of execution is allowed on judgments obtained in Justices' Courts for a period of 8 months, by giving security for the amount of judgment.

JURISDICTION OF COURTS.— Justices of the Peace have jurisdiction on accounts up to $500, and on promissory notes up to $1,000. Also on indorsements where demand and notice are waived up to same amount. Circuit Courts have appellate jurisdiction of all matters from Justices of the Peace, and original jurisdiction of any case where the amount involved exceeds $50. The Chancery Court has no appellate jurisdiction (save in one or two matters from the Probate Court) but has original jurisdiction of all equity cases, and over all other civil causes, except for injury to persons, property, or reputation, involving unliquidated or unascertained damages. The County Court has jurisdiction only of probate matters. The Supreme Court has only appellate jurisdiction.

LIMITATION OF ACTIONS.— On notes, acceptances, and accounts, 6 years; on judgments, 10 years. There are no sealed instruments in Tennessee. If a foreign debt is barred in the State where made, it is barred in Tennessee. Where there are mutual accounts between persons who are not merchants, the time is computed from the true date of the last item, unless the account is liquidated and a balance struck. (See title "Estates of Deceased Persons.")

NEGOTIABLE INSTRUMENTS.— Every negotiable instrument is payable at the time fixed therein, without grace. When the day of maturity falls upon Sunday, or a holiday, the instrument is payable on the next succeeding business day. Instruments falling due on Saturday are to be presented for payment on the next succeeding business day, except that instruments payable on demand may, at the option of the holder, be presented for payment before 12 o'clock noon on Saturday, when that entire day is not a holiday.

TEXAS.

ACKNOWLEDGMENTS.— May be made within this State before a Clerk of the District Court, a Judge or Clerk of the County Court, a Notary Public, or a Justice of the Peace, who is ex-officio a Notary Public. Acknowledgments of proof of an instrument of writing without this State may be made before a Clerk of some Court of Record having a seal, a Commissioner of Deeds duly appointed under the laws of Texas, or a Notary Public. The certificate of acknowledgment to be tested under the official seal and signature of the officer taking said acknowledgment.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— Three days of grace allowed on all commercial paper. The holder of any bill of exchange or promissory note assignable or negotiable by law may secure and fix the liability of any drawer or indorser of such bill of exchange and every indorser of such promissory note without protest or notice, by instituting suit against the acceptor of such bill of exchange or against the maker of such promissory note before the first term of the District or County Court to which suit can be brought after the right of action shall accrue, or by instituting suit before the second term of said Court after the right of action shall accrue and showing good cause why suit was not instituted before the first term next after the right of action accrued. If the amount of such commercial paper be within the jurisdiction of a Justice of the Peace, the liability of the drawer or indorser may

be fixed by instituting suit against the acceptor or maker within 60 days next after the right of action shall accrue. The liability of any drawer or indorser may also be fixed by protest in the usual form.

COMMENCEMNNT OF SUIT.— Process issued out of the District, County, or Justice Court must be served at least 10 days before first day of Court, except in cases of service by publication for non-resident debtors, which requires a publication of 4 weeks before the first day of the term of the Court. Where service is made by publicatiou, judgment cannot be had till following term. When a demaud is founded upon an open account supported by the affidavit of the party, his agent, or attorney taken before some officer authorized to administer oaths to the effect that such claim is within the knowledge of affiant just and true, that it is due, and that all just and lawful offsets, payments, and credits have been allowed, the same shall be taken as *prima facie* evidence thereof.

CONSIGNMENTS.— If a consignee fraudulently misapplies, or converts to his own use the consigned goods, he is guilty of embezzlement, and may be punished by imprisonment for not less than 2, nor more than 10 years. The civil remedies are as at comuion law.

CORPORATIONS.— Are created under a general law, which is "Title XX.— Corporations — Private," of the General Statutes. No public reports of their financial condition are required to be given. Directors who declare a dividend when the company is insolvent, or when the payment thereof would make it iusolvent, are liable for all debts then existing, and for all thereafter contracted, while they remain in office, but their liability does not exceed the amount of the dividend. Stockholders are not liable beyond the amount unpaid on their stock. If an execution against the corporation is returned unsatisfied, execution may then issue against any stockholder to an amount equal to the sum unpaid on his stock.

Foreign Corporations.— By Statute it is enacted: That any corporation created under the laws of any other State, or of any foreign government, desiring to transact business in Texas, or solicit business therein, or establish a general or special office therein, is required to file with the Secretary of State, a duly certified copy of its articles of incorporation, and thereupon the Secretary of State shall issue to the corporation a permit to transact business within the State, but the permit shall not be issued for a longer period thau 10 years. That to procure such a permit fees shall be paid as follows: The statute provides — And each and every foreign corporation having an authorized capital stock of $100,000, or less, which has heretofore received a permit to do business in this State, under the laws of this State, shall pay to the Secretary of State an annual franchise tax as follows: Each and every foreign corporation having a capital stock of $25,000 or less, an annual franchise tax of $25; each and every foreign corporation having a capital stock of more than $25,000, and not exceeding $100,000, an annual franchise tax of $100, to be paid on or before the first day of May of each year; and every such corporation which shall hereafter receive such permit shall also pay to the Secretary of State an annual franchise tax of $50, the tax for the first year to be paid at the time such permit is issued, and the Secretary of State shall not be required or permitted to issue said permit until said tax is paid, and each succeeding tax shall be paid on or before the first day of May of each year thereafter. And any such corporation having an authorized capital stock of more than $100,000 shall in addition to the franchise tax of $50, as above provided, also pay a franchise tax of $1 for every $10,000 of their capital stock over and above $100,000. That no such corporation can maintain any suit in any of the Courts of the State upon any demand arising out of contract, unless at the time the contract was made the corporation had so filed its articles of incorporation, nor can any suit founded upon tort be so maintained unless the articles were filed at the time the tort was committed. But the Act does not apply to corporations created for the purpose of constructing, operating, or maintaining any railway, nor to such corporations as are required by law to procure permits to do business by the Commissioner of Agriculture, Insurance, Statistics, and History. It has also beeu held by the Court of Civil Appeals that the above statute in reference to foreign corporations does not apply to a purely interstate transaction aud shipment.

Franchise Tax of Corporations.— Each and every private domestic corporation heretofore chartered, or that may be hereafter chartered, uuder the laws of this State, shall pay to the Secretary of State, annually, on or before the first day of May, a franchise tax of $10. Any such corporation which shall fail to pay the tax provided for in this article, shall, because of such failure, forfeit their charter. The Secretary of State shall, on or before the first day of March of each year, notify all corporations subject to the tax provided in the preceding article, and iu 30 days after the first day of May of each year shall publish a list of the charters forfeited for non-compliance with this chapter; provided, that any corporation which shall within 60 days after such publication pay the tax and $5 additional thereto shall be relieved from forfeiture of its charter by reason of such failure; provided further, that this chapter shall not be construed to repeal any law prescribing fees to be collected by the Secretary of State.

ESTATES OF DECEASED PERSONS.— Every claim for money whether upon open account or note against a testator or intestate shall be presented to the executor or administrator within 12 months after the original grant of letters testameutary or of administration, or the payment thereof shall be postponed until the claims which have been presented within said 12 months aud allowed by the executor or administrator and approved by the County Judge have been first entirely paid. All such claims must be accompanied by an affidavit in writing that the claim is just, aud that all legal offsets, paymeuts, and credits known to affiant have been allowed. Such affidavit, if made by any other person than the owner of the claim, shall state further that the affiant is cognizaut of the facts contained in his affidavit. This affidavit, if made outside of the State of Texas, should be made before a Commissioner of Deeds for the State of Texas, Clerk of a Court of Record having a seal, or a Notary Public. If the administrator has been absent from the State duriug the 12 months after the granting of letters of administration, the time of his absence is not counted. A deed of trust duly executed with power to sell is not irrevocable on the death of the mortgager, owiug to the statute law regarding estates of deceased persons. Upon the death of a party who executes a deed of trust or a mortgage with power to sell, the powers of the trustee cease or are revoked. The claim secured by said deed of trust or mortgage must be proved up as other claims against the decedent's estate, and the lien must be enforced and the sale of the property made under order of the Probate Court. Deeds of trust can be foreclosed without suit, mortgages must be foreclosed by suit, therefore, deeds of trust are most common and preferable.

INTEREST.— On written contracts ascertaining the sum payable, when no rate of interest is agreed upon, 6 per cent. from the time when the sum is payable; parties to written contracts may stipulate for any rate of interest not exceeding 10 per cent. per annum ou the amount of the contract; upon opeu accounts, when no specified rate of interest is agreed upon, interest is allowed at 6 per cent. from the first day of January next after the accounts are made; judgments bear 6 per cent. interest, except when the judgment is fouuded upon a contract which bears a specified rate of interest greater than 6 per cent., and not over 10 per cent., in which case the judgment bears iuterest at the same rate as the contract. Written contracts which directly or indirectly stipulate for more than 10 per cent. interest are void for the whole amount of the interest, but the principal may be recovered. If usurious interest is paid, the person paying the same may, by an action brought within 2 years, recover double the amount of the interest paid.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Judgment may be rendered at the first term of the Court to which service has been perfected where no defense is interposed, except when service is made by publication, in cases of non-resident debtors, when a term must intervene before fiual judgment. After

the expiration of 20 days from and after the rendition of a final judgment in the District or County Court, and after the overruling of any motion therein for a new trial or in arrest of judgment, if no supersedeas bond has been filed, the Clerk shall issue execution upon such judgment. Such execution shall be returnable to the first day of the next term of Court, or within 30, 60, or 90 days, if so directed by the plaintiff, his agent or attorney. There is no stay of execution except in Justice Courts, and then only for 90 days, on good security. Where an appeal is taken, for delay only, from a judgment rendered by the District or County Court, upon suggestion of such delay the higher Court will affirm the judgment with 10 per cent. damages.

JURISDICTION OF COURTS.— Justice Courts have jurisdiction if the debt does not exceed $200, exclusive of interest, excepting where the suit is for or a lien is sought to be foreclosed on, land. The County Court has jurisdiction when debt exceeds $200 and does not exceed $1,000 exclusive of interest, but has no jurisdiction in suits for or to foreclose liens upon land. The District Court has general jurisdiction above $500. Justice Courts convene monthly. The County Court is a Court of Record and convenes in each county of the State in January, March, May, July, September, and November in each year. Generally, in most counties of the State, the District Court convenes twice a year. In Dallas, Tarrant, Galveston, and Bexar, and probably one or two others, additional terms of the District Court have been created by special acts of the Legislature. In Dallas county the District Court convenes on the second Monday in March, May, September, and December, and on the first Monday in January, April, June, and October, making 8 terms each year.

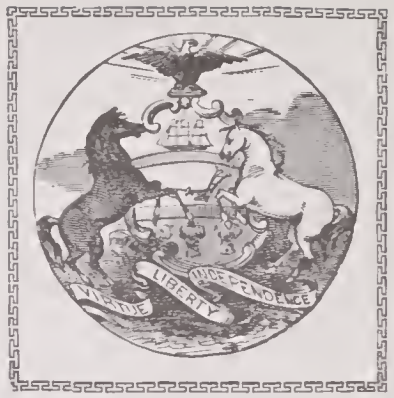
LIMITATION OF ACTIONS.— Accounts, 2 years from time cause of action accrues; notes, 4 years; domestic judgments, 10 years; foreign judgments, 10 years. Written acknowledgment signed by the debtor only will revive the debt; payment of part will not.

MECHANICS' LIENS.— Any person, firm or corporation, mechanic, or sub-contractor, who may labor or furnish material, etc., to erect any house or improvement, or to repair any such, or to furnish any material for the construction or repair of any railroad within this State under or by virtue of a contract with the owner, or his agent, or contractor, upon complying with the provisions of this chapter shall have a lien on such house, buildings, fixtures, or railroad, and all its properties, and also on the lot or lots of land necessarily connected therewith, to secure payment for the labor done, or material, etc., furnished for construction or repairs. Every original contractor must file his or their claim within 4 months in the office of the County Clerk in the county in which the premises are situate. It has been held that an original contractor may file a verified account where he has no written contract. In this case the terms of the contract and the value and amount of the materials and work must be made specific. Any person who may furnish any material to any contractor, sub-contractor, agent, or receiver, to be used in the erection of any house or improvement, or to repair any such, or to construct or repair any railroad or its properties, by giving written notice to the owner or agent of such building, or the railroad company, or its agents, of each and every item furnished, and by showing how much there is due and unpaid on each bill of material furnished under said contract, at any time within 90 days after the indebtedness shall have accrued may fix and secure a lien for the material furnished at the time or subsequent to the giving of the written notice above provided for, by filing in the office of the County Clerk of the county in which such property is situated, and if it be a railroad company in any county through which its road may pass, an itemized account of his or their claim, etc. If the lien be against a railroad it shall extend to and include all its property. A lien is invalid as against a homestead unless it is made by virtue of a contract in writing, made before the material is furnished, and signed by the husband and wife and properly acknowledged by both. Liens are placed upon an equal footing without reference to the time wherein they are filed, and each lien holder is given his *pro rata* right in the proceeds of foreclosure of a mechanics' lien.

SYNOPSIS OF THE ASSIGNMENT LAWS.— The assignment must convey all the real and personal property of the assignors, except such as is exempt from sale on execution. It must be acknowledged and recorded. There must be annexed to it a sworn inventory and schedule, containing a list of all the creditors, with their residences if known; if not, a statement to that effect, and the amount, nature, and consideration of each debt; a statement of all existing judgments, mortgages, or collateral or other security for such debts, and an inventory of all the assignor's estate. The assignment may be for the benefit of such creditors only as will consent to discharge their debts in full upon receiving their proportional share of the estate, in which case none but creditors who so consent, can share in the estate, but the assignor is not discharged from his liability to such consenting creditors, unless his estate pays one-third of amount due and allowed to them, respectively. The assignee must, within 30 days, publish a notice of his appointment, for 3 successive weeks, in a newspaper printed in county of debtor's residence, or place of business, and also, if possible, notify each creditor by mail, or personally. The assignee must file a bond, approved by the Judge. Creditors consenting to assignment must, within 4 months, notify assignee of their consent, but any creditor who did not receive actual notice of the assignment may make known his consent at any time before the distribution. Consenting creditors shall, within 6 months from such notice file with assignee a particular statement of the nature and amount of their claims, under oath, to the effect "that the statement is true, that the debt is just, and that there are no credits or offsets that should be allowed against the claim except as shown by the statement." Assets fraudulently transferred, in contemplation of the assignment, with intent to defeat, delay, or defraud creditors, or to prefer one over another, shall pass to assignee notwithstanding such transfer; the assignee may sue to recover such transferred property, but a *bona fide* purchaser thereof shall be protected. Secreting or transferring property for fraudulent purpose is felony on part of assignor. His punishment, upon conviction, shall be hard labor in penitentiary for not less than 2 nor more than 5 years. Should assignee or creditor suspect fraud on part of assignor, they can cite him to appear in Court and be examined under oath. Creditors' verified statement, filed as before provided, shall be *prima facie* evidence for its allowance by assignee as a valid claim, unless it shall be disputed by assignor or other creditor within 60 days after expiration of time within which claims must be filed, by instituting proceedings in Court to set aside such allowance; a copy of any creditor's statement shall be, by the assignee, allowed to be taken by any creditor for the purpose of disputing its validity. Any creditor whose claim is not mature may prove the same at its present value, discount for the unexpired term of credit being allowed. If a claim be secured in part, the value of the security may be estimated by the assignee, and only the difference between such value and the claim shall be allowed. Upon cause shown, the assignee may be removed and another appointed. Upon the approval of his final report, the assignee may be discharged. Any action against him, founded upon his proceedings under the assignment, must be brought within 12 months after the filing of his final report. Every mortgage, deed of trust, or other form of lien, attempted to be given by the owner of any stock of goods daily exposed for sale in parcels in the regular course of business, and contemplating a continuance of the possession thereof of said owner, and his control of such business, and sale of such goods, shall be deemed fraudulent and void. No fraudulent act, intent, or purpose of assignor or assignee, shall defeat assignment, or deprive creditors assenting thereto, of benefits thereof; but any such fraudulent act, intent, or purpose on part of assignee, shall be sufficient cause for his removal; any consenting creditor may prosecute or defend any proceeding necessary or proper for enforcement of his rights under assignment or for protection of his interests in assigned property. The District or County Judge

OKLAHOMA

OREGON



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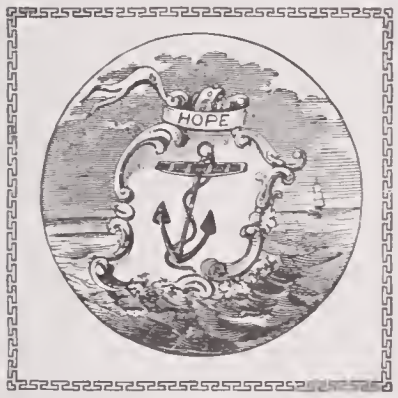
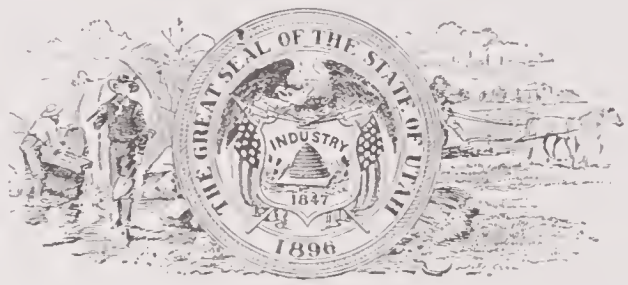


RHODE ISLAND

SOUTH CAROLINA

SOUTH DAKOTA

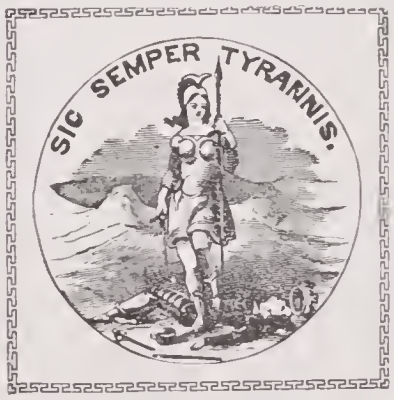
TENNESSEE



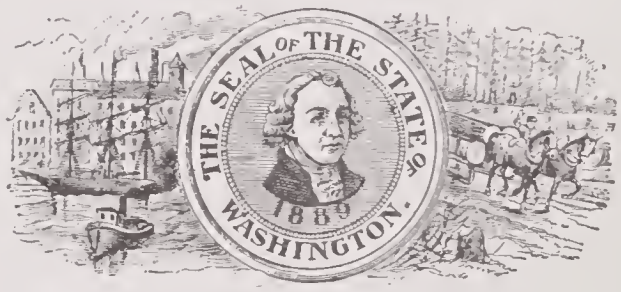
UTAH

TEXAS

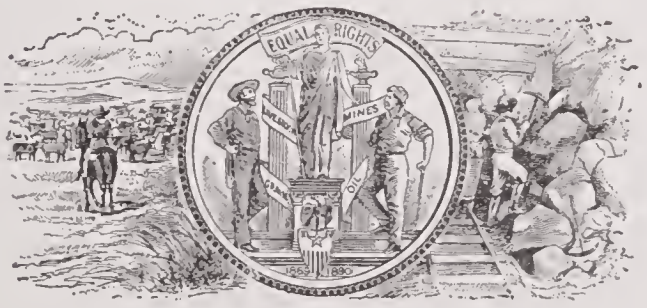
VERMONT



VIRGINIA

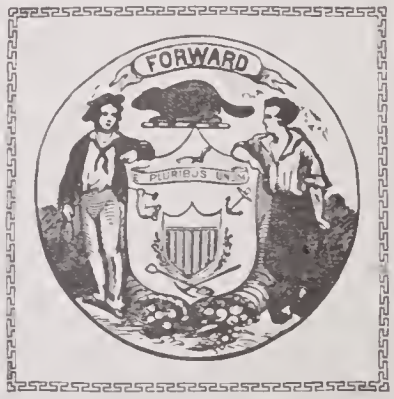


WASHINGTON



WYOMING

WEST VIRGINIA



WISCONSIN

SEALS OF THE STATES AND TERRITORIES

having jurisdiction may, at any time, on application of assignee, or of any creditor or assignor, or without any application, upon reasonable notice, require assignor, or debtor, or any other person, to appear and submit to an examination on oath upon all matters relating to the disposition made, or status, of the estate assigned. Attendance and obedience of such persons cited to orders of the Judge may be enforced by proper writs; costs to be paid by party making application, or out of estate assigned, as Judge may direct.

UTAH.

ARREST AND BAIL.—No person can be arrested in a civil action except an absconding debtor. An order for arrest may be made by a Judge upon an affidavit and an undertaking of at least $500. The defendant may give bail in the amount claimed in order of arrest.

ASSIGNMENT LAWS.—An insolvent debtor may make a general assignment, which shall include all his property; except such as is exempt from execution and any insurance policy upon his life; such exempt property and insurance may be included in the assignment; debts due servants and employees for one year previous to the assignment are preferred claims; joint or joint and several debtors can prefer joint creditors only out of joint property, and individual creditors of each only out of separate property of each; the assignee administers the assignment under the direction of the District Court of the county where the estate is situated; he must give 6 weeks' notice by publication and a notice by mail to each creditor to present his claims, clearly and distinctly stated and sworn to, within 3 months from the first publication; extension of time to present claims may be made by the Court; persons interested may contest claims; no creditor can participate in the funds unless his claim is filed with the assignee within 3 months of the first publication, unless further time be granted by the Court; the Court will remove the assignee upon written application of a majority of creditors in amount, and appoint the person designated by them; assignee must give bond of double the amount of the valuation and inventory.

BILLS AND NOTES.—Notes and bills of exchange are governed by the statutes of the State. Notice of dishonor may be given by the holder or any party to the instrument who may be called on to pay it, and may be in writing or oral, and may be given either to the party or his agent. Days of grace are not allowed. The apparent maturity of a negotiable instrument payable at a particular time, is the day on which by its terms it becomes due, or when that is a holiday on the next succeeding business day. Any negotiable instrument which has been dishonored may be protested for non-acceptance or non-payment as the case may be; but protest is not required except in case of foreign bills of exchange. Instruments falling due on Saturday are to be presented for payment on the next succeeding business day, except instruments payable on demand may at option of the holder be presented for payment before 12 o'clock noon on Saturday. In case of a bill presentment for acceptance may be made before 12 o'clock noon on Saturday.

CHATTEL MORTGAGES.—Unless the mortgagee takes possession of the property, the mortgage must be filed in the office of the County Recorder of the county in which the mortgagor resides, unless the mortgagor be a non-resident of the State, in which case it must be filed in the county in which the property is situated at the time of the execution of the mortgage; must be executed by the mortgagor, and, when paid, is released in the same manner as provided for mortgages of real property. It must further be accompanied by an affidavit of the parties thereto, or, in case any party is absent, an affidavit of the parties present, and of the agent or attorney of such absent party that the same is made in good faith, to secure the amount named therein, and without any design to hinder or delay the creditors of the mortgagor. It shall be void as against the mortgagor's creditors, subsequent purchasers, and mortgagees in good faith after 1 year from the filing, unless within 30 days preceding the expiration of the year and each year thereafter, an affidavit is filed showing the interest of the mortgagee in the property or the amount yet due and unpaid. The final limit is 5 years. The mortgage may contain the usual provisions of a deed of trust, with power in a trustee or Sheriff of county, to take possession on default and sell as on execution. In any sum under $300, Justice Courts have a jurisdiction of foreclosure of chattel mortgages. Any mortgagor or servant or employee of any mortgagor of personal property, who shall, during the time such mortgage remains in force, destroy, conceal, sell, or otherwise dispose of the whole or any part of the property mortgaged, or who shall remove the same, or any part thereof, from the State, without the written consent of the mortgagee, his legal representative or assign, shall be deemed guilty of obtaining money under false pretences, and, on conviction thereof, shall be punished by a fine not exceeding 3 times the value of the property described in the mortgage, or imprisonment in the county jail for not more than 6 months, or both, at the discretion of the Court. Husband and wife must join in mortgage of exempt personal property.

CORPORATIONS.—Are created under general laws only. No public reports of their condition are made. Nothing but fraud can make officers or directors liable to a penalty. Stockholders are liable for unpaid stock only. Corporations may be formed by not less than 5 persons, one-third of whom must be residents of the State. Ten per cent. of capital stock must be paid in. Foreign corporations must file resolution of board of directors accepting the provisions of the Constitution and certified copy of articles and certificate of incorporation with Secretary of State and Clerk of county where principal place of business is located, and designate person on whom service can be made. By not complying, the corporation loses the benefit of the laws of the State relating to corporations, and agents refusing or neglecting to comply are guilty of a misdemeanor and personally liable on all contracts while in default.

ESTATES OF DECEASED PERSONS.—Claims against the estates of decedents must be presented to the administrator or executor within 10 months after the publication of notice to creditors. If the estate does not exceed in value the sum of $3,000, 4 months only are allowed.

EXECUTION.—At any time within 8 years after entry of judgment, execution may issue.

INTEREST.—Legal rate, 8 per cent.; by contract, any rate that may be agreed on.

JUDGMENT.—Lien continues for 8 years upon real estate. On the docketing of the judgment in the District Court, a lien is created on real estate of the debtor in the district where the Court is held, but the lien attaches only to the real estate owned by the debtor at the date of the judgment, or at any time thereafter during the existence of the lien. To constitute a lien on real estate in another county, judgment must be recorded in such county.

LIMITATION OF ACTIONS.—Accounts 4 years; notes and written obligations 6 years; judgment of a Court of Record 8 years; part payment of principal or interest takes contracts out of the statute.

SALE OF MERCHANDISE IN BULK.—Sec. 1.—A sale of any portion of a stock of merchandise otherwise than in the ordinary course of trade and in the regular and usual prosecution of the seller's business, or a sale of an entire stock of merchandise in bulk, is fraudulent and void as against the creditors of the seller, unless the seller and purchaser shall at least 5 days before the sale make a full and detailed inventory showing the quantity, and so far as possible with the exercise of reasonable diligence, the cost price of each article to be included in the sale, and unless such purchaser shall at least 5 days before the sale, in good faith, make full and explicit inquiry of the seller as to the names and places of residence or places of business of each and all of the creditors of

the seller, and the amount owing each creditor, and unless the purchaser shall at least 5 days before the sale, in good faith, notify or cause to be notified, personally or by registered mail, each of the seller's creditors of whom the purchaser has knowledge or can with the exercise of reasonable diligence acquire knowledge of said proposed sale, and of the said cost price of the merchandise to be sold and of the price proposed to be paid therefor by the purchaser. Sec. 2.—Any person wilfully selling or buying any stock of goods in any other manner other than in this act provided shall be guilty of a misdemeanor, and shall upon conviction thereof be subjected to a fine of not less than fifty dollars, nor more than three hundred dollars.—Approved March 14, 1901.

VERMONT.

ACKNOWLEDGMENTS.—May be made in this State before a Justice, a Master in Chancery, Notary Public, Clerk of any Court of Record, and, without the State, before any Commissioner appointed by the Governor of this State for such purpose, or may be certified agreeably to the laws of the State, Province, or Kingdom in which such acknowledgment is taken.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.—Females cannot be arrested or imprisoned for debt. Upon an affidavit of the creditor, his agent or attorney, that the debtor is about to abscond or remove from the State, and has property to an amount exceeding $20, or sufficient to satisfy the demand in suit, concealed about his person or elsewhere, the debtor may be arrested. If the debtor is a non-resident of the United States no affidavit is required. In all other cases imprisonment for debt is abolished. The debtor is discharged from arrest by giving the creditor notice and appearing before the authority signing the warrant of arrest, and satisfying said authority that he, the debtor, is not about to remove or abscond from the State, or has not property to an amount exceeding $20, or sufficient to satisfy the demand in suit, concealed about his person or elsewhere. If the process upon which the debtor is arrested is returnable out of the county in which the debtor resides, or where the arrest is made, such examination may be had before one of the assistant Judges of the County Court of said county. Upon such hearing the debtor may submit himself to examination under oath, and other proof may be introduced by both parties. Arrest may be made for breach of fiduciary trust, upon an affidavit setting forth the fact, being filed with the authority signing the writ, and in actions of tort.

BILLS OF EXCHANGE AND PROMISSORY NOTES.—Whenever any bill, note, check, or other evidence of debt shall fall due on Sunday, the 1st day of January, 4th day of July, 25th day of December, or the 30th day of May, called Decoration Day, or any day appointed by the Governor or President as a day of fast or thanksgiving, the same shall, for every purpose of protest and notice, be taken and considered as due on the first business day next following. There are no days of grace unless provided for by the express terms of the paper. The maker and indorser of a promissory note cannot be joined in one suit.

COMMENCEMENT OF SUIT.—Actions are commenced by service of summons or by writ of attachment. Every writ and process returnable before the Supreme or County Courts, except as otherwise provided, shall be served within 21 days from the date of issuing the same, including the day of service, and excluding the day of issuing. The party suing out such process shall cause the same to be entered and docketed in the County Clerk's office on or before the expiration of the said 21 days, or the process shall be of no avail. The defendant shall cause his appearance therein to be entered with the Clerk on or before the expiration of 42 days from the date of the writ. When the defendant in a suit, being served with process, and return thereof being made, does not appear in person or by attorney within the time prescribed by law, his default, on motion of the plaintiff, shall be recorded by the Clerk, and at the then pending or next regular term of Court after said default, judgment shall be rendered against him thereon. But such default and judgment may be vacated upon such terms as to costs and the time of filing pleadings as to the Court shall seem just. All appeals to the County Court, except in criminal cases, from the judgment of the Justice, City, or Municipal Court, from an order, sentence, decree, or denial of the Probate Court, and from the decision of the Commissioners appointed by the Probate Court, and from the judgment of the Court of Insolvency shall be entered and docketed by the appellant in the County Clerk's office on or before 21 days from the time such appeals are taken. In actions before a Justice of the Peace the summons must be served on the debtor 6 days before the day of trial; if out of the county 12 days, and on corporations 30 days, except when said corporation is summoned as trustee. Actions may be commenced against non-resident debtors holding property in the State, not exempt, by attaching the same, and, if personal property, by leaving a copy of the writ with the person having its custody, and if real estate by leaving a copy with the Town Clerk of the town in which the same is situated. If the debtor has a known agent, the copy is to be left with him. Whenever any action, suit, or proceeding shall be commenced in any Court in this State, any absent defendants who shall reside or be without the State so that a writ, citation, or subpœna cannot be served upon them, may be notified of the pendency of such action, suit, or proceeding, and given opportunity to make defense therein by the delivery to such parties at any place without this State of copies of the process and pleading, and of an order for such delivery, stating the time and place when they are required to appear, all under the hand of the Clerk of the Court, or any Judge or Justice thereof. Such copies may be delivered by any person not a party, and the proof thereof shall be by affidavit stating specifically the time and place of delivery, the age of the defendant, or that he is above 21 years of age, and the reason why he knew the person to whom the copies were delivered to be the person mentioned therein as a party. The notice may also be served by publication.

CORPORATIONS.—May be organized under general laws for certain manufacturing and business pursuits specified in the statutes. The articles of incorporation are recorded in office of the Secretary of State, and copy certified by the Secretary of State is recorded in the office of Clerk of county where principal place of business is located. There must be at least 3 directors, one of whom must be a resident of the State. The capital stock shall be determined in the articles of association, and shall not be less than $500, nor more than $1,000,000, in amount. One-half of the capital stock shall be paid in before the corporation contracts debts, and no part of it shall be withdrawn or diverted from the proper business of the corporation; and no debts shall be contracted by the corporation exceeding in amount two-thirds of the capital stock actually paid in, and any director assenting to the creation of such indebtedness shall be personally liable for the excess. The stockholders in the corporation shall be individually liable to its creditors to an amount equal to the stock held by them respectively for contracts and debts made by such company until the whole amount of stock filed by the company is paid in. No foreign insurance, express, shipping car, telegraph, or telephone company or a foreign company under any other name, engaged in like business, whether said company is a corporation or copartnership, shall do business in this State, until it has filed with the Secretary of State a written stipulation containing the name of the corporation and the place where chartered, or, if a copartnership, the firm name and the names and residences of the copartners, and agreeing that legal process affecting such company, served on said Secretary of State, shall have the same effect as if served personally on said corporation or copartners within this State; and such stipulation shall not be revoked or modified so long as any resident of this State has a cause of action against the stipulating company. Service of process according to the stipulation shall be sufficient, and a copy of such stipulation certified by the Secretary of State, and his certifi-

cate that process has been served on him shall be sufficient evidence thereof. Process against or affecting any such foreign corporation, company, or copartnership may be served on the Secretary of State by duplicate copies, one of which shall be immediately forwarded by the Secretary of State, by mail, prepaid, to the corporation, company, or copartnership at its home office, or to a person whom it designates; and there shall be paid to the Secretary of State by the officer at the time of such service the sum of $1.

ESTATES OF DECEASED PERSONS.—Commissioners are appointed by the Probate Court to audit and allow claims against the estate of decedent, and upon their report the Court decrees the amount to be paid upon the respective claims. Six months are allowed for the presentation of claims to the Commissioners for allowance, and the time may be extended upon application to the Probate Court for that purpose, and an appeal is allowed by either party from the decision of the Commissioners to the County Court for any sum not less than $20 in amount.

INTEREST.—Six per cent. is the legal rate, and interest beyond that rate may be recovered back.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.—Judgment is obtained in an action on a note where debtor has been regularly served with summons and makes no appearance at the first term of Court. The Courts have made a rule allowing judgment in all actions on notes unless debtor file an affidavit setting forth a good defense in whole or in part. If the action is brought on book account, judgment cannot be obtained until the second term of the Court, as an auditor is appointed by the Court to adjust the account during vacation. Judgments do not become liens on real estate until a levy under execution has been made, unless attached on mesne process. Sixty days is the life of an execution, unless made returnable, as it may be, to the next term of Court. An *alias* execution can issue at any time within a year and a day after judgment has been obtained.

JURISDICTION OF COURTS.—Justices' Courts have jurisdiction of all actions of a civil nature—except actions for slanderous words, false imprisonment, replevin for goods and chattels where the value thereof exceeds $20, and where the title to land is concerned—where the matter in demand does not exceed $200; and of actions of trespass on the freehold where the sum in demand does not exceed $20. County Courts have jurisdiction of all debts exceeding $200, and of the exceptions above named.

LIMITATION OF ACTIONS.—Simple promissory notes are barred in 6 years, but if signed in presence of an attesting witness are not barred until 14 years next after the right of action shall accrue thereon. Accounts are barred after 6 years from the last credit, sealed instruments and judgments after 8 years. A verbal promise to pay will not revive a debt, but must be in writing. A partial payment will revive the debt; but in case of a note, the payment cannot be shown by the indorsement of the payment alone unless in the handwriting of the party making the payment.

MORTGAGES OF PERSONAL PROPERTY.—A new law prevails in Vermont as to the mortgage of personal property, the nature and provisions of which possess so much interest for business men, that a full abstract is herewith submitted: All personal property is subject to mortgage. Possession of the mortgaged property must be delivered to and retained by the mortgagee, or the mortgage must be recorded in the office of the Clerk of the town in which the mortgagor resides at the time of his making the same; or if he resides out of the State, in the town in which the property is situated; and no property so mortgaged can be removed from the State without the consent of the mortgagor. The mortgagor and mortgagee are required to make and subscribe an affidavit in substance as follows: "We severally swear that the foregoing mortgage is made for the purpose of securing the debt specified in the conditions thereof, and for no other purpose whatever, and that the same is a just debt honestly due and owing from the mortgagor to the mortgagee," and such affidavit, with the certificate of the oath signed by the authority administering the same, must be made upon, or appended to, such mortgage, and recorded therewith. If a corporation is a party to such mortgage, the affidavit may be made and subscribed by any director, cashier, or treasurer thereof, or by any person authorized on the part of such corporation to make or receive such mortgage. If a firm is a party the affidavit may be made by any partner, and in the absence of the mortgagee it may be made on his part by his attorney. If the mortgage is given to indemnify the mortgagee against any liability assumed, or to secure the fulfilment of any agreement other than the payment of the debt due from the mortgagor to the mortgagee, such liability or agreement must be stated truly and specifically in the condition of the mortgage, and the affidavit is to be so far varied as to verify the validity, truth, and justice of such liability or agreement. No mortgagor of personal property can sell or pledge any of such property by him mortgaged without the consent of the mortgagee in writing upon the back of the mortgage, and on the margin of the record thereof in the office where such mortgage is recorded, nor can he execute any subsequent mortgage of personal property while the same is subject to a previously existing mortgage or mortgages given by such mortgagor, unless the fact of the existence of such previous mortgage or mortgages is set forth in the subsequent mortgage, and if he does so he subjects himself to criminal prosecution, and punishment by fine equal to double the value of the property so wrongfully sold, pledged, or mortgaged, one-half to the use of the party injured, and the other half to the use of the town where the mortgage is recorded. The mortgagee may at any time after 30 days from the time of condition broken cause the mortgaged property, or any part thereof, to be sold at public auction by some public officer, at some public place in the town where the mortgagor resides, or where the property is situated, notice of the time, place, and purpose of such sale being posted at 2 or more public places in such town at least 10 days prior thereto. The mortgagee must notify the mortgagor or person holding under him, and persons holding subsequent mortgages, of the time and place of sale, by notice in writing delivered to him, or left at his abode, if within the town, or sent by mail if he does not reside in such town, at least 10 days previous to the sale. The proceeds of the sale are applied to the payment of the demand secured by the mortgage, and costs and expenses of keeping and sale, and the residue, if any, is paid to persons holding subsequent mortgages in their order, and is applied to liquidate the claims secured by such mortgages, and if there be no subsequent mortgage, then to the mortgagor, or person holding under him, on demand. After condition broken, the mortgagor, or person holding under him, or a subsequent mortgagee, may redeem the property mortgaged by paying or tendering to the mortgagee the amount due on such mortgage, with all reasonable costs and expenses incurred by reason of such breach of condition, at any time before sale thereof.

PRIORITY OF CLAIMS.—Wages of employees of insolvent persons, companies, or corporations to an amount not exceeding $50, for labor performed within 6 months, are preferred over all other unsecured debts, and debts owed to employees for wages by persons, companies, or corporations compelled to stop business for 30 days by reason of attachment upon mesne process, if such employee attaches the same property, take precedence over the prior attachment to an amount not exceeding $50, if made before sale of execution. Laborers cutting or drawing logs under a contract with the owner, have a lien thereon, which may be secured by attachment, for services, and continuing 60 days after services are performed, and taking precedence over all other claims except for public taxes. A brief statement of the contract, and declaration of a purpose to enforce the claim, must be filed in the Town Clerk's office where the labor was performed, or if in an unorganized town in the County Clerk's office. No such liens are valid against subsequent purchasers, unless suit is brought and logs attached within 30 days of maturing of right of action for such services, and such lien is vacated unless the person claiming such lien shall bring his

suit and attach such property within 60 days from the time of the maturing of such right of action against the party for whom he performed such services.

VIRGINIA.

ACKNOWLEDGMENTS.— May be taken before a Justice, Notary, Commissioner in Chancery, or Commissioner for Virginia, Clerk of Court, Consul, Vice-Consul, Minister Plenipotentiary, and other officers.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— There is no imprisonment for debt in this State, but where a creditor in any action or suit shows by affidavit, to the satisfaction of the Court in which it is pending, or to any Judge or Justice, that the debtor, unless apprehended, is about to quit the State, such Judge, Court, or Justice may require bail in such sum as may be thought fit. The debtor may be discharged on giving bond and security that he will answer to such interrogatories as may be filed within 4 months after judgment, decree, or order, and make the required conveyance or delivery, or perform or satisfy such judgment, decree, or order.

ASSIGNMENT LAWS.— 1. Does there exist in this State a separate, distinct assignment, insolvency or bankrupt law?— A. No.

2. Does the law in this State permit the debtor to make a preferential assignment?— A. The decisions of our Court of Appeals recognize the right of debtors to prefer creditors in making assignments of their property.

3. Can a judgment by default or confession be given in favor of relatives or friends, thus defeating the efforts of general or outside creditors?— A. Yes, if the indebtedness is *bona fide*.

4. Can conveyance or transfer of property be made immediately anterior to assignment and still be held valid?— A. There are no general assignment laws in Virginia. A debtor can, before the creditor acquires a lien, convey or transfer his property for valuable consideration.

5. Can a debtor in this State obtain a discharge from his obligations without the unanimous consent of creditors, and under what circumstances?— A. No.

6. Does the acceptance of a dividend from an estate under assignment in this State discharge the debtor?— A. Deeds of trust sometimes provide that the creditors who accept the terms and participate in distribution of the assets, shall be held to discharge the debtor from further liability. The accepting creditors would be bound in such cases; but if the debtor does not convey all of his property, such a deed would be fraudulent and void.

7. What is the position of creditors who do not come into an assignment, should one be made?— A. They are free to pursue their legal remedies against the debtor, and to subject any property, not embraced in the deed of assignment, liable for their debts.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— By act of Virginia Assembly of March 3d, 1898, the law relating to negotiable instruments is codified, and by this act, which took effect July 1st, 1898, grace is abolished. It is questioned, however, whether instruments made and delivered prior to July 1st, 1898, which mature after that date, are entitled to grace, but a number of Richmond bank attorneys are of opinion that the act only affects paper made and delivered *after* July 1st. By this act instruments falling due on Sunday or a holiday are payable on the next *succeeding* business day.

CHATTEL MORTGAGES.— Mortgages, though perfectly legal in Virginia, are not commonly used either in cases of real or personal property; our substitute is a deed of trust. In this character of security property, real or personal, is conveyed to a trustee in trust that upon default in payment of the debt secured, or any part of it, said trustee shall when requested by the party to whom the debt belongs after advertising the time, place, and terms of sale for a period generally prescribed in the deed, sell the property and apply the proceeds to the payment of the debts secured. The advantage of a deed of trust over a mortgage is that no intervention of a Court is necessary, and a sale by the trustee following the terms of the power of sale in the deed, is a finality, and the debtor after a sale has no right to redeem. The trustee should be a disinterested party, but if he is not, that fact does not invalidate the security or a sale, if fairly made by him, though it might lead to his removal before sale. Personal property mortgages or deeds of trust are void as to creditors with or without notice, and subsequent purchaser for value without notice, until and except they be recorded. It has been decided, however, that writings assigning choses in action to a trustee to pay debts need not be recorded. In case of a deed of trust on personal property the trustee does not commonly take possession of the property until default occurs, and he is requested to make sale, and the deed of trust usually provides that the debtor shall remain in possession until default. But an important exception should here be noted. If the personal property embraced in the deed be perishable or consumable in the use, as for instance where it is a shifting stock of goods used in trade, the deed of trust must provide for the trustee's taking immediate possession. Otherwise in such cases the deed would be fraudulent under our decisions. It may be noted in this connection that any sale or contract of sale of personal property, wherein the title is reserved until the same be paid for in whole or in part, or the transfer of title is made dependent on any condition, the same is void as to creditors of the vendee, with or without notice, and subsequent purchasers for value without notice, unless such sale or contract of sale is in writing, executed by the vendor, in which said reservation or condition is expressed, and until recorded, provided possession of the property is delivered to the vendee.

COMMENCEMENT OF SUIT.— Summons must be served on debtor 2 rule days before it can be placed on the docket. The first and third Mondays, Tuesdays, and Wednesdays in each month are rule days. Debtor must be sued in the county or corporation where he resides; or may be sued wherever the cause of action arose.

CONSIGNMENTS.— By statute of February 24, 1874, the failure to account for consigned goods was made an embezzlement. The construction of the act is not well settled. There have been few prosecutions under it. The statute of limitations runs against the consignor's civil action from the time he has first knowledge of the misappropriation.

CORPORATIONS.— A general law gives the Circuit Court for the city and county where the principal office of the corporation is to be, or the Judges thereof, if in vacation, power to create corporations for all purposes except in the following; viz., to construct a turnpike beyond the limits of the county, or to build a railroad, or canal, or establish a bank of circulation, or a fire or life insurance company, or street railway company. In any of these excepted cases, the corporation must be created by special act of the Legislature, and in case of any corporation whatever, it may be so created. There is no general law requiring all corporations to make reports of their financial condition, but there are laws requiring annual reports from certain classes of corporations; for example: railroad companies wholly within the State, or in which the State is interested, insurance companies, and banks. Such reports are generally required to be filed in the offices of the State Auditor of accounts, about the middle of September, and are to be verified by the oath of the president, treasurer, or cashier, as case may be. The penalty for a failure to file such a report is generally a fine imposed upon the company, for benefit of the State, and if an officer knowingly swears to a false report, he is indictable for perjury. No statute gives any right to creditors of the corporation for such nonfeasance or malfeasance. Stockholders are liable for unpaid subscriptions, and no further. Corporations are expressly forbidden to make preferences. Receivers, after paying liens, distribute the assets *pro rata*. The foregoing provisions relating to corporations are now applicable. Provision is made by the new constitution for the granting of charters, the supervision and con-

trol of corporations, by a corporation committee, hereafter to be appointed.

Foreign Corporations.— Every company incorporated under the laws of this State or another State, aud doing business in this State, except an insurance company incorporated under the laws of another State, shall have an office in the State at which all claims due residents of the State against such company may be audited, settled, and paid. Every such company incorporated under the laws of another State shall, by a written power of attorney, appoint some person, residing in the State, its agent, upon whom all lawful process against the company may be served, and who shall be authorized to enter an appearance in its behalf. Such power of attorney, and a duly authenticated copy of the charter of the company, shall be delivered to the Clerk of the Court of the county or corporation wherein such office is located, who shall record the same and transmit copies thereof to the Secretary of the Commonwealth, for which service the Clerk shall receive a fee of $10 to be paid by the company. Every such company heretofore incorporated, if it has not already done so, within 60 days after this code takes effect, and every such company hereafter incorporated before commencing business in this State, shall establish an office and appoint an agent as hereinbefore required. The officers, agents, and employees of any such company doing business in this State without complying with the provisions of the preceding section, shall be personally liable to any resident of the State having a claim against such company, and moreover, service of process upon either of said officers, agents, or employees shall be deemed a sufficient service on the company. Foreign insurance companies have likewise to appoint an agent upon whom process can be served, and, in addition, deposit with the Treasurer of the Commonwealth, bonds of the United States or the State of Virginia, or certain cities specified in the act up to 5 per cent. of their capital stock, provided that the cash value of the security so deposited need not be more than $50,000, nor shall be less than $10,000. This deposit is for the protection of resident policy holders, and is not required to be made by foreign insurance companies which are run on a purely mutual basis or by benevolent organizations such as the Knights of Honor, etc.

CREDITORS' SUITS.—Whenever any debtor makes a transfer of any property, real or personal, whether by deed or otherwise, with intent to hinder, delay, or defraud his creditors, any creditor without first obtaining judgment and execution, and having said execution returned no effects, may at once file a creditor's bill in equity attacking said transfer as fraudulent, and in case he succeeds in the suit has a lien upon the property so fraudulently assigned, from the date of instituting his suit, provided he file a *lis pendens* specifying the style of the suit, the property affected thereby, and the amount of his claim. Any creditor can come into this suit by petition, and will have a lien in case the suit succeeds, from the date of filing such petition, provided the petitioning creditor also files a *lis pendens* contemporaneously with filing his petition. All petitioning creditors, however, whose petitions are filed on the same day have the same priority.

ESTATES OF DECEASED PERSONS.— The representative must in a reasonable time settle the estate of his decedent, but after 12 months he may pay any debt against the estate of his decedent without rendering himself personally liable, though there are outstanding debts entitled to priority, unless he has notice of such debts. Claims should be presented as soon as practicable after death of debtor. They will be received and passed upon any time before a distribution is made of the decedent's effects.

INTEREST.— Legal rate 6 per cent. Where no rate of interest is agreed upon the debt bears 6 per cent.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— If debtor has been served with process in due time, and no defense entered, judgment may be had at first term of Court. All judgments when recorded, are liens on real estate ; but the judgment is not a lien as against *bona fide* purchasers, unless docketed on the "lien docket" of the county or corporation where land lies. The creditor is entitled to a trial at first term, unless debtor shows good cause for continuance of the case. Execution can issue at once for special cause shown to the Court, and after the fifteenth day of the term any Court may make an order allowing execution to issue on judgments and decrees after 10 days from their date. It must be returned on the first day of a term of Court, or first Monday of a month, or on a rule day, as the time of issuing the execution may make it most convenient provided that not more than 90 days intervene between the teste and the return day of the process. The officer levying an execution may take from debtor a "forthcoming bond" conditioned that the property shall be forthcoming on day and at place fixed for sale — the property left in possession and at risk of debtor. The officer is required to take good security on this bond. If property is not "forthcoming," the officer returns bond to Court, and it has the force of a judgment against principal and surety. No execution issues until notice (10 days) is given the parties that application will be made to Court for award of execution. On this execution no security to be taken. A recent law as to judicial sales of real estate for debts contracted prior to April 10th, 1865, provides that a sale at first or second exposure of the property cannot be made (except where the debtor consents) unless the real estate brings three-fourths of its assessed value, and a credit to be given of not less than 3 nor more than 6 annual instalments. No stay of execution provided for by statute except in case of judgment of a Justice of the Peace, when the execution may be stayed from 40 to 90 days according to the amount, upon defendant's giving good security for the payment of the judgment.

JURISDICTION OF COURTS.—An act to allow a remedy by motion for judgment in the County Court after 10 days' notice. Approved March 1, 1898. Any person entitled to recover money or specific personal property by action in the Circuit Court as by warrant before a Justice of the Peace, where the amount or the thing claimed exceeds in value $20 and does not exceed $100 exclusive of interest, may, on motion before the County Court of the county in which a warrant might be brought under existing law, obtain judgment for such money or for such specific personal property after 10 days' notice shall be returnable to the first day of the next term, and shall, upon being proved, be docketed. Such motion shall not be discontinued by reason of no order of continuancy being entered in it from day to day or from term to term.

LIMITATION OF ACTIONS.— Accounts, "2 years for any article charged in any retail store account" ; but in case of account between merchant and merchant concerning trade of merchandise, where the action of account would lie, 5 years from cessation of dealings between them, and wholesale accounts 3 years. Notes, awards, and any contract signed by the party or his agent, 5 years. Sealed instruments, 10 years. Judgments: if an execution has issued on the judgment within a year, action on *scire facias* may be brought within 10 years from return day of execution on which there is no return by an officer, or within 20 years from the return day of execution on which there is such return except that where *scire facias* or action is against the personal representative of a decedent, it shall be brought within 5 years from the qualification of such representative. If no execution has issued within the year an action on *scire facias* may be brought on the judgment within 10 years from its date. A verbal promise will not revive a debt barred by act of limitations. The limitation to an action upon any other contract not specifically provided for above is 3 years.

WASHINGTON.

ACKNOWLEDGMENTS.— Acknowledgments may be made, if taken in any foreign country beyond the limits of the United States, before any Minister Plenipotentiary, Secretary of Legation, *Charge d'Affaires*, Consul-General, Consul, Vice-Consul, Consular Agent, or Commercial Agent appointed by the Government of the United States, or before any Notary Public, or before the proper

officer of any Court of said country, or before the Mayor or other chief magistrate of any city, town, or other municipal corporation therein. Deeds or conveyauces of land or of any estate or iuterest therein situated iu this State may be executed or acknowledged in any other State or Territory of the United States in the form prescribed for executing and acknowledging deeds within this State, and the execution thereof may be acknowledged before any person authorized to take acknowledgments of deeds by the laws of the State or Territory wherein the acknowledgment is taken, or before auy Commissioner appointed by the Governor of this State for such purpose. Acknowledgments may be taken in this State before a Judge of the Supreme Court or the Clerk thereof, or the Deputy of such Clerk, before a Judge of the Superior Court, in this State, or the Clerk thereof, or the Deputy of such Clerk, or before a Judge of the Probate Court, or before a Justice of the Peace, or a County Auditor or the Deputy of such Auditor, or a Notary Public. A certificate of acknowledgment, substantially in the following form, is sufficient:

State of ——
County of —— } ss.

I (here give name of officer and official title) do hereby certify that on this —— day of ——, 19—, persoually appeared before me (here give the name of the grantor, and, if acknowledged by wife, her name, and add "his wife"), to me known to be the individual (or individuals) described in aud who executed the within instrument, and acknowledged that he (she or they) signed and sealed the same as his (her or their) free and voluntary act and deed, for the uses and purposes therein mentioned.

Given under my hand and official seal this —— day of——, A. D., 19—.

When a Notary Public (resident within the State) shall sign any instrument (other than an oath to be used in any of the Courts of this State) officially, he shall, in addition to his name and the words "Notary Public," add his place of residence and affix his official seal. In the case of any acknowledgment made in any other State or Territory of the United States, unless the acknowledgment be taken before a Commissioner appointed by the Governor of this State for that purpose, or by the Clerk of a Court of Record of the foreigu State or Territory, or by a Notary Public or other officer having a seal of office, then such deed shall have attached thereto a certificate of the Clerk of a Court of Record, under the seal of said Court of the county or district, or a certificate of any other proper certifying officer of said district or county, within which said acknowledgment was taken, that the person whose name is subscribed to the certificate of acknowledgment was at the date thereof such officer as he therein represents himself to be, that he is authorized by law to take ackuowledgments of deeds, and that he verily believes the signature of the person subscribed thereto to be genuine.

ATTORNEY'S FEES.—In all cases of foreclosure of mortgages, and iu all other cases where attorney's fees are allowed, the amount thereof shall be fixed by the Court at such sum as he shall deem reasonable, regardless of any stipulation in the note or mortgage or other instrument to the contrary, but in no case shall the amount be fixed above the contract price stated in said note or contract. A fee of $50 is allowed plaintiff's attorney in actions foreclosing liens on sheep.

CHATTEL MORTGAGES.—Mortgages may be made upon all kinds of personal property and upon the rolling stock of a railroad company, and upon all kinds of machinery, and upon boats and vessels, and on growing crops, and on all portable mills and such like property. The Supreme Court of the State has declared valid as against other creditors, mortgages upon stock in trade, even though the stock is left in the possession of the mortgagor to be sold in the ordinary course of trade, provided the proceeds are to be applied exclusively to the payment of the mortgage debt; and a later decision, May, 1892, upheld such mortgage, even though the mortgagee had therein agreed to allow the mortgagor to use part of the proceeds of the sales to purchase additions to the stock and to pay the running expenses of the business. A mortgage on personal property is void as against creditors of the mortgagor or a subsequent purchaser or subsequent encumbrancer of the property for value aud in good faith, unless it be accompanied by the affidavit of the mortgagor that it is made in good faith, and without any design to hinder, delay, or defraud creditors, and is duly acknowledged and recorded iu the office of the County Auditor of the county in which the mortgaged property is situated, in a book kept exclusely for that purpose. When mortgaged personal property is thereafter removed from the county in which it was situated, it is, except as between the parties to the mortgage, exempt from the operation thereof, unless the mortgagee, within 30 days after such removal, causes the mortgage to be recorded in the county to which the property has been removed, or unless the mortgage be recorded in the custom house, or unless the mortgagee, within 30 days after such removal, takes possession of the property. A mortgage on any vessel or boat or part of a vessel or boat, over 20 tons burden, shall be recorded in the office of the Collector of Customs, where such vessel is registered, enrolled, or licensed, and need not be recorded elsewhere. Chattel mortgages may be foreclosed by notice (placed in the hands of the Sheriff and duly served and published) and sale, or may be foreclosed by action in the Superior Court having jurisdiction in the county in which the property is situated. By the laws of 1897, deficiency judgments are abolished, and the mortgagee has no remedy beyond the encumbered property under foreclosure. But the later act of 1899, which impliedly repeals the said act of 1897, provides that where there is an agreement of the judgmeut debtor for the payment of any sum of money secured by a mortgage, or other lien, and a deficiency judgment is consented to in said agreement, the Court may direct in the decree that the balance due and costs which may remain unsatisfied after the sale of the property, shall be satisfied from any property of the judgment debtor. The judgment creditor may also obtain from the Clerk of the Court execution or executions in the ordinary form for such deficiency; and, provided, that in case of mortgage foreclosure, where the mortgage contains a stipulation that no deficiency judgment shall be taken against the mortgagor, but that the mortgagee shall look to the mortgaged premises for satisfaction of his claim, no deficiency judgment shall be allowed.

COMMENCEMENT OF SUIT.—Civil actions in the several Superior Courts of this State shall be commenced by the service of a summons, or by filing a complaint with the Clerk of the Court; provided, that unless service has been had on the defendant, prior to the filing of the complaint, the plaintiff shall cause one or more of the defendants to be served personally, or commence service by publication within 90 days from the date of filing the complaint. The summons must be subscribed by the plaintiff, or his attorney, and directed to the defendant requiring him to answer the complaint, and serve a copy of his answer on the person whose name is subscribed to the summons at the place, within the State, therein specified, in which there is a post-office, within 20 days after the service of the summons, exclusive of the day of service. If service is made by publication, the summons must be published once each week for 6 consecutive weeks, and service is completed at that time. The summons shall contaiu the date of the first publication, and shall require the defendant to appear within 60 days from date of first publication. The summons must contain: (1) The title of the cause, specifying name of Court and county designated by plaintiff as place of trial. (2) A direction to defendant to appear within 20 days (when the summons is served personally), and 60 days after date of first publication (when the summons is served by publication). (3) A notice that on failure so to do, judgment will be rendered as prayed. In Justice Courts civil actions may be instituted either by the voluntary appearance and agreement of the parties, or by service of summons or a notice to the defendant, which notice shall be attached to a copy of the complaint and citing the defendant to be and appear before the Justice, at the time

and place therein specified, which shall not be less than 6 nor more than 20 days from the date of filing the complaint.

COMMISSION MERCHANTS.— Persons, firms, or corporations desiring to engage in the business of selling farm, dairy, orchard, or garden produce on commission, must first obtain a license from the Secretary of State. It is unlawful for any persons, firm, or corporation engaged in the business of commission merchants to enter into any combination, conspiracy, or pool for the purpose of artificially raising or depressiug the market price of farm, dairy, orchard, or garden produce, or for excluding from the market any produce of any particular locality, grown or manufactured by any person. All persons engaged in the business of commission merchants shall keep an accurate set of books in which shall be truly stated the amount and character of any consignment received, and when the same or any portion of such consignment shall be sold, the true name of the person to whom sold, together with the date and amount of the sale, shall be truly entered, such book shall be open for inspection to the consignor, or his agent, during business hours. Commission merchants must, within 7 days after making sale, make a true account and return thereof to the consignor, which shall show the quality of each kind of produce sold, the price received, and the name and address of the person to whom sold. Every commission merchant must, within 30 days after the sale of the whole or any part of the produce placed with him on consignment, pay to the consignor the full amount of money due him, provided, that in case the consignor and consignee do not live in the same town, such payment shall be deemed to be made whenever such commission merchant shall deposit in the post-office a good and valid draft, check, or order for the amount due.

CONDITIONAL SALES AND LEASES OF PERSONAL PROPERTY.— All conditional sales or cases of personal property containing a conditional right to purchase where the property is placed in the possession of the vendee, shall be absolute to all creditors or purchasers in good faith, unless within 10 days of the taking of possession hy the vendee a memorandum of such sale, stating its terms and conditions and signed by the vendor and vendee, shall be filed in the Auditor's office of the county wherein, at the date of the vendee's taking possession of the property, the vendee resides.

CORPORATIONS.— Corporations for manufacturing, mining, milling, wharfing and docking, mechanical, banking, mercantile, improvement, and building purposes, or for the building, equipping, and managing waterflumes for the transportation of wood and lumber, and for the purpose of building, equipping, and running railroads, or constructing canals, irrigation canals, or engaging in any other species of trade or business, may be formed by any two or more persons making, subscribing, and acknowledging in triplicate written articles of incorporation, and filing one of such articles in the office of the Secretary of State, and another in that of the County Auditor of the county in which the principal place of business of the company is intended to be located, and retaining the third in the possession of the corporation. Said articles shall state the corporate name of the company, the object for which the same shall be formed, the amount of its capital stock, the time of its existence, not to exceed 50 years, the number of shares of which the capital stock shall consist, the number and names of the trustees who shall manage the concerns of the company for such length of time (not less than 2 nor more than 6 months), as may be designated in such certificate, and the name of the State, town, or locality, and county, in which the principal place of business of the company is to be located. Amendments may be made to the articles of incorporation, by supplemeutal articles, executed and filed the same as the original articles. The corporate powers of a corporation shall be exercised by a board of not less than two trustees, who shall be stockholders in the company, and at least one of whom shall be a resident of the State, and a majority of them citizens of the United States. Trustees shall be actually elected by the stockholders within the State, as may be directed by the by-laws of the company. These elections shall be by ballot, and each stockholder, or proxy, is entitled to as many votes as he may own shares of stock, though the corporation may limit, by its by-laws, each shareholder to a single vote, disregarding the number of shares he may own. Trustees may be expelled by two-thirds of all the stockholders, who may then elect others to succeed them. Vacancies occurring by death, resignation, or otherwise, except by removal as mentioned, shall he filled by appointment of the board of trustees. Every corporation shall at all times keep at its principal place of business in the State, an officer or agent upon whom service of legal process may be made, though process may be served at any time upon any resident trustee of auy corporation. But whenever a receiver is appointed, for any domestic or foreign corporation, services of all process may be made upon such receiver. On or before the second Tuesday of January of each year, every domestic corporation shall file with the County Auditor of the county in which such corporation has its principal place of business, a statement sworn to in conformity with law, containing a list of all its officers, their titles of office, the term thereof, and their respective names and addresses. Corporations organized after March 20th, 1895, must file a like statement within thirty (30) days after it shall have filed its certificate of incorporation. Every corporation, whether domestic or foreign, except corporations organized for religious, social, fraternal, charitable, benevolent, or educational purposes, and such insurance companies as are required to pay an annual license, having a capital stock, upon filing its articles of incorporation, or articles amendatory or supplemental thereto, or certificate of increase or decrease of capital stock, shall pay to the Secretary of State, a fee of $10, and an annual license fee thereafter, on or before the first day of July of each and every year, to which a penalty attaches for non-payment before the first day of January next following, of two dollars and a half, and upon failure to pay such license before the 31st of December of any year, $5 for every day it shall continue to do business as a corporation after said date. A failure to elect trustees on the day designated by the by-laws, does not dissolve the corporation and another election can be held. Stock is personal estate, transferable as prescribed by the by-laws; but except between the immediate parties, no transfer is valid until specifically entered upon the books of the company. Any stockholder may pledge his stock by the delivery of the certificate, notwithstanding which he is entitled to vote. Stock may be voted by an executor, administrator, or a trustee. Trustees can declare no dividend except from the net profits arising from the business of the corporation, nor iu any manner impair the capital stock; if they do, trustees not dissenting are jointly and severally liable to the corporation for the full amount so divided, reduced, or paid out; and in the event of dissolution similary to the creditors. Stockholders of every bank incorporated under the laws of Washington, are held individually responsible for all obligations accruing while they remain stockholders, to the extent of the amount of their stock therein at par value iu addition to the amount invested. Each stockholder in all other incorporated companies, except corporations organized for banking and insurance purposes, shall be liable for the debts of the corporatiou to the amount of his unpaid stock, and no more. The capital stock of any corporation may be increased or diminished by a vote of two-thirds of all the stockholders. The trustees of a corporation on dissolution, are trustees for the creditors and stockholders. Dissolution may be had by a vote of two-thirds of all the stockholders, together with a prescribed proceeding in Court. No corporation can commence business or institute prpceedings to condemn land for corporate purposes until *all* the capital stock has been subscribed; though this does not apply to corporations, engaged *exclusively* in loaning money on real estate, or engaged *exclusively* in raising money from, and in loaning or repaying it, to their own members, and which confine their business wholly to the counties of their principal place of business, and counties adjacent thereto.

Foreign Corporations.— For any of the purposes for which domestic corporations are authorized, shall have power to generally do and perform every act and transact every kind of business in

the same manner and to the same extent as domestic corporations are authorized to do, but on no more favorable terms, provided that the majority of the capital stock is not owned by aliens; in which case they cannot acquire the ownership of any land in the State, except in limited instances. No foreign corporation can carry on a real estate brokerage business. They must file with the Secretary of State, a certified copy of their charter or like evidence of incorporation, duly certified under seal by a competent officer. And must appoint an agent, whose appointment must be duly filed and recorded, to reside in the place in the State where the principal business of the corporation is carried on, who shall be authorized to accept service of process in any suit pertaining to its property, business, or transactions. Fine is imposed for default of these provisions. Foreign corporations, organized for purposes other than those specified for domestic corporations, are subject to special laws.

Surety Companies.— A corporation incorporated under the laws of the United States or of any State and authorized under its charter to guarantee the fidelity of persons or the performance of contracts and to execute bonds and undertakings, with net assets or unimpaired capital of not less than three hundred and fifty thousand dollars ($350,000), is empowered to become surety, in cases where sureties are required on all bonds and stipulations; and execution of bonds and undertakings and like instruments by such a corporation is deemed a full compliance with the law requiring such instruments in any case. But such corporation is estopped to deny its corporate power to execute a guarantee of any such instrument, or to assume such liability. Before doing business it must file a certified copy of the articles, or charter, and a certificate signed by the president, showing an amount of assets or paid up unimpaired capital of not less than the amount mentioned. The Secretary of State issues a certificate upon compliance with the conditions of the act, which certificate authorizes the corporation to do business. These certificates expire on the thirty-first day of December, after date of issue, and are revoked when the standing of the corporation falls below the sum mentioned. Such a corporation when foreign, must appoint a resident agent. A failure to pay any final judgment or decree against such corporation forfeits its right to do business.

ESTATES OF DECEASED PERSONS.— Claims against a deceased person must, with the necessary vouchers, be presented to the executor or administrator of the estate of the deceased, within 1 year after the date of a notice to the creditors of the deceased, which notice must be published as often as the Court shall deem necessary, but not less than once a week for 4 consecutive weeks. Every claim presented to the executor or administrator shall be supported by the affidavit of the claimant or some one in his behalf, to the effect that said claim is correct, that the amount claimed is justly due, that no payments have been made thereon, and that there are no offsets to said claim to the knowledge of the affiant. When not made by the claimant, the affidavit must show the reason why it is made by the affiant. Claims which are to be allowed are to be paid in the course of the administration. When a claim is rejected the holder must bring suit in the proper Court against the executor or administrator within 3 months after its rejection, otherwise the claim shall be forever barred. No holder of any claim against an estate shall maintain an action thereon, unless the claim shall have been first presented to the executor or administrator. Debts of the estate shall be paid in the following order: (1) Funeral expenses; (2) expenses of the last sickness; (3) debts having preference by the laws of the United States; (4) wages due for labor performed within 90 days immediately preceding the death of the decedent; (5) taxes or debts due State; (6) judgments and mortgages; (7) all other demands against the estate. On June 14th, 1901, a law took effect taxing inheritances of all property within the State, whether tangible or intangible, whether belonging to inhabitants of this State or not.

EXEMPTIONS.— The homestead consists of the dwelling-house in which the claimant resides, and the land on which the same is situated, selected as provided by law. The homestead is exempt from execution or forced sale, except on debts secured by mechanic's lien, labor liens, vendors' liens, debts secured by mortgage on the premises, executed and acknowledged by the husband and wife, or by an unmarried claimant. The homestead of a married person cannot be conveyed or incumbered except by instrument, signed by both husband and wife. A homestead can be abandoned only by a declaration of abandonment, or a grant therefor executed and acknowledged by the husband and wife, if claimant is married, or by claimant if unmarried, and a declaration of abandonment is effectual only from the date it is filed for record. Whenever property, which is exempt by the laws of the State, is destroyed by fire, then the insurance money coming to or belonging to the person thus insured to an amount equal to the property thus destroyed shall be exempt from execution and attachment. The following property shall be exempt from execution and attachment: (1) All wearing apparel of every person and family; (2) all private libraries, not to exceed $500 in value, and all family pictures and keepsakes; (3) to each householder 1 bed and bedding, and 1 additional bed and bedding for each additional member of the family, and other household goods and utensils and furniture, not exceeding $500 coin in value; (4) to each householder 2 cows, with their calves, 5 swine, 2 stands of bees, 36 domestic fowls, and provisions and fuel for the comfortable maintenance of such household and family for 6 months, also feed for such animals for 6 months (provided that in case such householder shall not possess, or shall not desire to retain the animals above named, he may select from his property and retain other property not to exceed $250 coin in value); (5) to a farmer, 1 span of horses or mules with harness, or two yoke of oxen with yokes and chains, and 1 wagon; also farming utensils actually used about the farm, not exceeding in value $500 in coin; also 150 bushels of wheat, 150 bushels of oats or barley, 50 bushels of potatoes, 10 bushels of corn, 10 bushels of peas, and 10 bushels of onions for seeding purposes; (6) to a mechanic, the tools and instruments used to carry on his trade for the support of himself and family, also material used in his trade not exceeding in value $500 in coin; (7) to a physician, his library, not to exceed in value $500 in coin, also 1 horse with harness and buggy, the instruments used in his practise, and medicines not exceeding in value $200 in coin; (8) to attorneys, clergymen and other professional men, their libraries, not exceeding $1,000 in coin value, also office furniture, fuel, and stationery, not exceeding in value $200 in coin; (9) all firearms kept for the use of any person or family; (10) to any person, a canoe, skiff, or small boat, with its oars, sails, and rigging, not exceeding in value $250; (11) to a person engaged in lightering for his support or that of his family, 1 or more lighters, barges, or scows, and a small boat with oars, sails, and rigging, not exceeding in the aggregate $250 in coin value; (12) to a teamster or drayman engaged in that business, for the support of himself or his family, his teams, consisting of 1 span of horses or mules, or 2 yoke oxen, or a horse and mule with harness, yokes, 1 wagon, truck, cart, or dray; (13) to a person engaged in the business of logging for his support or that of his family, 3 yoke of work cattle and their yokes, and axes, chains, implements for the business, and camp equipments, not exceeding $300 coin in value; (14) a sufficient quantity of hay, grain, or feed to keep the animals mentioned in the several subdivisions of this chapter, for 6 weeks. But no property shall be exempt from an execution issued upon a judgment for the price thereof, or any part of the price thereof, or for any tax levied thereon or for clerks', laborers', or mechanics' wages earned within this State, nor shall any property be exempt from execution issued upon a judgment against an attorney or agent on account of any liability incurred by such attorney or agent to his client or principal on account of any moneys, or other property coming into his hands, from or belonging to his client or principal. Each person shall be entitled to select the property which he is entitled to claim as exempt. Any money received by any citizen of the State as a pension from the Government of the United States, whether the same be in the actual possession of such person or be deposited or loaned by him,

shall be exempt from execution, attachment, or seizure by or under any legal process whatever. When any debtor dies or absconds, and leaves his family any money exempted by this act, the same shall be exempt to his family. The proceeds or avails of all life insurance is exempt from all liability for debt. A householder as designated in all statutes relating to exemptions is defined to be: (1) The husband and wife, or either; (2) every person who has residing with him or her, and under his or her care and maintenance, either: (a) His or her minor child, or the minor child of his or her deceased wife or husband; (b) a minor brother or sister, or the minor child of a deceased brother or sister; (c) a father, mother, grandfather, or grandmother; (d) the father, mother, grandfather, or grandmother of deceased husband or wife; (e) an unmarried sister, or any other of the relatives mentioned in this section who have attained the age of majority, and are unable to take care of or support themselves.

INSOLVENCY.— No general assignment of property by an insolvent or in contemplation of insolvency for the benefit of creditors shall be valid unless made for the benefit of all his creditors in proportion to the amount of their respective claims. Every such assignment shall be in writing, acknowledged and recorded in the records of deeds, in the county where the person making the same resides or where the business in respect to which the same is made has been carried on. Upon the application for that purpose of 2 or more creditors at any time within 30 days after making or recording said assignment, a meeting of the creditors of the insolvent will be called to choose an assignee in lieu of the one named in the assignment. At such meeting the creditors may appear in person or by proxy, and a majority in number and value of the creditors attending such meeting shall select one or more assignees. If there be not a majority of votes for any person there the Judge of the county shall select or appoint an assignee. The assignee shall forthwith give notice of assignment by publication in some newspaper in the county for at least 6 weeks. The assignee shall further forthwith send notice by mail to each creditor of whom he shall be informed, directed to their usual place of residence, and notifying the creditors to present their claims under oath to him within 3 months. The assignee must at the expiration of 3 months file his report under oath, and any person interested may appear within 3 months after filing the report and file any exceptions to the claim or demand of any creditor. Whenever it shall appear to the satisfaction of the Court that the assignor has been guilty of no fraud in making the assignment, nor concealment or division of his property or any part thereof in order to keep the same beyond the reach of his creditors, but that he has acted fairly and justly in all respects, that his estate has been made to realize the fullest amount possible, the said Court or Judge shall upon the allowance of the final account of said assignee make an order discharging the assignor from any further liability on account of any indebtedness existing against him prior to the making of such assignment, and thereafter such assignor shall be freed from any liability on account of any unsatisfied portion of the indebtedness existing against him prior to the making of his assignment. Any person making a general assignment for the benefit of creditors, under any statute of this State, shall have the right to claim, and have set aside to him, as exempt from the operation of such assignment, all real and personal property, which is, at the time of such assignment, exempt from levy by execution or attachment, under the laws of this State.

INTEREST.— Legal rate, six per cent., and all contracts shall draw interest at legal rate after due except otherwise provided for in writing in the contract. Any rate not exceeding 12 per cent. may be agreed upon in writing between the parties. If a greater rate than 12 per cent. be contracted for, the contract shall not therefor be void, but in any action on such contract if proof be made that any greater rate has been directly or indirectly contracted for, reserved, or taken, plaintiff shall only recover the principal less double the amount of interest accruing thereon, and the defendant shall recover costs. Statute does not effect existing contracts, or municipal or other public bonds the rate of interest upon which is provided by law.

JUDGMENTS.— Under the statute of 1897 judgments cannot be renewed or revived, and are barred after 6 years from the date of their rendition. The statute contains a saving clause as to judgments obtained at the time statute was passed, giving them effect for 1 year from such time. Supreme Court has declared law of 1897 unconstitutional as to all judgments rendered prior to June 11th, 1897, and all such judgments may be revived. If not revived at expiration of 6 years they become barred.

JURISDICTION OF COURTS.— Judicial power in this State is vested in Supreme Court, Superior Court, Justice of the Peace, and such inferior Courts as the Legislature may provide. The Supreme Court has appellate jurisdiction in all civil actions when the original amount in controversy exceeds $200, and original jurisdiction in *habeas corpus*, *quo warranto*, and *mandamus* as to all State officers. There is in each organized county a Superior Court which is always open for the transaction of business, except on non-judicial days. It has original jurisdiction in equity and in all cases at law which involve the validity of any tax, import, assessment, or municipal fine or the title or possession of real estate, and in all other cases where the amount involved exceeds $100, and concurrent jurisdiction with the Justice of the Peace, when the amount involved is less than $100. The Justice Court has jurisdiction in civil cases, on contracts, bonds, for damages, penalties, etc., where the amount claimed does not exceed $100.

LIMITATION OF ACTIONS.— The time prescribed for the commencement of action after the cause thereof has accrued is as follows: 1. Actions for the recovery of real property or possession thereof — within 10 years; but actions brought for the recovery of any lands held adversely by occupant in open and notorious possession, must be brought within 7 years, if title of occupant is derived from the United States, State of Washington, or any Sheriff, Marshal, or other officer authorized to sell such land. 2. Actions on judgments, contracts in writing and for rent and profit, or use and occupation of real estate — within 6 years. 3. Actions for waste or trespass upon real property; actions for taking or detaining personal property; actions upon contracts not in writing; actions for relief from fraud; actions against Sheriffs, etc., upon liability for acts in official capacity; actions upon a statute for penalty or forfeiture, and actions for seduction or breach of promise of marriage — within 3 years. 4. Actions for libel, slander, assault and battery, and false imprisonment, and actions upon statute for forfeiture to the State — within 2 years. 5. Actions against Sheriff, for escape of prisoner arrested on civil process, and actions by an heir, legatee, creditor, or other party against executor or administrator for mismanagement of estate, etc.— within 1 year. 6. Appeals from rejection of claim by Board of County Commissioners, or from rejection of claim against an estate by executor, etc. — within 3 months. After the expiration of 6 years from the rendition of judgment, it shall cease to be a lien, and cannot be extended or continued in force by suit, action, or other proceedings, beyond 6 years from the date of entry of the original judgment.

MAJORITY.— Males shall be deemed and taken to be of full age for all purposes at the age of 21 years; females at the age of 18 years. All females married to a person of full age shall be deemed and taken to be of full age.

MARRIED PERSONS.— Excepting property acquired before marriage, or after marriage by gift, devise, or inheritance, all property acquired after marriage by husband or wife, or both, is community property. The husband shall have the management and control of community property with like power of disposal of the community personal property as he has of his separate personal property, except that he shall not devise or will more than half thereof. Husband has the management of the community real property, but shall not sell or encumber it unless the wife join with him; but all community real estate is subject to liens of

mechanics and others for labor and materials furnished in making improvements thereon; to liens of judgments for community debts, and to sale on execution issued thereon. Neither husband nor wife is liable for the separate debts of the other, nor is the rent or income of the separate property of either liable for the separate debts of the other. A husband may give, grant, sell, or convey directly to his wife, or a wife to her husband the same as if they were unmarried.

MORTGAGES.— Deficiency judgment allowed when agreed to by parties.

NOTES AND BILLS.— All notes or orders in writing, made and signed by any person whereby he shall promise to pay to any other person, or his order, or unto the bearer, any sum of money therein mentioned on demand or at a fixed or determinable future time, shall be due and payable as therein expressed, and shall have the same effect and be negotiable in like manner as inland bills of exchange, according to the custom of merchants. Every note signed by the agent of any person, under a general or special authority, shall bind such person and have the same effect, and be negotiable as above. The word "person" is construed to include every corporation capable by law of making contracts. No person within this State shall be charged as an acceptor of a bill of exchange unless his acceptance shall be in writing, signed by himself or his lawful agent. Drawee is allowed 24 hours after presentment to decide whether he will accept the bill. If such acceptance be written on a paper other than the bill, it shall not bind the acceptor except in favor of a person to whom such acceptance shall have been shown, and who on the faith thereof shall have received the bill for a valuable consideration. An unconditional promise in writing to accept a bill before it is drawn, shall be deemed an actual acceptance in favor of every person who, upon the faith thereof shall have received the bill for a valuable consideration. Every holder of a bill, presenting the same for acceptance, may require that the acceptance be written on the bill, and a refusal to comply with such request shall be deemed a refusal to accept, and the bill may be protested for non-acceptance. The 4th day of July, and the 25th day of December, shall, for all purposes whatsoever as regards the presenting for payment or acceptance and the protesting and giving notice of dishonor of bills of exchange, promissory notes, drafts, and checks, be treated and considered as Sunday. No days of grace allowed. When day of maturity falls on Sunday or a holiday, instrument is payable on next business day. Falling due on Saturday, to be presented on next business day; except, if payable on demand may be presented before 12 o'clock noon on Saturday if not a holiday. If bill payable at sight, or if presentment for acceptance necessary to fix maturity, or if bill stipulates for presentment for acceptance, or if drawn payable elsewhere than at residence or place of business of drawee, must be presented for acceptance. Presentment for acceptance not necessary in any other case. All bills drawn outside of this State must be protested upon dishonor. Domestic paper need not be protested.

PREFERRED CLAIMS OF LABORERS AND MATERIAL MEN.— Laborers and material men who file notices of lien, as required by law, have upon the property benefited preferred liens to any lien, mortgage, or other incumbrance which may attach subsequently to the time of commencement of the performance of the labor, or the furnishing of the materials for which the right of lien is given, and also preferred liens to any mortgage, lien, or other incumbrance which may have attached previously to that time, and which were not filed or recorded so as to create constructive notice of the same prior to that time, and of which the lien claimant had no notice.

SECURITY FOR COSTS.— When a plaintiff in an action lives out of the county, or is a foreign corporation, security for the costs and charges which may be awarded against such plaintiff may be required by the defendant. When required, all proceedings in the action shall be stayed until a bond, executed by two or more persons, be filed with the Clerk, conditioned that they will pay all such costs and charges as may be awarded against the plaintiff by judgment, or in the progress of the action, not exceeding the sum of $200.

TRANSFER OF GOODS IN BULK.— It shall be the duty of every person who shall purchase any stock of goods, wares, or merchandise in bulk, for cash or on credit, before paying to the vendor the purchase price thereof, to demand of and receive from such vendor a written statement under oath of the names and addresses of all creditors of such vendor, together with the amount of the indebtedness due or owing, and to become due or owing, by said vendor; and it shall be the duty of said vendor to furnish such statement under oath. Whenever any person shall bargain for or purchase any stock of goods as aforesaid, for cash or on credit, without first having demanded and received from said vendor or his agent, their verified statement heretofore mentioned, and without paying or seeing to it that the purchase money of the said property is applied to the payment of the *bona fide* claims of the creditors of the vendor as shown upon such verified statement, share and share alike, such sale shall be fraudulent and void. Any vendor or agent of vendor who shall knowingly or willfully make or deliver, or cause to be made or delivered a statement as provided for herein, which shall not include the names of all creditors of such vendor with the correct amount due and to become due, or which shall contain any false or untrue statement, shall be deemed guilty of perjury, and upon conviction thereof, shall be punished by imprisonment in the penitentiary for not less than 1 nor more than 5 years, or shall be fined not to exceed $1,000. Any sale or transfer of a stock of goods, wares, or merchandise out of the usual or ordinary course of business or trade of the vendor, or whenever substantially the entire business or trade conducted by the vendor shall be sold, or whenever an interest in or to the business or trade of the vendor is sold, or attempted to be sold, shall be deemed a sale and transfer in bulk; provided, however, that if such vendor produces and delivers a written waiver of the provisions of this act from his creditors as shown by such verified statements, then the provisions of this section shall not apply. Law does not apply to executors, administrators, receivers, or any public officer acting under judicial process.

WEST VIRGINIA.

ACKNOWLEDGMENTS.— May be taken before a Notary Public, Recorder, Prothonotary, or Clerk of any Court of Record within the United States, or Commissioner appointed to act within the same by the Governor of this State, duly authenticated by the official seal of such officer annexed to the certificate of acknowledgment.

ARREST AND IMPRISONMENT ON CIVIL PROCESS.— There is no imprisonment for debt in this State. An order for the arrest and holding to bail of the defendant may be made by the Court in which the action is pending, or by the Judge or Clerk thereof in vacation, upon affidavit of the plaintiff or any credible person showing to the satisfaction of the Court, Judge, or Clerk the nature and justice of the claim, the amount which the affiant believes the plaintiff is entitled to recover in the action, and the existence of some one or more of the following grounds for the arrest of the defendant: That the defendant has removed, or is about to remove, any of his property out of the State, with intent to defraud his creditors; that he has converted, or is about to convert, his property, or any part thereof, into money or securities with like intent; that he has assigned, disposed of, or removed his property, or any part thereof, or is about to do so, with like intent; that he has property or rights in action which he fraudulently conceals; that he fraudulently contracted the debt or incurred the liability for which the action or suit is brought; that he is about to leave this State and reside permanently in another State or country, without paying the debt or liability for which the action or suit

is brought. But the plaintiff, or some person for him, must first file a bond, with one or more sufficient securities, to the effect that the plaintiff will pay the defendant all damages he may sustain by reason of the arrest, should it thereafter appear that the order was wrongfully obtained. The defendant may be discharged upon giving bond and security that he will be in the county and answer such interrogatories as may be filed within 4 months after judgment, decree, or order, and make the required conveyance or delivery, or perform and satisfy such judgment, decree, or order. (Acts 1882, ch. 158.) In a civil action before a Justice an order of arrest may be made upon the plaintiff's filing an affidavit showing the nature of the plaintiff's claim, that it is just, the amount thereof as near as may be, and the existence of one or more of the following particulars: (1) That the defendant has removed or is about to remove, his property, or a material part thereof, out of the State with intent to defraud his creditors; or (2), that he has converted or is about to convert his property, or a material part thereof, into money or securities with the like intent; or (3), that he has assigned, disposed of, or removed his property, or a material part thereof, or is about to do so, with like intent; or (4), that he has property or rights in action which he fraudulently conceals; or (5), that he fraudulently contracted the debt or incurred the liability for which the action is to be or has been brought; or (6), that the defendant, being a resident of this State, is about to depart therefrom and reside out of the State, without having paid the plaintiff's demand. But the plaintiff must give boud satisfactory to the Justice in a penalty of not less than $100.

ASSIGNMENT LAWS.— 1. Does there exist in this State a separate, distinct assignment, insolvency or bankrupt law?—A. No; but on February 16, 1895, the Legislature passed an act, to take effect from its passage as follows: In this section the word "transfer" shall be taken to include every gift, sale, conveyance, and assignment, and the word "charge" shall be taken to include every confessed judgment, deed of trust, mortgage, lien, and encumbrance. Every transfer or charge which is not upon consideration deemed valuable in law, shall be void as to creditors whose debts shall have been contracted at the time it was made, but shall not, upon that account merely, be void as to creditors whose debts shall have been contracted, or as to purchasers who shall have purchased after it was made; and though it be decreed to be void as to a prior creditor, because voluntary, it shall not for that cause be decreed to be void as to subsequent creditors or purchasers. Every transfer or charge made by an insolvent debtor attempting to prefer any creditor of such insolvent debtor or to secure such a creditor or any surety or indorser for a debt to the exclusion or prejudice of any other creditor, shall be void as to such preference or security, but shall be taken to be for the benefit of all creditors or such debtor and all the property so attempted to be transferred or charged shall be applied and paid *pro rata* upon all the debts owed by such debtor at the time such transfer or charge is made; *provided*, that any such transfer or charge by an insolvent debtor shall be valid as to such preference or priority unless a creditor of such insolvent debtor shall institute a suit in chancery within 1 year after such transfer or charge was made to set aside and avoid the same and cause the property so transferred or charged to be applied toward the payment *pro rata* of all the debts of such insolvent debtor existing at the time such transfer or charge is made, subject, however, to the provision hereinafter contained with reference to creditors uniting in such suit and contributing to the expenses thereof. But if such transfer or charge be admitted to record within 8 months after it is made, then such suit to be availing must be brought within 4 months after such transfer or charge was admitted to record. Every such suit shall be deemed to be brought in behalf of the plaintiff and all other creditors of such insolvent debtor, but the creditor instituting such suit or proceeding, together with all creditors of such insolvent debtor who shall come into the suit and unite with the plaintiff before final decree and agree to contribute to the costs and expenses of said suit, shall be entitled to have their claims first paid in full *pro rata* out of the property so transferred or charged in preference to any creditor of such debtor who shall before final decree decline or fail to so unite and agree to contribute to the costs and expenses of said suit, but not in preference to such creditor as may attempt to sustain the preference given him by such transfer or charge. *Provided further*, that nothing in this section shall be taken to prevent the making of a preference as security for the payment of purchase money or a *bona fide* loan of money or other *bona fide* debt contracted at the time such transfer or charge was made or as security for one who at the time of such transfer or charge becomes an indorser or surety for the payment of mouey then borrowed. *Provided further*, that nothing in this section contained shall be taken to affect any transfer of bonds, notes, stocks, securities, or other evidences of debt in payment of or as collateral security for the payment of a *bona fide* debt, or to secure any indorser or surety, whether such transfer is made at the time such debt is contracted or indorsement made or for the payment or security of a pre-existing debt.

2. Does the law in this State permit a debtor to make a preferential assignment?—A. No, except as permitted by said act.

3. Can a judgment by default or confession be given in favor of relatives or friends, thus defeating the efforts of general or outside creditors?—A. Yes; provided the debt on which it is founded *bona fide* exists, the transaction is free from fraud, and is upon adequate valuable consideration. The above act has not yet been the subject of judicial decision, and it may be held in future that suffering judgment by default, or confessing judgment, is creating a charge on personal property by the levy of execution of the judgment, and such a decision would avoid the judgment as to personal property.

4. Can conveyance or transfer of property be made immediately anterior to assignment and still be held valid?—A. Not if made by an insolvent debtor to create a preference, except as provided in the latter part of said act.

5. Can a debtor in this State obtain a discharge from his obligations without the unanimous consent of creditors, and under what circumstances?—A. No.

6. Does acceptance of a dividend from an estate under assignment in this State discharge the debtor?—A. No.

7. What is the position of creditors who do not come into an assignment, should one be made?—A. They have reserved to them all the rights given to them by law to enforce their claim. There could be no reason, conceived of, why a creditor should refuse to seek and take his dividend under a legal assignment in this State without preferences. In all cases where a debtor conveys all his property to a trustee for the benefit of his creditors, or where he conveys all his property, except what is exempt from execution or other process, every such trustee shall settle his accounts before a Commissioner of Accounts of the county in which his bond is recorded. The grantor in a deed of assignment, or any beneficiary thereunder, may require the trustee to give bond with good security in a penalty equal, at least, to the value of the property to be sold, such bond to be given before the Clerk of the County Court.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— By an Act of the Legislature, passed Feb. 21, 1899, and in effect 90 days from passage, a bill or note which becomes due on a Sunday shall be payable, and may be protested on the succeeding day; or if that be Christmas day, or the first day of January, or the 22d day of February, or the 30th day of May, or the 4th day of July, or on Labor day, then on the succeeding Tuesday; and a bill or note which becomes due on a day after a Sunday which falls on any of the said named dates, or on a Sunday bearing any of said dates, shall be payable, and may be protested on the succeeding Tuesday; and a bill or note which becomes due on a Christmas day, or the first day of January, or the 22d day of February, or the 30th day of May, or the 4th day of July, or on Labor day, or any national or State election day, or a day appointed or recommended by the Governor of this State or the President of the United States, as a day of thanksgiving, or for the

general cessation of business, shall be payable, and may be protested on the succeeding day; and if such succeeding day be Sunday, then on the succeeding Monday; and a bill or note which becomes due on a Saturday, shall be payable before 12 o'clock, noon of that day, and if not then paid, shall be payable, and may be protested on the following Monday; or if that be a day after a Sunday, which falls on a date hereinbefore named, then on the next day. "And no days of grace shall be allowed or counted on any negotiable instrument made after this Act takes effect, except where it is otherwise provided in such instrument; *provided, however*, that this Act shall not apply to or affect any negotiable instrument which was made before this Act takes effect, but the same shall be governed in respect to the matters covered by this Act by the law which was in force immediately before this Act takes effect."

COMMENCEMENT OF SUIT.— All actions in Circuit Courts are begun by service of summons, which should be served 2 rule days before the term begins. Rule day is the first Monday of each month, save where Court begins on that day, when the rule day is on the last Monday then preceding. In suits before Justices of the Peace, summons can issue at any time, returnable in not more than 30 nor less than 5 days, and must be served 5 days before the trial, which is on the day the writ is returnable.

COMMERCIAL TRAVELERS.— Acts 1901, ch. 65, read in part as follows:— "nor shall any traveling agent, canvasser, or salesman, sell or contract to sell any lightning rod, sewing machine, stove or range, or organ or other musical instrument, without a State license therefor, whether any such article was manufactured within or without the State." License, $10, $20, or $50, according to circumstances.

CONTRACTS OF MARRIED WOMEN.— They may take by inheritance, or by gift, grant, devise, or bequest, and hold both real and personal estate to their sole and separate use, and the same shall not be subject to the disposal of the husband, nor liable for his debts. She may convey her real estate if living separate and apart from her husband, or if he be *non compos mentis*, but only by his joining in the deed when living together, if the husband be of sound mind. She may sue and be sued without joining her husband when the action concerns her separate property, where the action is between herself and husband, or where she is living separate and apart from him. The husband is liable for the wife's debts contracted before marriage, only to the extent of her separate estate he may acquire. A contract of a married woman, made since the enactment of chapter 3, Acts 1893 of the Legislature, such as binds her separate estate, may be enforced against her separate estate, whether owned by her at the time of the contract or afterwards acquired, the same as if she were a *feme sole*.

CORPORATIONS.— Are created by general laws only. No public reports of their condition are made, except of banks. Directors who declare and pay a dividend which impairs the capital stock, and all members present when such dividends are declared, who do not dissent and cause such dissent to be entered on the records of their proceedings, are liable to creditors in the amount the capital is thereby impaired, and a stockholder is liable, in such case, for the amount received by him. Stockholders are liable for unpaid stock, and no further, except that stockholders of banks are personally liable over and above the amount of their stock, to an amount equal to the same. Corporations are required by law to have recorded in the office of the Clerk of the County Court of the county in which the attorney resides, and also to file and record in the office of the Secretary of State a power of attorney to a resident of this State to accept service for them and make return to assessors. If the principal office be within this State, the certificate of incorporation, or a certified copy thereof, must be recorded in the County Court Clerk's office of the county wherein the principal office is kept; if the principal office be without the State, then such certificate of incorporation, or a certified copy thereof, shall be filed and recorded in the County Court Clerk's office of the county wherein resides said attorney appointed to accept service, etc.

ESTATES OF DECEASED PERSONS.— Executors and administrators are required to settle accounts within 6 months after the expiration of each year after their appointment. Claims are required to be presented promptly, proved by affidavit, and in the event that the personal estate is insufficient to pay all claims in full, *pro rata* distribution must be made under the orders of a Commissioner. Personal estate failing to pay debts, the representative brings suit to subject the real estate, and if he omits to do so within 6 months from his qualification, any creditor can bring such suit, have the real estate sold, and the proceeds of sale distributed *pro rata* after payment of preferred claims.

INTEREST.— Six per cent. is the legal rate. The debtor can avoid the excess over 6 per cent. if he desires, on contracts for more than the legal rate.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Two rule days must elapse before the cause can be placed on the Court docket for trial. Judgment may be obtained at the first term after cause is placed on the docket, if no defense be interposed, and provided that 30 days shall have expired since the service of the writ. Execution issues immediately after the term of Court at which judgment is rendered has been concluded, unless, for a cause shown to the Court, an order is entered for the writ to issue sooner. On executions issued upon judgments obtained in the Circuit Court, the debtor can give bond with good security, and stay sale on execution to the next term of Court succeeding its issue. The bond is for the production at the day and place of sale of property levied upon, and if it is forfeited, judgment upon the bond may be taken at next term. A bond to stay execution may be filed before a Justice, and when the judgment does not exceed $50, exclusive of interest and costs, the stay shall be 2 months; if over $50, and not over $100, 4 months; if over $100, 6 months.

JURISDICTION OF COURTS.— At the election of October, 1880, the judiciary article of the constitution was amended. It provides for three classes of Courts: Justices' Courts with jurisdiction up to $300, and with right to empanel a jury; County Courts, with jurisdiction over police, fiscal, and internal affairs of the county, and probate, guardianship, etc.; and Circuit Courts holding 3 terms a year in each county, having general jurisdiction, civil and criminal, at law and in equity, except that civil jurisdiction in law cases is limited to those where the matter in controversy exceeds $50 in amount.

LIENS.— Judgments and decrees for money are liens on real estate; but, as against purchasers without actual notices, they must be recorded in the "lien docket" in the County Court Clerk's office. Sixty days is given in which to record them, and the lien relates back to the first day of the term the judgments or decrees are entered. The lien expires with the right to sue out a *fieri facias* to revive the judgment. Attachments are also liens on real estate where actually levied thereon. Writs of *fieri facias* are liens upon personalty, and so continue even after return day if properly docketed. Justices' judgments are liens on real estate from time they are filed with Clerk of County Court and entered on lien docket.

LIMITATION OF ACTIONS.— On contracts under seal made prior to April 1, 1869, 20 years, and since, 10 years. On contracts not under seal, including promissory notes and bills of exchange, if made prior to April 1, 1869, 5 years, and since, 10 years. On all open accounts 5 years. An action for entry on, or to recover any land, within 10 years. On judgment or decree rendered in any other State according to the laws of that State, and whether so barred or not, within 10 years. The limitation does not apply or is qualified in favor of persons resting under disability, and where defendant has obstructed the prosecution of the right. On February 25, 1897, the Legislature passed an act to take effect 90 days

from passage, providing that an execution can be issued at any time within 10 years on a judgment rendered by a Justice of the Peace or within 10 years from date of last execution issued thereon.

WISCONSIN.

ACKNOWLEDGMENTS.— Deeds executed withiu this State — of lands or any interest in lands therein — must be executed in the presence of two witnesses who shall subscribe their names to the same as such, and the persons executing must acknowledge the execution before any Judge or Clerk of a Court of Record, Court Commissioner, U. S. Commissioner, County Clerk, Register of Deeds, Notary Public, or Justice of the Peace; and the officer taking the acknowledgment must indorse a certificate of the acknowledgment, and the true date of making it, under his hand — a scroll answers for a seal. Deeds conveying land, or any interest in land situated in this State, if executed in any other State, Territory, or District of the United States may be executed according to the laws of such place, and the acknowledgment may be before any Judge or Clerk of a Court of Record, Notary Public (with seal and expiration of commission); Justice of the Peace, Master in Chancery, or other officer there authorized by law to take the acknowledgment of deeds therein, or before a Commissioner appointed by the Governor of this State for such purpose; and, if executed within any jurisdiction of any military post of the United States not within this State, before the commanding officer thereof. If such deed be executed in any foreign country it may be executed according to its laws, and acknowledged before any Notary Public — with seal affixed — or other officer authorized by law there to take such acknowledgments, or any Minister, *Charge d' Affaires*, Commissioner or Consul of the United States, appointed to reside therein, and certified by him; and, if executed according to the laws of such foreign country, the certificate of acknowledgement shall certify that fact.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— Arrest of the debtor may be had by the plaintiff by order of a Judge at the issuing of the summons, or any time before judgment, on an affidavit showing a cause of action in an action for damages not on contract, when the debtor is a non-resident, or about to remove from the State, or for iujury to person, property, or character, or for seduction, or for criminal conversation; for a fine or penalty, or for money received or property embezzled or fraudulently misapplied by a public officer, attorney, solicitor, or counselor, or an officer or agent of a corporation or bank, in the course of his employment as such, or by any factor, agent, broker, or any person in a fiduciary capacity; for damages for property obtained on false pretenses; in replevin, where the property has been concealed or disposed of so that the Sheriff cannot find it; and, also where the debtor has been guilty of fraud in contracting the debt or incurring the obligation sued on, or in concealing or disposing of the property for the taking, detention, or conversiou of which the action is brought. But no female shall be arrested in any actiou except for wilful injury to person, character, or property.

ATTACHMENTS.— In Justices' Courts, before attachment can issue, creditor, or some person in his behalf, must make and file with the Justice an affidavit stating that debtor therein is indebted to the creditor in a sum exceeding $5, specifying same as near as may be, over all legal setoffs, and that same is due on contract, express or implied, or on judgment or decree of Court, and further that deponent knows or has good reason to believe, either — 1, that debtor is a foreign corporation, or if a Wisconsin corporation, that the officers thereof are non-residents, or cannot be found; or 2, is not a resident of this State; 3, has absconded or is about to abscond from the State; 4, has removed or is about to remove some of his property out of the State, with intent to defraud his creditors; 5, resides in some other county and more thau 100 miles from residence of Justice; 6, contracted debt under fraudulent representations; 7, so conceals himself that process of summons cannot be served on him; 8, has fraudulently conveyed or disposed of, or is about to fraudulently convey or dispose of, some of his property or effects, so as to hinder or delay his creditors; 9, upon an official bond to recover money due State, county, or municipality. In first 5 cases warrant returnable iu 3 days; in all other cases, 6 or more. Affidavit is traversable. Attachment also lies in actions on tort against nou-residents. In Circuit Courts, before any attachment shall be executed, the creditor or some person in his behalf shall make and annex thereto an affidavit stating that the debtor named in such attachment is indebted to the creditor in a sum exceeding $50, and specifying the amount of such indebtedness, as near as may be, over and above all legal setoffs, and that the same is due upon contract, express or implied, or upon judgment or decree, and containing a further statement that the deponent knows, or has good reason to believe, either — 1, that debtor has absconded or is about to abscond from this State, or is concealed therein, to the injury of his creditors, or keeps himself concealed there with intent to avoid the service of a summons; or 2, has assigned, conveyed, or disposed of, or concealed, or is about to assigu, convey, dispose of, or conceal some of his property, with inteut to defraud his creditors; or 3, has removed or is about to remove some of his property out of this State, with intent to defraud his creditors; or 4, fraudulently contracted the debt, or incurred the obligation, respecting which the action is brought; or 5, is not a resident of the State; or 6, that the defendant is a foreign corporation, or, if created under the laws of this State, that all the proper officers thereof on whom to serve a summons do not exist, are non-residents of the State, or cannot be found; or 7, that the action is brought upon an official bond; or an affidavit showing that a cause of action, sounding in tort exists against any defendant — damages exceeding $50 — specifyiug amount claimed, and a further statement, either — 1, that the defendant is not a resident of this State, or that his residence is unknown and cannot, with due diligence, be ascertained, or 2, that the defendant is a foreign corporation. The allowance of the writ by Court or Judge not necessary, but the Clerk may issue the same upon application, either at the time of the issuing of the summons, or at any time before final judgment in the action. Before the attachment can be executed, the affidavit and an undertaking that the plaintiff will pay all costs and damages in case he fails in the action — undertaking to be in sum not less than $250, and executed on part of plaintiff with sufficient surety. If the defendant is not satisfied with the sufficiency of the surety, he may except, etc. An attachment may issue on a demand not yet due in all cases except those numbered 5, 6, and 7, but bonds must be given in 3 times the amount claimed. The affidavit for attachment may be amended at any time before trial, and it may be met by opposing affidavits, and may be traversed.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— No person within this State to be charged as acceptor on a bill of exchange, unless his acceptance shall be in writing signed by himself or his lawful agent. Days of grace are abolished from and after April 5, 1894. Notes falling due on Sunday or holiday are payable next secular day.

COMMENCEMENT OF SUIT.— Suits are commenced by service of summons. The defendant in cases in Justice Courts, in ordinary cases, has 6 days in which to appear — in Circuit Courts, 20 days after service within the State; and if not so served, and summons is published, 6 weeks and 20 days.

CONSIGNMENTS.— If the consignee fraudulently converts the consigned property to his own use, he is guilty of embezzlement. Six years will bar a criminal prosecution, as well as the consignor's civil action.

CORPORATIONS.— Are created by general laws only and may be organized by 3 persons for any purpose and with any amount of capital. Reports of financial condition not required. Fifty per cent. of authorized capital must be subscribed and 20 per cent.

actually paid in in cash or equivalent before any business is done or stockholders personally liable. Stockholders are liable to an amount equal to their stock for wages for not exceeding 6 months. No stock shall issue except for money, labor, or property at its true money value, actually received, equal to the par value thereof, and no bonds shall issue except for money, labor, or property equal to 75 per cent. of the par value. Stocks and bonds issued contrary to these provisions and all stock dividends or other fictitious increase of capital stock are void. Railroads on reorganization after judicial sale are exempted from this provision. Corporations whose securities are listed on Chicago, New York, Boston, or Philadelphia exchange may sell stocks or bonds thus listed at the prices obtainable on said exchanges. If capital stock reduced all stockholders personally liable for corporation debts then remaining unpaid, and stockholders voting for such diminution are jointly and severally liable for debts unpaid to an amount equal to the capital refunded to stockholders or credited upon unpaid subscriptions or both. Amendments to charter may be made at any time. Stock not taxed, and no fees except $25 for filing original articles and $10 for each set of amendments.

ESTATES OF DECEASED PERSONS.— Letters of administration may be granted to widow or next of kin, or both, as Judge thinks proper, or such person as widow or next of kin may request to have appointed if competent to discharge the trust. If widow or next of kin shall neglect for 30 days after death, to apply for administration or to request that administration be granted to some other person, letters may be granted 1 or more of the principal creditors, if competent and willing to take it. If no such creditor, letters may be granted to such other person as the County Judge may think proper. Administrator must give bond with sureties as the Judge shall direct, also to make full return within 3 months after his appointment, of property, which must be appraised by 2 or more disinterested persons. Personal estate is first chargeable with payment of expenses and debts, next real estate. Commissioners may be appointed before whom creditors can appear and prove their debts; if no creditor asks for Commissioners then the County Judge hears all claims, the same as would Commissioners; must give notice, within 60 days after appointment, of time and place of meeting and the time limited for proving claims. Time allowed shall not exceed 1 year, nor be less than 6 months, to prove claims. Under special circumstances time may be extended so that whole time shall not exceed 2 years from time of appointment of Commissioners. Appeals may be taken to Circuit Courts from decision.

INTEREST.— Six per cent. is the legal rate. Parties may agree in writing on any rate not exceeding 10 per cent. Any usurious agreement whereby more than 10 per cent. is agreed to be paid, forfeits the whole interest, but leaves the principal debt collectable. Compound interest may be contracted for by written contract.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— Judgments can be obtained in Circuit Courts in 20 days after personal service of summons; in Justices' Court, on return day of the process, if no appearance is made by the debtor. Execution on Circuit Court judgments may be issued as soon as costs taxed and judgment is docketed, and is returnable within 60 days, and may be issued at any time within 5 years, etc. In Justices' Court execution may be issued at once, but the losing party is allowed 5 days in which to put in stay, and in Justices' Court executions are returnable in 30 days. In Justices' Court, on bond with surety being given for payment of the judgment, execution may be stayed, if put in within 5 days, not exceeding 4 months. No stay of execution, issued on judgments obtained in Circuit Court, can be had, except in cases of appeal.

JURISDICTION OF COURTS.— Justices' Courts have jurisdiction: 1. Actions on a note, bill, bond, or other instrument in writing, given for the payment of money or other valuable article, for any amount exceeding $200, which has been reduced by credits or payments indorsed thereon to an amount not exceeding $200. 2. Actions on instalments as they shall become due when payments are to be made in instalments on any such note, bill, bond, or other instrument in writing for the payment of money or other valuable article, when the instalment or instalments due shall not exceed $200, or when the same has been reduced by credits or payments to an amount not exceeding $200. 3. In all actions founded on any account, when the amount of the creditor's account, proved to the satisfaction of the Justice, shall not exceed $500, and when the same shall be reduced to an amount not exceeding $200 by credits given or by setoff and demand of the debtor party. 4. Actions for injuries to person or property not exceeding $200. 5. Actions to recover damages for unlawful taking or detention of personal property, $200. 6. To enter judgment by confession not over $300. 7. Actions on contract amount due not over $200. Circuit Court has unlimited jurisdiction, but if action over which a Justice of the Peace has jurisdiction is commenced in a Court of Record, plaintiff cannot usually recover any costs.

LIMITATION OF ACTIONS.— Acounts, 6 years; notes, 6 years; sealed instruments, 10 years, when the cause of action accrued without this State, and 20 years when it accrued within this State; judgments, 20 years upon a judgment of any Court of Record sitting within this State, and 10 years on a judgment recovered out of this State. Judgments of Justices of the Peace, 6 years, but when transcript is filed in Circuit Court, 10 years.

WYOMING.

ACKNOWLEDGMENTS.— Must be made before a Judge or Commissioner or Clerk of a Court of Record, or before any Notary Public or Justice of the Peace within this State. If made out of the State, it must be made before any officer authorized by the State or Territory in which it is made, to take acknowledgments, or before any Commissioner appointed by the Governor of this State for such purpose, who must state the time of expiration of his commission.

ARREST AND IMPRISONMENT FOR DEBT ON CIVIL PROCESS.— An arrest in civil action may be made in the following cases: When defendant has removed, or begun to remove any of his property out of the jurisdiction of the Court with intent to defraud his creditors; when he has begun to convert his property, or a part thereof, into money for the purpose of placing it beyond the reach of his creditors; when he has property or rights in action which he conceals; has assigned, removed, or disposed of his property, or a part thereof, or has begun to do so, with intent to defraud his creditors; fraudulently contracted the debt for which suit is about to be or has been brought; or when the money or thing for which recovery is sought was lost by playing any game, or by means of a bet or wager.

ATTACHMENTS.— May issue against all the property of persons who are non-residents of this State, or about to become non-residents; against foreign corporations; and may issue when the defendant has absconded, or has removed or concealed, or is about to remove or conceal his property, or a part thereof, with intent to defraud his creditors; has property or rights in action which he conceals; is about to convert his property into money, with intent to defraud his creditors; fraudulently or criminally contracted the debt, or incurred the obligation for which suit is brought.

BILLS OF EXCHANGE AND PROMISSORY NOTES.— The indorsement, presentation, protest, notice, etc., of bills of exchange, promissory notes, and bank checks are governed by a complete code, which is generally the same as the law merchant. Days of grace are allowed on all commercial paper, excepting demand paper, and checks and bonds. Paper falling due on Sunday or a legal holiday is payable the next preceding business day. Holidays are Jan. 1, Feb. 22, May 30, July 4, Thanksgiving Day, and Dec. 25. An indorser before delivery is treated as an indorser and not as a maker. Time notes, instead of demand are recommended. Attorney's fees may be provided, and this does not affect the negotiability of the instrument. Judgment notes are not negotiable.

COMMENCEMENT OF SUIT.— Suit is commenced in the District Court by filing a petition, upon which summons is issued, returnable the second Monday thereafter, and if served, the defendant must answer on or before the third Saturday after the return day. In Justices' Courts summons must be returnable in not less than 3 nor more than 12 days; suit commenced in Justices' Court by the issuance of a summons.

CORPORATIONS.— Every incorporated company, incorporated under the laws of any foreign State or Kingdom, or any State or Territory of the United States, beyond the limits of this State, except insurance companies, shall within 30 days after commencing to do business within the State, file in the office of the Secretary of State, and also in the office of the Register of Deeds of each county within which its business is conducted, a copy of its charter of incorporation, or if incorporated under a general incorporation law, a copy of such law duly certified and authenticated by the proper authority of such foreign State, Kingdom, or Territory. Failure to comply with the foregoing provisions renders each and every officer, agent, and stockholder of any such corporation so failing, jointly and severally personally liable upon any and all contracts of such company, made or to be performed within the State. No corporation organized under the laws of this State or that of any other is permitted to transact business within this State until it shall have accepted the constitution of this State. Such acceptance to be signed and acknowledged in all respects in the manner provided for the execution of deeds. Such acceptance to be filed and recorded in the office of the Secretary of State. Officers of corporation failing to comply with this law, jointly and severally personally liable on any and all contracts of such company, made or to be performed within this State. Corporation forfeits its right to do business in the State and shall only have such right restored upon compliance with law and a payment of $5 per day for each and every day it shall have failed from and after 1st day of July, A. D., 1901.

ESTATES OF DECEASED PERSONS.— Are administered in the District Court. Claims may be filed within 6 months and 1 year, those filed within 6 months having preference, and if any money is left, after paying such claims, the balance is devoted to settling the claims filed after the expiration of 6 months.

INTEREST.— The legal rate of interest, where there is no agreement between the parties, is 8 per cent. per annum. Parties may stipulate for the payment of a higher rate of interest, but not exceeding 12 per cent. Unsettled accounts draw interest after 30 days from date of last item. If proof in any action shows a greater rate of interest has been contracted for, only the principal can be recovered and without costs.

JUDGMENT, EXECUTION, AND STAY OF EXECUTION.— A judgment constitutes a lien upon the real estate of the debtor, subject to execution within the county where it is rendered, from the first day of the term at which the judgment is rendered, except judgments upon confession, and judgments rendered at the same term at which the action is commenced, when it becomes a lien only from the date of the rendition of the judgment. Executions may issue from any Court immediately after judgment is rendered, and are returnable in 60 days when issued by a Court of Record and in 30 days when issued by a Justice of the Peace. If execution is not issued within 5 years the judgment becomes dormant, and if not levied within 1 year the judgment does not operate as a lien upon the estate of the debtor to the prejudice of any other *bona fide* judgment creditor, except where the delay is caused by appeal, proceedings in error, injunction, or vacancy in the office of Sheriff or Coronor. In Justices' Court a stay of 30 or 60 days, governed by the amount of judgment, may be granted, providing a bond is given for payment of the same. In District Courts a stay of 6 months allowed on giving bond.

JURISDICTION OF COURTS.— Justices' Courts have jurisdiction where the claim does not exceed $200. District Courts have general jurisdiction at law and in equity.

LIMITATION OF ACTIONS.— Actions for the recovery of the title or possession of real property must be brought within 10 years. Actions of forcible entry or detainer, within 2 years. An action on a specialty, or any agreement in writing, within 5 years, and on accounts and contracts, not in writing, within 8 years; but on all foreign claims, judgments, or contracts, express or implied, contracted or incurred before the debtor becomes a resident of this State, action shall be commenced within 2 years after the debtor shall have established his residence in this Territory.

SYNOPSIS OF THE ASSIGNMENT LAWS.— Any debtor in embarrassed or failing circumstances may make a general assignment of his property in trust for the benefit of his *bona fide* creditors, and all assignments made, except as provided by law, are to be deemed fraudulent and void. A debtor is insolvent when he is unable to pay his debts from his own means as they become due. Such assignment must be duly signed and acknowledged, and within 10 days after execution thereof be filed with the County Clerk and ex-officio Register of Deeds of the county in which the assignor resides, or has his principal place of business if he be a non-resident of Wyoming, and the same must be recorded in that office in a book provided for that purpose.

The deed of assignment must contain a full description of all real estate assigned, and be accompanied by a schedule enumerating and describing all the personal property assigned; and the assignor shall make oath that said deed of assignment and said schedule contain a statement of all the rights and credits belonging to him, or of which he has any knowledge, and that he does not directly or indirectly transfer or reserve any sum of money or article of property for his own use or for the benefit of any other person, and has not acknowledged a deed or confessed a judgment to any person or persons for a sum greater than is justly owing to such person or persons, or for the purpose of delaying or defrauding his creditors. No assignment shall convey to the assignee any interest in the property until such assignment is filed for record and indexed as provided for by law. All assignments, as soon as the same are filed for record, shall be entered in a general index especially provided for indexing assignments.

Within 15 days after the execution of the assigument the assignee shall file a certified copy of the assignment and schedule in the office of the Clerk of the District Court of the proper county, and shall, before enteriug upon the execution of the trust, make oath that he will faithfully execute the same; that the property assigned has been actually delivered into his possession for the uses declared in the assignment, and the probable value of the property assigned. Such assignee shall also file with the Clerk a written undertaking with at least one sufficient surety to be approved by the Clerk, in double the amount of the value of the property assigued, conditioned for the faithful discharge of his trust; such bond shall be payable to the State of Wyoming, and shall be for the use of any person injured by his wrongful action in the premises. If the assignee fail to comply with the provisions stated, the Court or the Judge or the Clerk, if the Judge be absent from the county, may at the instance of the assignor or the creditors remove said assignee and appoint some suitable person in his stead.

After giving the oath and filing the copy of the assignment with the Clerk of Court, the assignee shall give notice of his appointment by publication 3 weeks successively in some newspaper printed and published in the county, if any there be, and if not, by written notices put up in at least 5 of the most public places in the county, and by publication of the same in some newspaper printed and published nearest thereto, and said assignee shall within 30 days after entering upon his duties make and file under oath a full and complete inventory, real and personal, of the rights, credits, interest, profits, and collateral securities which shall come into his hands, or of which he may have obtained information as belonging to the assignor. And it shall be his duty whenever any property not mentioned in said inventory comes to his hands, or when he obtains satisfactory information concerning such property, to obtain possession of the same and file an additional inventory. After filing the inventory the assignee shall within 20 days cause the property to be appraised by two reputable household-

ers of the neighborhood, who must appraise the same under oath; such appraisers shall in the presence of the assignee appraise each article mentioned in the inventory at its true value. If the assignor is a householder in Wyoming and the head of a family and claims his right to exemption, said appraisers shall set off to him such chattels as he shall select of like kind as are exempted by execution. And in the case of a homestead, if the same does not exceed in value $1,500, the same shall be set off to the assignor, but if the homestead exceeds that amount in value it shall be disposed of under the assignment, and $1,500 paid to the assignor out of the first monies that come into the hands of the assignee. The assignee, as soon as possible after the appraisement is filed, shall proceed to collect the rights and credits of the assignor, and upon 30 days' notice of the time and place proceed to sell at public auction the property appraised, except such as has been set off to the assignor, to the highest bidder for cash, or upon credit, the assignee taking notes with good security, waiving relief from valuation and appraisement laws, payable not more than 12 months after date, with interest. A full return under oath shall be made of the sale to the Clerk of the District Court, the same to be filed with the other papers, provided that the Court, or Judge in vacation, may upon petition of the assignee or of a creditor, for good cause shown, extend the time for selling such property or any portion thereof to such time or times as the Court or Judge may determine will subserve the best interest of the creditors, and may also in like manner extend the credits on sales not exceeding two years. The Court may also on like petition authorize or ratify private sales of said property when it is shown that such sales were or will be beneficial to the creditors. The Court shall exercise a supervising power over the estate of the assignor and may make all necessary orders in the interest of the creditors for its control and management by assignee before sale, and shall, after sale, have power to compel the assignee to report the money in his hands for distribution, and may compel distribution whenever there is sufficient money on hand to pay a dividend of 10 per cent.

The assignee within 6 months after entering upon the discharge of his trust shall make a report to the Judge under oath, setting forth the amount of money in his hands, and such assignee shall also in such report give a list of all claims of creditors which have been presented to him against the assignor, noting such as he concludes should be allowed, and noting such as he has determined ought not to be allowed. The clerk of such Court shall spread such list upon the appearance docket of the Court, distinguishing between such claims as the assignee has determined to allow and such as he has refused to allow; and in all cases where the assignee has refused to allow any claim, and where any creditor objects to the allowance of the claim of any other creditor, the Judge of the Court may order such case or cases to stand for trial at the next term of said Court, and the Court may order the same, upon trial, to be paid or not, as it shall deem just. Any part of the property of the assignor on which there are liens or encumbrances may be sold, subject to such liens or encumbrances, or the assignee may make application for permission to pay such liens and encumbrances. Before the holder of any lien or encumbrance shall be entitled to receive any portion of his debt out of the general fund, he shall proceed to enforce the payment of his debt by sale, or otherwise, of the property on which said lien or encumbrance exists, and for the residue of such claim such holder of such lien shall share *pro rata* with such other creditors if entitled so to do by the laws of the State.

When the Court shall have confirmed the report of the assignee, and if no contested claims are standing on the docket, such Court shall order such assignee to pay all moneys then in his hands to the Clerk of Court who shall, after deducting the costs including an allowance to the assignee as the Court shall deem just, distribute the same among the creditors, taking their respective receipts therefor. If any creditor, by affidavit or otherwise, shall satisfy the Court or Judge that the assignor has fraudulently withheld, or has fraudulently transferred any part of his property, such Court or Judge may order a warrant to be issued for the arrest of the assignor, or the person to whom such transfer is believed to have been made, or both of them, and such persons alleged to be concerned in the fraud, and have him or them brought before the Court or Judge, on oath, to answer all questions put to him or them pertaining to such alleged fraudulent transactions; and such Court or Judge shall have power to stay further fraudulent transfers, and to subject such property as has been fraudulently withheld or transferred to the operation of the general trust.

Persons filing claims shall make oath that they are just and lawful, and that there are no setoffs, or counter claims, and no part of the same is for usurious interest, or if so, what part, and said parts shall be deducted from the claims before they are allowed. The assignee is authorized to administer oaths to creditors; claims shall be presented to the assignee for allowance prior to the expiration of 6 months from the date of the first publication required by law, and any creditor who fails to file his claim, as above provided, shall be entitled to no dividend from the estate of the insolvent debtor, provided that for good cause shown, and upon such terms as the Court shall deem just and proper, the Court may, in cases where no injury would result to the assignee or other creditors, extend the time for the filing of any such claim beyond the period above limited, or may permit such filing by the order of the Court or Judge at a time later than the time above limited, but in no case shall such extension be permitted, or allowance to file made after final distribution of the estate. Under direction of the Court or Judge, with reasonable notice to persons interested, the assignee may compound or compromise any debt belonging to the assignor which cannot be otherwise recovered. And the assignee on reasonable notice to parties interested, may be authorized by the Court to sell such rights in action of the insolvent debtor as may be deemed proper, and in such manner, and upon such terms as to the Court may seem best.

Final distribution shall not be made until 6 months after the first publication of the assignee's notice, nor until publication of the notice of final distribution. The assignee shall give notice of final distribution by publication in some newspaper, published in and of general circulation, in the county of the residence or place of business of the debtor, for 4 successive weeks preceding such distribution. The assignee at the expiration of 1 year, or at the next term of Court thereof, shall make a final report to the Court, and if the Court be satisfied with, and approve the same, he shall order the assignee to be discharged, provided the Court may for good cause shown, grant further time for the assignee to file his account. The Judge may upon the petition of any creditor, or the assignor, remove the assignee for good cause shown, and appoint his successor, and shall whenever a vacancy occurs by death, resignation, or removal, have power to fill a vacancy. Any party deeming himself aggrieved by any order or decree of the Court, may have an appeal as in other civic actions. No assignment for the benefit of creditors shall give preference to one debt, or class of debts, over any other debt, or class of debts, and any such provision in any assignment for the benefit of creditors shall be null and void.

The property of the assignor shall in all cases be distributed *pro rata* among his creditors, subject to the provisions of the assignment laws. An assignment for the benefit of creditors which has been executed and filed so as to transfer the property of the assignor cannot afterward be cancelled or modified by the parties thereto without the consent of every creditor affected thereby. Property exempt from execution and all insurance on the life of the assignor do not pass to the assignee by a general assignment unless the deed of assignment specially mentions them and declares the intention that they should pass thereby. An assignee for the benefit of creditors is not to be regarded as a purchaser for value and has no greater rights than the assignor had in respect to things in action transferred by the assignment. An assignee is not to be held liable for his acts done in good faith in the execution of the trust merely for the reason that the assignment is afterward adjudged void.

If any person being insolvent or who contemplates insolvency,

shall within 20 days next before making an assignment for the benefit of creditors, with a view of giving a preference to any creditor, or any person having a claim against him, or who is under any liability for him, procures or secures any part of his property to be attached, sequestered, or seized on execution, or makes any payment, pledge, assignment, transfer, or conveyance of any part of his property, either directly or indirectly, absolutely or conditional, the person receiving such payment, pledge, assignment, transfer, or conveyance, or to be benefited thereby, or by such attachment, having reasonable cause to believe such person is insolvent, and that such attachment, payment, pledge, assignment, or conveyance is made in fraud of the provisions of the assignment act, the same shall be void, and the assignee may recover the property, or the value of it, from the person so receiving it or so to be benefited. In all cases where the assignor complies with the provisions of the assignment act, any creditor accepting from the assignee any dividend shall release the assignor from all further liability on the claim on which said payment may be made.

The Act, of which this is a synopsis, was approved March 13, A. D., 1890.

MARRIAGE AND DIVORCE LAWS.

MARRIAGE LICENSES.—Required in all the states and territories except Alaska, New Jersey (if residents, otherwise required), New Mexico, New York, and South Carolina.

MARRIAGE, PROHIBITION OF.—Marriages between whites and persons of negro descent are prohibited and punishable in Alabama, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Idaho, Indiana, Indian Territory, Kentucky, Louisiana, Maryland, Mississippi, Missouri, Nebraska, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Virginia, and West Virginia.

Marriages between whites and Indians are void in Arizona, North Carolina, Oregon, and South Carolina.

Marriages between whites and Chinese are void in Arizona, California, Mississippi, Oregon, and Utah.

Marriage between first cousins is forbidden in Alaska, Arizona, Arkansas, Illinois, Indiana, Indian Territory, Kansas, Missouri, Nevada, New Hampshire, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Washington, and Wyoming, and in some of them is declared incestuous and void, and marriage with step-relatives is forbidden in all the states except Florida, Hawaiian Islands, Iowa, Kentucky, Minnesota, New York, Tennessee, Wisconsin.

Connecticut and Minnesota prohibit the marriage of an epileptic, imbecile, or feeble-minded woman under 45 years of age, or cohabitation by any male of this description with a woman under 45 years of age, and marriage of lunatics is void in the District of Columbia, Kentucky, Maine, Massachusetts, Nebraska; marriage of persons having sexual diseases is prohibited in Michigan.

MARRIAGE, AGE TO CONTRACT, WITHOUT CONSENT OF PARENTS.—In most of the states which have laws on this subject 21 years is the age for males; in California, Delaware, Idaho, and North Dakota, 18; In Tennessee, 16; and for females 21 years in Florida, Illinois, Iowa, Kentucky, Louisiana, Minnesota, Montana, Nebraska, North Carolina, Pennsylvania, Rhode Island, South Carolina, South Dakota, Utah, Virginia, West Virginia, Wisconsin, and Wyoming; and 18 in all the other states having laws, except Delaware, District of Columbia, Idaho, Maryland, New York, and Tennessee, in which it is 16 years, and California and North Dakota 15.

MARRIAGES, VOIDABLE.—Marriages are voidable in nearly all the states when contracted under the age of consent to cohabit, through fraud, or if one of the parties is suffering from insanity.

DIVORCE, PREVIOUS RESIDENCE REQUIRED.—*Six Months* in Idaho, Nebraska, Nevada, South Dakota, and Texas; *1 year* in Alabama, Arizona, Arkansas, California, Colorado (except in case of adultery in state), Georgia, Illinois, Indian Territory, Iowa, Kansas, Kentucky, Maine, Michigan, Minnesota (same as Colorado), Mississippi, Missouri, Montana, New Hampshire, New Mexico, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Utah, Vermont, Virginia, Washington, West Virginia, Wiscousin, and Wyoming; *2 years* in District of Columbia, Florida, Indiana, Maryland, Rhode Island, and Tennessee; *3 years* in Alaska, Connecticut, and Massachusetts (if when married both parties were residents, otherwise 5 years); 5 years in North Carolina; actual residence at time of bringing suit in Delaware, Louisiana, New Jersey, and New York (if married in the state).

DIVORCE, ABSOLUTE CAUSES FOR.—The VIOLATION OF THE MARRIAGE VOW is cause for absolute divorce in all the states and territories, except South Carolina, which has no divorce laws. The LIVING OF HUSBAND OR WIFE AT THE TIME OF THE SECOND MARRIAGE is a cause in most states, and PHYSICAL INCAPACITY in all the states except California, Connecticut, Idaho, Iowa, Louisiana, New York, North Dakota, South Carolina, South Dakota, and Vermont. In most of these states it renders marriage voidable.

WILFUL DESERTION, 1 year in Arkansas, California, Colorado, Florida, Idaho, Indian Territory, Kansas, Kentucky, Minnesota, Missouri, Montana, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, Wisconsin, Wyoming; 2 years in Alabama, Alaska, Arizona, Illinois, Indiana, Iowa, Michigan, Mississippi, Nebraska, New Jersey, Pennsylvania, Tennessee; 3 years in Connecticut, Delaware, Georgia, Hawaiian Islands, Maine, Maryland, Massachusetts, New Hampshire, Ohio, Texas, Vermont, Virginia, and West Virginia; 5 years in Rhode Island, though the Court may decree a divorce for a shorter period. Both parties living apart without cohabitation, 5 years, in Kentucky; 10 years, Rhode Island; no time specified in Louisiana and New Mexico.

HABITUAL DRUNKENNESS, in all the states and territories except Arizona, Maryland, New Jersey, New York, North Carolina, Penn-

sylvania, South Carolina, Texas, Vermont, Virginia, and West Virginia. "Intoxication from the use of intoxicating liquors, opium, or other drugs" in Maine, Massachusetts, Mississippi, and North Dakota.

IMPRISONMENT FOR FELONY OR CONVICTION FOR FELONY, in all the states and territories (with limitations), except Florida, Maine, Maryland, New Jersey, New York, North and South Carolina.

CRUEL AND ABUSIVE TREATMENT, INTOLERABLE CRUELTY, EXTREME CRUELTY, REPEATED CRUELTY, or INHUMAN TREATMENT, in all the states, except District of Columbia, Maryland, Michigan, New Jersey, New York, North and South Carolina, Tennessee, Virginia, and West Virginia, and discretionary in Georgia; treatment seriously injuring health or endangering reason, in New Hampshire.

FAILURE BY THE HUSBAND TO PROVIDE, 1 year in California, Colorado, Idaho, Montana, Nevada, North Dakota, Wyoming; 2 years in Arizona, Indiana, and Nebraska; 3 years in New Hampshire; no time specified in Maine, Massachusetts, Nebraska, New Mexico, Rhode Island, South Dakota, Utah, Vermont, and Washington.

FRAUD and FRAUDULENT CONTRACT in Connecticut, Delaware, Georgia, Kansas, Kentucky, Ohio, Oklahoma, Pennsylvania, and Washington.

ABSENCE WITHOUT BEING HEARD FROM, 3 years in New Hampshire and Ohio; 7 years in Connecticut and Vermont; voluntary separation, 5 years in Wisconsin; 10 years in Rhode Island.

UNGOVERNABLE TEMPER, in Kentucky; HABITUAL INDULGENCE IN VIOLENT AND UNGOVERNABLE TEMPER, in Florida; CRUEL TREATMENT, OUTRAGES, OR EXCESSES AS TO RENDER THEIR LIVING TOGETHER INSUPPORTABLE, in Arkansas, Kentucky, Louisiana, Missouri, and Texas; INDIGNITIES AS RENDER LIFE BURDENSOME, in Missouri, Oregon, Pennsylvania, Washington and Wyoming; ATTEMPT TO MURDER THE OTHER PARTY, in Illinois, Louisiana, and Tennessee; PREGNANCY AT THE TIME OF MARRIAGE WITHOUT HUSBAND'S KNOWLEDGE OR AGENCY, in Alabama, Arizona, Georgia, Kansas, Kentucky, Mississippi, Missouri, New Mexico, North Carolina, Oklahoma, Tennessee, Virginia, and West Virginia.

INSANITY OR IDIOCY AT TIME OF MARRIAGE, in Georgia, Mississippi, and Virginia; insanity lasting 10 years in Washington; in Florida, 4 years; insanity and 6 years' confinement in an asylum, on 6 years' residence, in Idaho; permanent insanity in Arkansas and Indian Territory.

Other causes in different states are as follows: Commission of the crime against nature, in Alabama; husband notoriously immoral before marriage unknown to wife, in West Virginia; fugitive from justice, in Louisiana, North Carolina, and Virginia; gross misbehavior or wickedness, in Rhode Island; any gross neglect of duty, in Kansas, Ohio, and Oklahoma; refusal of wife to remove into the State, in Tennessee; joining any religious sect that believes marriage unlawful, and refusing to cohabit, in Kentucky, Massachusetts, and New Hampshire; vagrancy of the husband, in Missouri; refusal of wife to cohabit for 12 months, in North Carolina; excesses, in Texas; where wife by cruel and barbarous treatment renders condition of husband intolerable, in Pennsylvania; concealment of sexual disease, in Kentucky; obtaining divorce in another State, in Michigan and Ohio; conviction of a felony prior to marriage, in Arizona, Missouri, Virginia, and West Virginia; incurable Chinese leprosy, in Hawaiian Islands; offering indignities rendering conditions intolerable, in the Indian Territory; voluntary separation for 5 years, in Wisconsin. Public defamation of other party, in Louisiana. In Georgia an absolute divorce is granted only after the concurrent verdict of two juries, at different terms of the Court. In New York absolute divorce is granted for but one cause, adultery. Collusion and connivance bar a divorce, also any condonation of a violation of the marriage vow.

LAWS IN THE DIFFERENT STATES AND TERRITORIES CONCERNING MARRIED WOMEN.

ALABAMA.—In Alabama, the wife's separate estate is alone liable for her antenuptial debts, and the husband is not liable. All her property held before, or acquired after marriage is secured to her separate use. The husband is her trustee, but not liable to account for the profits. She need not be of full age to release dower. The proceeds of the sale of her property are her separate estate, which the husband may use as most beneficial for her. They cannot contract with each other for the sale of any property. He may receive property coming to her. Her estate is liable for necessaries for the family. If a suit therefore is brought against a husband, and execution is not satisfied, her separate estate may be sold by order of Court. She may dispose of her property by will. If the husband is unfit to manage her estate (or his estate, or abandons her, or has no property exempt from execution), she may be vested with the powers of a *feme sole*.

ALASKA.—Separate property of married women is not liable for debts of husband, but may be charged with expenses of family.

ARKANSAS.—In Arkansas a *feme covert* may be seized in her own right of any property not coming from her husband. The homestead of 160 acres of land, or a town or city lot of the value of $5,000, occupied by the husband while living, or by widow or child of deceased husband, and certain specified personal property, are exempt from execution. A married woman cannot be executrix. Her real and personal property are her sole property, and are not liable for her husband's debts, but may be controlled by her, and she may sue and be sued on account thereof as if unmarried. But the private property of no married woman is exempt from the payment of debts contracted by her husband previously to the filing of a schedule of such separate property in the office of the Recorder of the county where she lives. May make a will; may insure her husband's life for her own benefit; may manage and carry on business with her separate estate; and is not liable for her husband's debts.

CALIFORNIA.—In California all property owned before marriage or subsequently acquired by gift, bequest, devise, or descent

by either party, is the separate property of each; but all otherwise acquired by either after marriage is common property. An inventory of the wife's separate property, acknowledged or proved, as for a conveyance of land must be recorded; and this shall be notice of the wife's title; and her property included therein is exempt from seizure or execution for the debts of her husband. He has the management and control of her separate property during marriage; but no alienation can be made, nor lien nor encumbrance created unless she joins in the deed, and acknowledges upon a separate examination. But when she sells her separate property for his benefit, or he uses the proceeds with her written consent, it is deemed a gift; and neither she nor those claiming under her can recover. In certain cases, a trustee may be appointed to manage her property. The husband has the entire control and management of the common property, with like absolute power of disposition as of his own separate property; and the rents and profits of the separate property of both are deemed common property, unless with respect to the wife, the terms of the bequest, devise, or gift, are otherwise. Dower and courtesy are abolished. Upon the death of either party, one-half the common property goes to the survivor, and the other half to the descendants of the deceased, subject to the payment of his or her debts; if there are no descendants, the whole to the survivor, subject to such payment. Upon divorce, the common property is equally divided. The separate property of the wife is alone liable for her antenuptial debts. But the parties may control these provisions by marriage contract, which must be in writing, and recorded, or otherwise shall not affect third parties. It may be entered into by a minor, but cannot alter the legal order of descent, nor derogate from the husband's rights over the persons of his wife and children as head of the family, or the survivor's rights as guardian of the children. When a married woman is party to a suit, her husband is to be joined; except if the action concerns her separate property, she may sue alone, and if between herself and her husband, she may sue and be sued alone. If both are sued together, she may defend in her own right. There is also a homestead law, exempting the homestead to the amount of $5,000 from final process of Court, and it cannot be alienated without the wife joins in conveyance and acknowledges apart from her husband. Its other provisions are substantially similar to those before referred to. By complying with certain requirements, she may carry on, in her own name, any business, trade, profession, or act; and the property, etc., invested belongs exclusively to her, and she has all the legal privileges and disabilities of debtor and creditor, and becomes responsible for the maintenance of her children. Her husband is not liable for her debts thus contracted without special written promise; and she must take an oath that not more than $500 of the amount invested proceeded from him. She may cause the life of her husband to be insured for her benefit. The personal property of the wife can be sold or transferred only when husband and wife join in the sale or transfer, excepting only what she holds as a *feme sole*. She may dispose of her separate property by will, in like manner as any other person. Her earnings are her separate property.

COLORADO.— All property coming to the wife before or after marriage, except from her husband, remains her sole and separate property. She may bargain and sell, and enter into any contract in regard to the same as if she were *sole*. She may sue or be sued in regard to her property, person, or reputation, the same as if *sole;* may make a will, but she cannot bequeath away from her husband more than one-half of her property without his consent in writing. She may carry on business on her own account, and her earnings are her separate property. The husband is liable for the debts that his wife contracted before marriage, to the extent of the property he may receive through her, but not further; and the wife may contract debts, sign bonds, bills, and notes, and sue and be sued in regard to the same as if she were *sole*. Dower is abolished.

CONNECTICUT.—In Connecticut, all real estate conveyed to a married woman, in consideration of property acquired by her personal services during coverture, shall be held by her to her sole and separate use; and the avails of all sales of the real estate of a married woman, if invested in her name, or in the name of a trustee for her, belong to her. When any man abandons his wife for a continuous period of 3 years, with total neglect of duty, she may petition the Superior Court, as a Court of Equity, in any county where she owns real estate, and such Court shall pass a decree empowering her to execute all conveyances necessary to dispose of such real estate, as if she were a *feme sole*. All the personal property of any woman, married since the 22d of June, 1849, and all personal property acquired thereafter by a married woman, and the avails of any such property if sold, shall vest in the husband in trust, to receive and enjoy the income thereof during his life, subject to the duty of expending therefrom so much as may be necessary for the support of his wife during her life, and of her children during their minority, and to apply such part of the principal thereof as may be necessary for the support of the wife, or otherwise, with her written assent; and upon his decease the remainder of such trust property shall be transferred to the wife, if living, otherwise as she may by will have directed, or in default of such will to those entitled by law to succeed to her intestate estate; but if the husband shall have paid liabilities incurred by her before marriage, a proper Court of Equity may, upon his application, discharge said trust, and vest absolutely in him such portion of said property as may be equivalent in value to the amount of such liabilities so paid. Later statutes make important changes in the relations between husband and wife. It leaves, however, the provisions above stated, in full force as to existing marriages, unless the persons now married agree to substitute the provisions of this latest statute. By this late statute, neither husband nor wife acquires by marriage any interest in the property of the other, except as provided in this statute. Her earnings are her own property. She may contract with third persons or convey property to them as if unmarried. The property of either is not liable for the debts of the other, incurred before or after marriage. The purchases of either are presumed to be on his or her own account, unless they have gone to the support of the family, or for her reasonable apparel, or for her support when abandoned by her husband, in which cases he is liable. He is bound to support the family. On the death of either, the survivor has the use for life of one-third of the property, real and personal, of the other, which right is not to be defeated by any will of the other. If there be no will the survivor takes the third absolutely, and if no issue one-half. If either leaves a legacy to the other, that legacy is to be taken instead of this right; but the legatee may elect whether to accept the legacy or his or her statutory share. The Judge of Probate may make the wife a reasonable allowance for the support of herself and family during the settlement of the estate. They may contract before or after marriage for a provision in lieu of this statutory share. Neither party abandoning the other is entitled to this share. The provisions of this statute apply only to marriages hereafter contracted; but parties now married may enter into a contract to substitute for their rights under other statutes, or at common law, the rights given by this act. All property hereafter acquired by any married woman shall be held by her to her sole and separate use.

DELAWARE.— In Delaware, the widow of one who made his will before marriage takes the same share as if he had died intestate. Insurance on life for her benefit is secured to her, if the premiums do not exceed $150. If her husband abandon her, the Court may provide for the support of herself and her children out of his property. She cannot make a power of attorney. Real estate, mortgages, stocks, and silver plate belonging to her at marriage, or acquired during coverture, are not subject to his disposition, or liable for his debts, except judgments recovered against him for his liabilities before marriage; but she may not dispose of such property nor create any incumbrance on her real estate, nor dispose of the rents thereof, nor of the interest of her stock and mortgages, without his consent in writing under seal. This provision does not

affect him as tenant by courtesy; but with his consent, as aforesaid, the proceeds of such sale as above authorized may be invested in her own name as her sole property, subject to the laws governing the principal. All money and other property acquired by a married woman, living separate from her husband and not supported by him, remains a separate property so long as they live apart. Real and personal property belonging or coming to the wife before or after marriage, except what comes from the husband, remains her separate property; she is not liable for his debts; she may receive and control her separate earnings, and may sue and be sued in regard to her separate property. If 21 years of age, she may, with the written consent of her husband, signed and sealed and attested by two witnesses, make a will, but it shall not affect her husband's right of courtesy; and if she die intestate, her property goes to her heirs. The real and personal property acquired by a married woman at any time, from any one except her husband, remains her sole and separate property, not subject to his disposal, or liable for his debts. A married woman may be executrix or administratrix the same as if a *feme sole*. In purchasing real estate she may give any bond, mortgage, or security, as if *sole*, and her husband need not join. She may make a power of attorney as if *sole*.

FLORIDA.—In Florida, the husband or wife administers in preference to others. Their rights, by marriage, under the Spanish law when in force, are preserved. The wife retains independent of her husband, and is not liable for his debts (if inventoried and recorded; but failure to record confers no rights upon him), all property owned before, or obtained after marriage; but he has the management of it. She cannot sue him for rent, nor can he sue her for management. Her property alone is liable for her antenuptial debts; and upon her death, he takes the same interest in her property as a child; but if she leaves no child, the whole. A homestead of 50 acres, or a lot in any city, town, or village, not exceeding $500 in value. *Every person* of the age of 21 years, of sound mind, may make a will. Certain provisions of the criminal code are extended to married women.

GEORGIA.—In Georgia, marriage settlements, if not recorded within 3 months after execution, are invalid as to *bona fide* purchasers, creditors, or sureties without actual notice, becoming so before actual recording. The husband takes administration, and is sole heir of his deceased intestate wife. On the death of the husband without issue, the wife is the sole heir. The wife of an idiot or lunatic is generally entitled to the guardianship. If deserted, her earnings vest in herself. By an act, approved Feb. 28, 1856, a husband married thereafter is not liable for his wife's debts, further than the property received through her will satisfy; and such property is not liable for his debts existing at the time of the marriage. A married woman may deposit in any savings institution any sum not more than $2,000, the earnings of herself or children, as her own separate property, as if she were unmarried. The property of the wife coming to her before or after marriage remains her separate property, and is not liable for the debts of the husband. All acquisitions of the wife when living separate from her husband are her own. She may be a free-trader with the consent of her husband. May sue and be sued alone in regard to her separate estate, and may make a will with the consent of her husband.

HAWAIIAN ISLANDS.—Married women are allowed to hold and dispose of personal property as if *feme sole*. They can lease their real estate, but cannot mortgage or convey the same without the consent of their husband.

ILLINOIS.—An Act was passed in 1874, entitled "An Act to revise the law in relation to husband and wife." Its principal provisions are, that she may own in her own right, real and personal property obtained by descent, gift, or purchase, and manage, sell, and convey the same to the same extent and in the same manner that the husband can property belonging to him. Neither husband or wife shall be liable for the debts of the other contracted before marriage, nor for the separate debts of each other. Contracts may be made, and liabilities incurred by a wife, and the same enforced against her, to the same extent and in the same manner as if she were unmarried; but she cannot enter into or carry on a partnership without the consent of her husband, unless he has abandoned her, or is idiotic or insane, or in the penitentiary. She may sue and be sued alone, as if she were unmarried. Neither he nor she can recover any compensation for any labor performed or services rendered for the other. Provisions are made for the protection and support of the wife in case of her abandonment by the husband. By another Act, tenancy by the courtesy is abolished, and husband and wife are put on the same footing as to dower. Married woman may sue alone in regard to her separate property, and when the suit is between husband and wife; may be executrix if her husband file his consent; she may make a will.

INDIANA.—In Indiana, the husband is liable for her antenuptial debts only to the extent of the personal property he received with her, or from the sale or rent of her lands. And such liability is not extinguished by her death. Her Christian name is sufficient in a suit against them jointly. Her admissions subsequent to marriage are not admissible in a suit against them jointly for a debt of hers while single. Process need only be served on the husband when subsequent proceedings are against both. The husband is a proper party to a *scire facias*, on a Judge's transcript of judgment against the wife while single. The plaintiff must prove marriage, in assumpsit against both on a note of wife before marriage, when non-assumpsit is pleaded. They should sue separately in an action for libel upon both. Judgment against them jointly for tort of wife must be satisfied first from her lands, if she have any. Her lands are not liable for her husband's debts, but remain her separate property; but she cannot encumber or convey them except by deed, in which her husband must join. Suits relative thereto should be in the name of both; if separated, in her name, in which case the husband is not liable for cost. The wife cannot sue, or defend by guardian or next friend, unless under 21; there are special provisions as to powers of the wife if abandoned by her husband. If a husband die, testate or intestate, one-third of his real estate goes to his wife in fee simple, free from all demands or creditors; but if the real estate exceeds in value $10,000 she takes as against creditors only one-fourth; and if it exceeds $20,000, only one-fifth. If she die, one-third of her real estate goes to him. If a husband or wife die intestate and without a child, the whole estate goes to the survivor. She may elect to take under his will or by law. Dower and courtesy are abolished.

IOWA.—In Iowa, a married woman owns in her own right all property, real or personal, which came to her by descent, gift, or purchase, and may manage and dispose of the same without the interference of her husband. Neither the husband nor wife is liable for the debts or contracts of the other, made or incurred before marriage or after. For all civil injuries by the wife, damages may be recovered from her alone. In case of abandonment of either by the other, the party abandoned may petition the Court, who may, on sufficient proof of the facts, authorize the petitioner to manage or encumber the property of the abandoning party for the support of the family. Each may constitute the other his or her attorney in fact. She may sue for and recover wages for her personal services, and hold what she recovers as her own property. She may make contracts and incur liabilities in the same manner as if unmarried. The husband is not liable upon contracts relative to his wife's separate property or purporting to bind herself alone, nor is the property or income of either liable for the debts of the other. Family expenses, education of the children, etc., are chargeable upon the property of both or either; they may be sued jointly, or the husband separately. The husband cannot remove the wife or children from the homestead without their consent. The estate by the courtesy is abolished, and the husband is entitled to the same rights of dower as the wife. When judgment is against husband and wife, execution may issue against the property of either or both. If both are sued jointly, the wife may defend for

her own right, or for her husband's right also. A married woman may receive gifts or grants from her husband without the intervention of a trustee. There is also a homestead exemption law, to the extent of a town plat of half of an acre; or, if not within a town, of 40 acres, or enough more to make a value of $500. May hold stock in bank and vote.

KANSAS.—In Kansas the property, real or personal, of a married woman, owned at the time of her marriage, or subsequently received, is her sole and separate property not subject to the disposal of her husband nor liable for his debts. She may sell and convey or enter into any contract relating thereunto, and may sue and be sued as if *sole*. She cannot bequeath more than half of her property away from her husband without his written consent. If either die intestate and without issue, all his or her property goes to the survivor. If a husband deprives his wife by will of more than half his property, she may elect to accept the conditions of his will or take half his property. Dower and courtesy are abolished. A homestead of 160 acres of land, or one acre in a city, town, or village is exempt from sale by execution. She may carry on trade and her earnings are her separate property.

KENTUCKY.—In Kentucky the husband has no interest in the real estate or real chattels of the wife, except the use of them with power to let out to rent real estate for 3 years at a time. Such estate is only liable for her antenuptial debts, and for necessaries for the family, the husband included. Her chattels real may be conveyed in the same way as land, and the proceeds go to the husband, unless otherwise provided. He is not liable for her antenuptial debts except to the amount received by her independent of real estate. Provision exists for a married woman's acting as *feme sole* in case of abandonment, imprisonment of husband, etc. The wife of a non-resident husband may act as a *feme sole*. An alien wife of a citizen husband may inherit property. The deeds of a *feme covert* may be either joint or separate, and must be separately acknowledged. Marriage agreements must be recorded. The husband's remedy against the wife's tenant is the same after her death as before. She has the general rights of an unmarried woman in regard to stock held for her exclusive use. Real or personal estate conveyed or devised to her, except as a gift, cannot be aliened without the consent of her husband. Provision exists for the sale of married woman's property. A married woman may dispose of her separate property by will, or execute a power. Wills are revoked by a subsequent marriage, except when made under power of appointment, when the estate would not, in default of such appointment, go to the heirs. She may deposit in bank and check as if *sole*; but rights of third parties are not affected if bank has notice. When there is no appearance of fraud, on joint application of husband and wife, Court may empower her to use, sell, and convey, for her own benefit, any property she may own or acquire; and to trade in her own name as a *feme sole*, and dispose of her property by deed or by will; and in all cases it is free from the debts of her husband and liable for her own.

LOUISIANA.—In Louisiana, the wife cannot appear in Court without the authority of her husband, though she may be a public merchant, or hold her property separate from him. Even then, she cannot alienate, mortgage, or acquire by gratuitous or unincumbered title without his written consent. She may be authorized by the Judge of Probate upon his refusal, and if separated from bed and board, has no need of the authorization of her husband. If a public merchant, she may without being impowered by him obligate herself in anything relating to her trade; her husband is also bound, if there is a community of property. She is considered a public merchant if she carries on a separate trade, but not if she retails only the merchandise of the commerce carried on by him. If the husband is under interdiction, or absent, the Judge may authorize her to act as if unmarried. She may make a will without his authority. But she cannot become an executrix without his consent or the Court's. She may act as a mandatary. Neither party can be a witness for or against the other. They may, by marriage contract, determine the rights of property; but cannot change the legal order of descents (this restriction not affecting donations *inter vivos* or *mortis causa*, or donation by the marriage contract according to the rules for donations *inter vivos* or *mortis causa*), nor derogate from the husband's rights over the person of his wife and children, or as the head of the family, nor with respect to children if he survive the wife, nor from the prohibitory dispensations of the Code. The property of married persons is divided into "separate" and "common"; and the separate property of the wife into "dotal" and "extradotal," or "paraphernal." The "dotal" is that which the wife brings to the husband to assist him in bearing the expenses of the marriage establishment. Full provisions exist as to settlement, administration, recover, subject-matter, etc., of dowery, and the rights of both parties therein, effect of insolvency of the husband, marital portion, etc.; as to the administration, fruits, etc., of the extradotal effects. The wife has a legal mortgage on her husband's immovables (which he may release by giving a special mortgage to the satisfaction of a family meeting, etc., or in accordance with stipulations in the marriage contract); but it shall not be lawful to stipulate that no mortgage shall exist, and a privilege on his immovables for the restitution of her dowery, etc. This is in lieu of dower, and is seventh in the order of preference. A partnership or community of acquests or gains exists by operation of law in all cases. But the parties may modify or limit it, or agree that it shall not exist; in which case there are provisions, preserving to the wife the administration and enjoyment of her property and the power of alienating it as if paraphernal, with reference to the expenses of the marriage and liability of the husband. This community consists of the profits of all the effects of which the husband has the administration and enjoyment, either of right or in fact; of the produce of the reciprocal industry and labor of both husband and wife; and of the estates which they may acquire during marriage, either by donations made jointly to them both, or by purchase, or in any similar way, even if the purchase be in the name of one and not of both. Debts contracted during marriage enter into this partnership, and must be acquitted out of the common fund; but those contracted before marriage, out of individual effects. The husband is the head and master of the community; administers its effects, disposes of the revenue, and may alienate by an unencumbered title, without the wife's consent. There are special provisions as to conveyances and dispositions of the community property and gains; effect of dissolution of marriage; ability of the wife to exonerate herself from debts contracted during marriage by renouncing the partnership; effect of such renunciation; death; survivorship; separation *a mensa et thoro;* separation of property during coverture; rights of creditors, etc. Either party, by marriage contract or during marriage, may give to the other all he or she might give to a stranger. Property acquired in the State by non-resident married persons, whether the title is in the name of either or in their joint names, is subject to the same provisions as if owned by citizens of the State. If husband or wife die intestate, without ascendants or descendants, his or her share in the community property is held by the survivor in usufruct for life; if the deceased intestate leave issue of the marriage, the survivor holds such issue's inheritance in usufruct till death or second marriage. A married woman, in certain cases, may be authorized to contract debts and give mortgages; or renounce her rights in favor of third persons; or appoint an agent.

MAINE.—In Maine, a married woman holds as her separate property whatever she possessed before marriage, and whatever comes to her after marriage, unless purchased by the husband's money or coming from him so as to defraud his creditors; and has all the usual rights of a single woman as to it, but cannot convey property received through the husband or his relatives unless he join. Her property is alone liable for her debts before marriage. Although under twenty-one years, she is of full age. There are provisions as to a married woman being administratrix, or executrix, guardian, insane, whose husband is under guardianship; and the homestead to the value of $500 is not liable for his debts, and goes to his widow and minor children. Real estate may be con-

veyed to a wife by her husband as security for a *bona fide* debt, and this may be conveyed by her without his being joined in the deed. Letters of administration may be granted on her estate, and all debts contracted for her benefit shall be paid by her executor and allowed him. She may engage in trade on her own account and any contract made by her is valid, and her property is liable to execution for her debts; his property is exempt in any such case unless he were a party to the contract. A homestead not exceeding in value $500 is exempted from execution.

MARYLAND.— In Maryland, if a married infant unite with her husband in a conveyance to release dower, Courts of Equity may declare it valid if equitable. She cannot be executrix or administratrix unless her husband give a bond. Her choses in action, at her death, become her husband's without his taking out letters of administration. An alien wife of a citizen husband residing in the United States, has her dower, and may hold lands by purchase and transfer the same as if a citizen. Any devise or bequest to her is construed to be in bar of her dower, unless otherwise expressed. Insurance on life is secured to her, if the premium does not exceed $300. Her receipt for money deposited before her marriage in any bank, is valid, if no creditor of the husband has previously attached it. Married woman may make a will with consent of her husband subscribed if she has been examined apart; not to apply to property acquired after the adoption of this Code. Her property belonging to her at marriage or acquired during coverture is not liable for his debts, but she holds it for her separate use the same as if *sole*. She may convey by joining with her husband. Property passing from him to her after coverture if on fraud of creditors is void. If she die intestate leaving children, he has a life estate in both real and personal property; but if she leave no children his life estate in her real and personal property vests in him absolutely. It is not necessary for her to have a trustee to secure the separate use of her property, but she may make one by joining to a deed with her husband. When there is none she may sue by her next friend. She has dower in lands held by equitable title of her husband. If he be convicted of bigamy she is at once endowed of one-third of his real estate, with like remedy for its recovery as in other cases, and to one-third of his personal estate as if he had died intestate. He in such case forfeits his title to courtesy, and his claim to any estate personal or mixed which she might have in her right. She, on such conviction, forfeits dower, and her share of the personal estate. If leases for a definite term or renewable forever are made to her, the rent of which shall be unpaid for the space of 90 days, she may levy upon the holders of such lease by distress, or bring an action for the recovery of the premises. She may bind herself and assigns by covenants running with the land as if a *feme sole*. She may release her right of dower in real estate, by joint or separate deed. She may hold and devise all property acquired or owned by her as fully as if *sole*; she may be sued and may defend such suit separately. Her property is not liable for the debts of the husband, and she may carry on business with the same.

MASSACHUSETTS.— In Massachusetts, provisions exist for the benefit of the wife when deserted by the husband to a great extent superseded by the laws of 1855. A married woman coming into the State, whose husband never lived with her in the State, has the same rights as a single woman in matters of contract and suit. Antenuptial contracts in favor of the wife are valid, and she may receive any conveyance (except from her husband), bequest, or devise to her own use, without a trustee, and has all the powers respecting it a trustee would have, and is liable for any contract made or wrong done before marriage. A woman married after June 4, 1845, holds, as a single woman might, all property held before marriage or subsequently acquired, except by gift from her husband, but cannot convey real estate (except for a term not exceeding one year), nor shares in a corporation, without the written assent of her husband, or the consent of a Judge of the Supreme Court, Court of Common Pleas, or Probate, nor bequeath away from her husband more than half her personal estate, without his consent in writing, and her property is alone liable for her antenuptial debts. *Any* married woman may dispose by will of her real estate, but cannot thereby deprive her husband of his tenancy by the courtesy; and her real estate and shares in a corporation are not liable for his debts contracted since June 3, 1855. And any married woman may be a sole trader. There are also provisions as to guardianship, and insanity. A homestead to the value of $800 is not liable for the debts of a householder, but after his death is for the benefit of his widow and family, for her life and while any child is a minor provided it be designated in the deed of purchase as a homestead under this Act, or if already purchased, be so declared in a deed acknowledged and recorded, and is safe only from debts contracted after the record, and is not exempt from taxes, debt incurred by purchase, and debts for ground rent of land upon which it is situated. This exemption shall not defeat any lien or encumbrance existing when the law was passed. A husband cannot convey such homestead without his wife's joining in the deed. If a man die testate, leaving a widow, she may at any time within 6 months after probate of the will, file in the Probate Office her waiver of the provisions made for her in the will; and shall be thereupon entitled to such portions of his real and personal estate, as she would have been entitled to if her husband had died intestate; but she takes only for life her share of the personal property, over $10,000. Policies of the insurance made payable to her or to any one in trust for her, whether by her husband or any other person, shall inure to her separate use, and that of her children, independently of her husband, person assigning, or the creditors of either. But if the premium be paid with the intent to defraud creditors, an amount equal to such premium shall inure to the benefit of the creditors, subject to Statute of Limitations. Any accumulation of income of an estate held in trust for her, in the hands of trustees, or which has been received by her and invested together with the accumulations thereof, may be disposed of by her during her life time, or by will or appointment to take effect after her death, and with her written consent, trustees may hold or invest such income on the same trusts as the principal estate is held. She may be a witness when contract was made by her in the absence of her husband. Her earnings not held by trustee process for his debts. She may be executrix, administratrix, guardian, or trustee, and make contracts or transfers, and conveyances of property (except with or to her husband) and sue or be sued, all as if *sole*, except that there can be no suits between husband and wife. When a man and his wife are seized in her right, and when a married woman is seized to her sole and separate use, free from the control of her husband, of any estate of inheritance in lands, the husband, shall, on the death of his wife, when he has no right as tenant by the courtesy, hold one-half of the lands for his life, unless the wife shall by will provide otherwise.

MICHIGAN.— In Michigan, if a husband abandons his wife, or is in the State prison, she may be authorized, if of age, to act and be liable, in general, as a *feme sole*, in which case her contracts bind both as if their marriage had subsequently taken place. She may join with her guardian to release dower, and any agreement between her and such guardian is binding. The same rules apply to a married woman who comes into the State without her husband. The property acquired by a married woman before or after coverture, is free from her husband's liabilities; but she cannot sell it without his consent, or authority from Court, nor if separated from him can she remove it from his premises without such authority. She may recover land lost by his default and defend when he neglects. The marriage of an executrix extinguishes her authority. So of an administratrix. A *feme covert* may have a general and beneficial power to dispose, during marriage, of lands conveyed to her. She may devise her property, and may have dower through an alien. A married woman may insure the life of her husband for her benefit and that of her children, but the annual premium must not exceed $300. When divorced from bed and board, she has the same power over her property as a *feme sole*. When the divorce is not for her fault, or on the imprisonment of her husband for life, she is entitled to her real estate, and a reasonable amount of the

personal, which came to him by reason of the marriage. But when it is divorced for her adultery he holds her real estate as long as they both live, and if there be children, he holds it as tenant by courtesy; and her personal estate forever. A homestead of 40 acres, or if in a town, city, or village of the value of $1,500 is exempted from execution. She may sue and be sued as to her sole property as if unmarried. Her estate acquired before or after marriage remains her separate property, and not liable for his debts, and she may bequeath the same as if unmarried. She may bar her right of dower by joiuing in her husband's deed of conveyance. Her marriage while under guardianship, terminates the guardian's custody and care of her person.

MINNESOTA.—In Minnesota, all property owned by any married woman, real or personal, at her marriage, or received afterwards, is her own, as if unmarried, and is free from the control of her husband, and is not liable for his debts. She may make any contract she could make if unmarried; and any transfer of her property, except that the husband must join in the deed of her realty, unless he has deserted her. Neither husband nor wife is liable for the debts of the other, except that the husband is liable for necessaries furnished to the wife, as at common law. Either may be the agent of the other, or contract with the other, except as to the sale of real estate from one to the other. A husband deserting his wife or divorced, may be decreed by the District Court, on an action by the wife, to be debarred from his courtesy, and the wife may be permitted to act with reference to her real property as if *sole*. A homestead of 80 acres not included in any incorporated town, city, or village, or one lot in any town, city, or village, is exempt from sale by execution. She is bound by her contracts, and is responsible for torts as if unmarried. If her deed relates to real estate her husband (or his guardian if he be lunatic) must join in it.

MISSISSIPPI.—In Mississippi, the rents, issues, and profits of her real estate, inures to her sole and separate use. Suits affecting her separate property may be prosecuted and defended in their joint names. Covenants in consideration of marriage and marriage settlement, must be acknowledged and recorded. She may defend in a suit for her land if the husband neglects. The husband is not liable for the wife's antenuptial debts, nor for any debt contracted after marriage, if she hold separate property. Wife may convey her real estate by joint deed, and is bound by her covenants in such deed. Every description of property of a married woman and the income of such is her own separate property, and is not liable for his debts, nor can it be eucumbered in any way but by joiut deed. He is entitled to courtesy in her real estate, and if she leave no children, inherits her personal property. She may dissent from his will if her separate property be not equal to what would be her dower and distributive share in her husband's estate. Her separate receipt is good; and her bond executed jointly with her husband binds her separate property. A homestead is exempt from execution, not more than 80 acres, and not more in value than $2,000. A married woman may buy and sell her own private property, and trade with the same. She may make a will.

MISSOURI.—In Missouri, a married woman may not be executrix or administratrix. Marriage contracts must be recorded. The rents and issues of her real estate owned at marriage or afterwards acquired, are not liable for the debts of her husband, nor is his interest in her real estate, excepting that the annual products may be levied upon for a debt of the husbaud created for necessaries for the wife and family, or for the cultivation or improvement of her real estate. She may devise her real estate, but uot so as to affect his courtesy. A homestead is exempt from execution, not more than 160 acres, not exceeding $1,500 in value, or if in a city of uot more than $3,000 in value. The wife may insure for her beuefit either her husband's life or her own, provided the premium does not exceed $300; and no life insurance effected whether before or after marriage, by the husband upon his own life, shall be liable for his debts, unless so expressed upon the face of the policy. But a creditor may insure his debtor's life. If husband without cause abandon his wife, or lawful children under 12 years of age, he is punished by fine of not less than $50 nor more than $500, or by imprisonment for not less than 1 month nor more than 12 months. May make a will of real or personal property; shall hold her real and personal property, including wages of her separate labor, free from her husband's control and not liable for his debts.

NEBRASKA.—In Nebraska, all the property of a married woman, coming to her before or after marriage, and all the rents and profits thereof, are her sole and separate property, and may be managed by her alone, without interference by her husbaud; and they are not liable for his debts. She may make any contract in reference to it that a married man may make as to his property; may sue and be sued, and carry on any business; and her earnings are her own. A homestead not exceeding 160 acres of unincorporated land, or not exceeding 2 lots in any town, city, or village, and in any case not exceeding $2,000 in value, is exempted from sale by execution. She may make a will. Is not liable for her husband's debts. Property of the husband is not liable for her debts. Wife must join with husband in conveyance or encumbrance of homestead.

NEVADA.—In Nevada, all property of a wife, real or personal, held at marriage, or afterwards acquired by gift, bequest, devise, or descent, is her separate property; and all the husband's so held or acquired is his separate property. All property acquired otherwise by either party, after marriage, is common property. An inventory of her property must be made and recorded. During the marriage, the husband has the exclusive control and management of the common property. At her death, if he survives her, all of the common property goes to him. If she survives him, at his death half of the common property goes to her. The District Court may assign a trustee to take care of the wife's separate property, if the husband mismanages the same. The husband has the same control and disposition of the common property as of his separate estate. Dower and courtesy are abolished. The separate property of the wife is liable for the antenuptial debts of the wife, but his is not. Marriage contracts, duly executed and recorded, may vary these rights and interests. Married women may carry on and transact busiuess uuder their own name, under certain regulations. A homestead, not exceediug in value $5,000, is exempt from sale on execution. Her earnings are not liable for her husband's debts; they may contract together; she may sue and be sued alone if living separate.

NEW HAMPSHIRE.—In New Hampshire, a married woman holds free from interference from her husband all property owned before, or acquired after marriage, if uot occasioned by payment or pledge of his property. She has the same rights and remedies as to the same as if unmarried. After 3 months of desertion, or of any other thing which if longer continued will be a cause of divorce, the wife may hold in her several right, and dispose of property acquired by her in any way, and the earnings of the minor children, until the desertion ceases. And the Judge of Probate in the county where she resides may order provision for her and her children from any property of the husband in the State. She shall then have the same rights; and her property shall descend, as if siugle. The will of the married woman passes property held in her right to any devisee except the husband; but shall not affect his rights in the estate, or to a distributive share thereof. The homestead, to the value of $500, is exempt from attachment and execution, and is in no way liable for the husband's debts, nor subject to distribution or devise, while a widow or a minor child lives thereou. But this right may be waived by deed of husband and wife, and is not valid against a claim or note or mortgage of husband or wife, or for labor less than $100, or a lien by the seller of the estate for its price, or a debt contracted for the erection of the buildings, or for taxes. He is not liable for her antenuptial debts, but her property is.

NEW JERSEY.—In New Jersey, antenuptial contracts are valid. Any insurance of life for her beuefit is secured to her or her children, if the premium does not exceed $100. If her husband

die, she may recover from his estate the personal property belonging to her before marriage. If he abandon or desert her, she may have, by order of Court, maintenance from his property; but during this maintenance he is not liable for her debts. If the husband die leaving a family, his household goods to the value of $200, and real estate occupied by him at his death, to the amouut of $1,000, are secured to his children and widow; and no waiver of this exemption is valid. Nor can such homestead be sold or eucumbered, unless other than $1,000 are invested in other buildings for a homestead, and until this investment, the title of the purchaser is not good. In a joint deed by husband and wife (if she be of full age) her covenants of warranty will bind her in the same manner as if she were unmarried. If her husband be a lunatic, or confined in the State prison for crime, she may dispose of her interest in any property, so as not to interfere with his rights in the same property. The real and personal property of a married woman owned before or after marriage, and all her earnings, remain her separate property, as if *sole*; she may carry on trade, may make contracts, except that she cannot become an accommodation indorser, guarantor, or surety; she may give receipts, etc.; she may make a will of whatever does not go to her husband by law; may sue and be sued in her own name. Her husband is not liable for her antenuptial debts; and he must join in a conveyance of her real property. Court may make provision for her support, if she live separate from her husband and he does uot provide for her.

NEW YORK.— The real and personal property of any woman acquired before or after marriage remains her separate property, not liable for her husband's debts; she may take property from auy source except her husband; marriage coutracts are allowed; she may carry on a trade or business on her separate account, and may manage her property and business free from the control of her husband; may dispose of her real or personal estate. Her bargains do not bind her husbaud; she may sue and be sued in regard to her person or separate property. Her husband is liable for her antenuptial debts to the extent of the assets received from her; and she may insure his life for her benefit, provided the premium does not exceed $500. She may hold patents for her inventions; and may vote on stock held by her. She may be a guardian, executrix, or administratrix, and may give the necessary bonds. She may make a will. She may make a power of attorney as if single.

NORTH CAROLINA.— Marriage settlements are invalid as against creditors existing at the time of the marriage settlement. Her husband is not liable for her debts, contracts, or wrongs made or committed before marriage. She cannot make contracts without her husband's conseut, unless she is a free trader. A wife abandoned by her husband may contract and bind her separate estate. The savings from the income of the separate property of the wife belong to her. She may make a will, provided she do not deprive her husband of his courtesy. Her real estate cannot be sold or leased by her husband without her consent. She may insure his life for her benefit, if the premium do not exceed $300.

OHIO.— A wife cannot affect the husband's courtesy. The husband of an insane wife may be authorized to sell his real estate without her joining, free from her dower. The husband must be joined with the wife in all actions to which she is a party, except those concerniug her separate property. Husband and wife may not testify for or against each other while the relation subsists or afterward. The husband or wife may insure his life (the annual premium not to exceed $150, otherwise the surplus insurance to go to his representatives) for the benefit of her and her children. A married woman may dispose of her property by will. And the will of a *feme sole* is not revoked by her subsequent marriage. The homestead to the value of $500 is exempt from execution, etc. A married woman whose property is appropriated for public use is empowered to do anything necessary for an owner to do, as if she were unmarried. She has full power to contract for repairs and for cultivating her own property in her own name, during coverture, but cannot lease for a longer period thau 3 years, and during her life and the life of auy of her heirs, such property cannot be taken by his creditors; but his estate by courtesy remains; and in all actions in regard to her separate estate it only is liable for any judgment rendered. All the persoual property aud rights of action coming to the wife in any way, including wages, are her sole and separate property. She may insure her husband's life for her benefit. She may make deposits in savings banks and give receipts. She may sue and be sued alone in regard to her separate property, contracts, or business, and her separate property is liable for any judgment obtained.

OKLAHOMA.— Married woman retains the same legal existeuce and legal personalty as before marriage; can convey her separate property without the consent of her husband, and neither her separate property nor her earuings is liable for debts of her husband.

OREGON.— A married woman may sue in regard to her separate property. Her husbaud must join in a deed of her separate real estate; and by registering the same she may own all her property separate aud free from the control of her husband, and it is uot liable for his debts. She may make a will.

PENNSYLVANIA.— In Pennsylvania, a married woman has absolute control over her separate property, coming to her before or after marriage; it is not liable for the debts of the husband; it cannot be sold or touched by him without her written consent, and the husbaud is not liable for her debts, contracted before marriage. She may make a will. The husband's property is first liable for necessaries furnished the wife, and then her own property. If she die intestate leaving children, the husband and children share alike in her personal property; and if she leave no children, the husbaud takes the whole; her real estate descends according to the intestate laws of Peunsylvauia, subject to his courtesy. She may apply for trustees and declare a trust. She may loan money to her husband and take security for the same. If her husband deserts her, or neglects her, she may have the rights of a *feme sole* trader. He is not liable for her contracts, other thau before this Act. She may bring an action for libel or slander, if deserted by her husband; but if the suit is against her husband, then she must sue by her next friend.

RHODE ISLAND.— In Rhode Island, there is a provision substantially like that in Massachusetts as to a married woman coming into the State, without her husband, and there living without him. Rents and profits of her real estate secured to her. The chattels real, furuiture, plate, jewels, shares in an incorporated company, money deposited in savings bank, or debts due to her and secured by mortgage, may be transferred by joint deed of husband and wife. All other personal estates she may dispose of as if uumarried. Any married woman may dispose of her real estate by will, but not to deprive her husband of his tenancy by the courtesy. Her deposits in an institutiou for savings are her own property. Any policy of insurance for her benefit, not exceediug the sum of $10,000, is hers independently of her husband, or the person effecting the insurance, or the creditors of either.

SOUTH CAROLINA.— In South Carolina, the real and persoual property of a married woman, whether held by her at the time of the marriage, or accrued to her thereafter, in any way, shall be her separate property, and not subject to levy or sale for her husband's debts. She may bequeath, devise, or convey her separate property, as if unmarried; and, if she die intestate, her property shall descend in the same manner, as is provided for the property of her husband. She may purchase any property, and contract in reference to it as if unmarried. Her husband is not liable for her debts contracted before marriage, nor for those contracted after, except for her necessary support. A homestead of the value of $1,000 is exempt from executiou, and also $500 worth of personal property. When the action concerns her separate property, she may sue and be sued alone. And judgment may be entered against her separately, and execution be levied on her separate property.

TENNESSEE.— In Tennessee, the wife may manage her own and her husband's property, when he is incapacitated; and her property is not liable in such case for his debts. Property acquired by her, subsequent to an abandonment by him, or separation from him, in consequence of ill-usage, is not liable for his debts. If she live with him again, it is. Marriage contracts are not good where more property is concerned than the portion actually received with the wife at the time of marriage; but subsequent legacies to her are considered as property received by her. A *feme covert* may dispose by will of her own estate. A homestead of the value of $1,000 is exempted from execution, and shall not be aliened if the owner be married, except by the joint deed of him and his wife. The personal property of the wife acquired before or after marriage is free from the husband's debts or contracts. He is not liable for his wife's antennptial debts.

TEXAS.— In Texas, the marriage of a female minor gives her all the right she would have if of age. All property acquired by either party before the marriage, or by gift, devise, or descent afterwards, is a separate property of each; but the husband has the management of the whole. Property acquired by either during marriage, in other ways is common; the husband may dispose of it during coverture; if there are no children, the whole goes to the survivor, otherwise one-half. The parties may be jointly sued for necessaries and for expenses benefiting the wife's separate estate. Execution may be levied on common property, or her separate property, at the plaintiff's option. Marriage agreements must be made before a Notary, and may be acknowledged by a minor, with the parents' or guardian's consent, and are unalterable after marriage. A reservation of property therein to be good must be recorded. Husband and wife may sue jointly and separately, for her effects. The homestead, not exceeding 200 acres of land, if not in any town or city (or if in a town or city, a lot or lots not exceeding $5,000 in value), is exempt from execution. The wife acts jointly with her husband, when she is appointed executrix or administratrix. The survivor takes the common property subject to its debts, nor is it necessary for her husband to administer on such property on her death; as he has the same control of it then that he had in her lifetime. In case of his death, she has the same control, till she marries; when it will be subject to administration. Husband may fill antecedent contracts and be compelled to give bonds for the proper management of the common property. Her separate property is not chargeable with necessaries procured for him. The common property is liable for all debts contracted during marriage. Either may by will give to the survivor the power to keep his and her separate property together, until each of the several heirs come of age; and to manage and control it, subject to law and the provisions of the will.

VERMONT.— In Vermont, in case of desertion, the Supreme Court may authorize a wife of 18 years of age, to convey her real estate, and the personal estate which came to her husband through her, if in the State and undisposed of by him; and require any one owing her husband money in her right to pay it to her; and the proceeds, and her own earnings, and those of her minor children shall be held by her for her own use. If the real estate of a wife be taken for public use, the damages are to be secured to her benefit. The wife of a man under guardianship may join with the guardian in making partition, etc. The wife of a man confined in the State prison is a *feme sole* as to suits for causes arising after his sentence. Married women may devise by will their inheritable real estate. The rents, etc., of all her real estate, and her husband's interest in it, shall be exempt from attachment or execution for his sole debts, nor can he convey them without her. She may insure the life of her husband for her own use, if the premium do not exceed $300. The homestead, not exceeding $500 in value, exempt from sale on execution. The earnings of a married woman and her deposits in savings bank are not subject to trustee process by her husband. The annual product of her real estate is subject to the payment of necessaries for herself and family and for work and materials for their benefit. When abandoned by her husband she may maintain an action in her own name. All personal property, and rights of personal property acquired during coverture, or by inheritance, or distribution, shall be held to her sole and separate use.

VIRGINIA.— In Virginia, a husband of an insane wife may make a deed to bar her right of dower, on leave of Court; but the same interest in the proceeds shall be secured to her. If the husband die intestate, without issue by her, she has the personal property which he had from or with her, and which he has not disposed of if his other personal estate suffices to pay his debts. A homestead not exceeding $2,000 in value. All the property of the wife owned by her at or before marriage, or coming to her after marriage as a separate or sole trader, is not subject to the control of her husband or liable for his debts. She may make contracts in relation thereto; may sue and be sued; but her husband must join in all contracts in relation thereto, except where she is a sole trader, and shall be joined in any suit. She may devise and bequeath same as if *sole*, subject to his right of courtesy. She may file a bill in equity in her own name, if her husband is incompetent or refuses to join in a conveyance of her separate property, and the Court will order a conveyance if it be for her interest.

WEST VIRGINIA.— In West Virginia, the real and personal property of a married woman is secured to her separate use, free from the control or debts of her husband. If living separate, and apart from her husband, she may convey her property, otherwise her husband must join in the deed. She may insure her husband's life for her own benefit, provided the premium does not exceed $150. She may hold and enjoy patents for her inventions; may make deposit in a bank; may hold stock in corporations and vote on the same. Her husband is liable for her debts contracted before marriage only to the extent of the property received by him through her. She may sue and be sued alone in regard to her separate estate, or in suits between herself and her husband, or when she is living separate and apart from him; and she may be a *feme sole* trader, if living apart from him. She may make a will.

WISCONSIN.— In Wisconsin, the marriage of a *feme sole* executrix or administratrix extinguishes her authority. And of a female ward terminates the guardianship as to custody of person, but not as to estate. The husband holds his deceased wife's lands for life, unless she left by her former husband issue to whom the estate might descend. Provisions exist by which powers may be given to married women, and regulating their execution of them. If husband and wife are impleaded, and the husband neglect to defend the rights of the wife, she, applying before judgment, may defend without him; and if he lose her land by default, she may bring an action of ejectment after his death. The real estate of females married before, and the real and personal property of those after Feb. 21, 1850, remain their separate property. And any married woman may receive, but not from her husband, and hold any property as if unmarried. She may insure the life of her husband, son, or any other person, for her own exclusive benefit. The property of the wife remains to her separate use, not liable for her husband's debts, and not subject to his disposal. She may convey her separate property. If her husband desert her or neglect her, she may become a sole trader; and she may insure his life for her benefit. Her husband is not liable for her debts contracted before marriage; the individual earnings of the wife are her separate property, and she may sue and be sued alone in regard to the same. She may make and hold deposits in savings banks. She may by a separate conveyance release her dower in any lands which her husband has conveyed.

AN INDENTURE TO PUT IN TRUST THE PROPERTY OF AN UNMARRIED WOMAN.

This Indenture of two parts, made and concluded this .... day of ....., A. D., nineteen hundred ...., by and between . ... of ....., single woman, of the first part, and ....., and ....., of ....., of the second part,

Witnesseth, That the said party of the first part is seized and possessed of certain real and personal estate; to wit, one undivided moiety of the reversion in and of a messuage and land in ....., bounded as follows:

a mortgage of a lot of land bounded on ..... Street, and described in the deed of ..... to ....., which is recorded in the ..... Registry of Deeds, lib. ....., fol. .....; a mortgage of a lot of land. bounded on ..... Street, and described in the deed of ....., recorded in the said Registry, lib. ....., fol. .....; a mortgage of two lots of land bounded on ..... Street, and described in the deed of ..... to ....., recorded in the said Registry, lib. ....., fol. ... .. ; a mortgage of a lot of land bounded on ..... Street, and described in the deed of ..... to ....., recorded in the Registry aforesaid, lib. ....., fol. .....; 100 shares in the capital stock of the..... Bank in .....; 25 shares in the capital stock of the ..... Bank in .....; and 50 shares in the capital stock of the Bank of .....; also a note of hand signed by the said ...., for the sum of $15,000; a note of hand signed by the said ...., for the sum of $3,000; a note of hand signed by .... and ...., for the sum of $2,500; a note of hand signed by ...., for the sum of $6,000, which notes are severally secured by the lands and tenements, mortgaged as aforesaid; also a note of hand signed by ...., for the sum of $1,000.

All which real and personal estate the said party of the first part is desirous that the party of the second part should have and hold in trust for certain uses and purposes hereinafter set forth and expressed. And in conformity with said intention, and for the purpose of carrying the same into effect, the said party of the first part, in consideration of the sum of $5 paid to her by the party of the second part, the receipt of which she doth hereby acknowledge, and for diverse other good considerations moving her thereto, hath given, granted, sold, and conveyed, and doth give, grant, bargain, sell, and convey, all the said lands, tenements, and real estate, and doth hereby bargain, sell, transfer, assign, and set over all the aforesaid chattels and persoual estate, as the same are above specified and described, under the said .... and ....., and their heirs and assigns. To have and to hold the said granted premises unto the said ..... and ....., and their heirs and assigns, and to the survivor of them, and his heirs and assigns forever to their own use, but in trust nevertheless for the purposes, objects, and intents hereinafter set forth and expressed, and for none other, namely:

First, That the said trustees and their successors in the said trust shall permit the said party of the first part, without any hindrance or interference by them, so long as she shall remain *sole* and unmarried, and shall see fit so to do, to receive and take in her proper person, or by her agent or attorney, the rents, income, dividends, interest, and profits of the said trust estate, real and personal, without any accountability therefor, to them the said parties of the second part; but if required by her, the said party of the first part, so to do, the said trustees and their successors shall collect and receive said rents, income, and profits of the trust estate, and shall from time to time pay over the same unto the said party of the first part for her own use.

Secondly, That from and after solemnization of the marriage of the said party of the first part, whenever that event may take place, the said trustees and their successors shall collect, take, and receive all the rents, income, and profits of the trust estate, real and personal, and shall from time to time pay over the same to the said party of the first part, to aud upon her separate order or receipt, made and signed by her, at or about the time of such payment respectively, and for her proper use, free from the control or interference of any husband she may have.

Thirdly, That at and after the decease of said party of the first part, the said trustees and their successors shall be seized and possessed of the said trust estate to and for the use of such person or persons as the said party of the first part, by any last will and testament, duly executed, if she die *sole* and unmarried, or, in case she be at her decease a married woman, by any paper writing signed by her in presence of two or more credible witnesscs, shall order, and appoint to take, receive, and hold the same, and in such shares and manner, and upon such terms and conditions, as she shall direct, order, and appoint as aforesaid; and in case the said party of the first part shall omit to make any such will or testamentary appointment, then the said trustees and their successors shall hold the trust estate to the use of such person or persons as by the laws of this Commonwealth would, in case the party of the first part had died seized and possessed of the then existing trust property in her own right, have been entitled to the same as heirs-at-law, or distributees; *provided always*, that in such case the husband of the said party of the first part, if she leave a husband, shall be entitled to his life estate in all the real estate, as if he were tenant by the courtesy in and of the same, and be subject to all the duties incident to a tenant by the courtesy.

Fourthly, That the said trustees and their successors shall keep the said trust estate, real and personal, constantly invested in the most safe and profitable manner in their power, but relying always on their discretion in this behalf, and shall accordingly have power to sell and dispose of any of the said trust estate, and to make and pass all necessary deeds and instruments of conveyance thereof, and to purchase any other estate, real or personal and the same to sell again, and so from time to time to change the property composing the trust fund and estate; provided always, that all real and personal estate which may be purchased by them the said trustees with the trust moneys, or the proceeds of sale of the trust property, shall be conveyed and assigned to them and their successors as trustees as aforesaid, and shall be holden always upon the same trusts, and with the same powers, and for the same purposes, as are set forth and declared in this indenture of and concerning the estate firstly above described and conveyed to the said trustees.

Fifthly, That the said trustees or their successors, in case the said party of the first part shall so order and direct, shall invest the trust money or estate, or such part thereof as they shall be ordered as aforesaid, in the purchase of such house for the habitation and dwelling of the said party of the first part as she may select, and shall lay out and expend such other part of the said trust money and estate as she, the said party, shall order and direct, in the purchase of such furniture, plate, horses, and equipages, as she may choose and select for her own use; and shall permit her, the said party of the first part, with any husband she may have, to occupy and inhabit the said house, and to use and enjoy the said furniture, plate, carriages, and horses without impeachment of waste, and without any accountability to them the said trustees for the reasonable wear and use thereof, or injury by casualty; and the trustees shall keep the said house and furniture insured against fire, and, in case of loss or injury by fire, shall lay out and expend the money which they may receive from the assurers, in the repairing or rebuilding of the said house, if so directed by the said party of the first part, and in the purchase of other and new furniture, plate, horses, and equipages in place of those which have been injured or destroyed by fire, and shall permit the said party of the first part

to use and enjoy the same in manuer aforesaid. And the said trustees and their successors shall, when required by the said party of the first part so to do, sell and dispose of any house which may have been purchased by them for the personal occupation and habitation of the said party of the first part, aud shall in manuer aforesaid lay out the proceeds of sale of such house, aud such other moneys as she shall direct, in the purchase of such other house as she shall select and direct them to purchase, aud shall permit her to occupy the same in manuer above set forth and expressed; and they shall also, when directed by the said party of the first part, sell and dispose of any of the furniture and other chattels, so as aforesaid, purchased by them for her use, and shall from time to time lay out and expend the proceeds of such sales and such other sums of money as they shall be directed by the said party of the first part to do, in the purchase of such other furniture, plate, horses, and equipages, as she shall select for her owu use; and shall permit her to use aud enjoy the same in manuer aforesaid; provided always, that in case of auy attempt by any person to sell or remove the said furuiture or other chattels out of the persoual care and custody of the party of the first part, without the conseut of the trustees, they shall forthwith take possession thereof, aud convert the chattels so attempted to be removed or sold, into mouey, and shall hold the said money upon the trusts and for the uses set forth in this iudenture; aud in all the cases in which auy order or direction shall be given by the said party of the first part it shall be in writiug, and be sigued by her in presence of one witness at least.

Sixthly, That in case of the decease of the said trustees, or either of them, others shall be nominated by the party of the first part (if she see fit so to do), to be appointed as trustees in the place of the deceased; aud upon such uomination being made aud notified to the surviving trustee, he shall forthwith, if such person be suitable, make and execute all such iustruments in the law as shall be needful in the opiniou of counsel, to associate such person in the said trust, and to transfer and convey to him the same interest in the trust estate, with the same powers over the same, and subject to the same duties, as are vested in and assumed by the parties of the second part in and by this instrument aud the laws of the land. And in case either of the said trustees, the parties of the second part, or their successors, shall wish to resign said trust, they shall be at liberty to do so, first giving reasonable uotice to the party of the first part, that she may find some suitable person, who shall be acceptable to the remaining trustee, to assume the said trust iu place of the trustee resigning; aud the same proceedings shall then be had for the introduction and appoiutment of a new trustee as are above provided in case of the decease of a trustee; and in case of the decease or resignation at any time of any of the persons who may be hereafter appointed trustees, in manner aforesaid, similar proceedings shall be had for supplying the vacancy created by such decease or resignation. And the trust fund, property, and estate shall always be had and held by the person so appointed froui time to tiue in trust for the uses and purposes set forth iu this indeuture, aud none other. And all nominations made as aforesaid shall be in writing.

Seventhly, That the purchasers of any estate, real or personal, which may be sold and conveyed by the trustees under this indenture, shall not be bound to see to the application of the purchase-money; but the receipt aud acquittance of the trustees shall be a full and adequate discharge to such purchasers for such purchase money.

Eightly, That all the expeuses and iucidental charges of the trustees shall be deducted from the income of the trust property, as well as a reasonable allowauce to the trustees for their owu services.

Ninthly, That the resignation of any trustee shall not be, nor be pleaded as, a bar to the chancery jurisdictiou of the Courts of the Commonwealth, in case a resort against such trustee to the said Court shall be necessary.

Tenthly, That the trustees under this indenture, each for himself and not for each other, shall be responsible for the want of due diligence only in the execution of the said trusts, and for their wilful defaults, aud in case of the omission by the party of the first part to nominate a successor to either of the parties of the second part, or to any person appoiuted instead of them, or either of them who may resign or decease, the surviving or continuing trustee shall have power aud authority to execute all the trusts herein specified and declared, in as ample manner as both the said parties of the second part might jointly have done.

In Testimony Whereof, The said .... aud .... hereto set their hauds and seals, the day and year first above written.

(*Signatures.*) (*Seals.*)

Signed, Sealed, and Delivered in Presence of

(*Witnesses.*) ....

.... Feb. 6, ...

Then the within-named .... acknowledged this instrumeut to be his free act and deed before me.

(Signed.) ....

Justice of the Peace.

Another Form of Indenture in Trust for Property of Unmarried Women.

This Indenture, Made and coucluded this . . day of ....., in the year of our Lord oue thousand nine hundred aud ..., by and between ....., of ..... in the county of ....., siugle woman, of the oue part, and ..... of said .... the father of the said ...., of the other part:

Witnesseth, Whereas the said .... is seized and possessed in her own right, as tenant in commou, of oue undivided fifth part of the following-described real estate; and is also seized and possessed of aud in one undivided fifth part of a certain piece of land, situate on ..... Street in said ....; with the buildings thereon standing, and privileges and appurtenances thereto belonging; the whole of which were conveyed by ..... to ....., by deed bearing date the twenty-eighth of ....., in the year of our Lord one thousand nine hundred and ..., and recorded iu the Registry of Deeds for said county, lib. ....., fol. .....: also of and in one uudivided fifth of one uudivided fortieth part of thirty acres of land situate in said .....; which was conveyed to ...., by ...., by deed bearing date the eighteeuth day of ....., in the year of our Lord nineteen hundred aud ...., and recorded with (Suffolk) Deeds, lib. ....., fol. ..... Aud whereas the said .... is possessed of the following personal estate: to wit, of $18,000 in the capital stock, or shares, of the.....Bank in said ....., as appears by a certificate thereof ...., and is also possessed of the promissory note of said ....., for the sum of $1,500, dated the niuth day of ..... last, and payable by instalments of $500 in one, two, and three years therefroui; and of another promissory note of said ...., for $500, dated the seventh day of ..... last, and payable iu one year therefrom; and also of the bond of ...., and ....., dated the seventh day of ....., iu the year of our Lord one thousand nine hundred and ...., conditioned for the payment of $500 and interest, and of the principal of which there has beeu paid $150, aud all the interest up to the seventh day of ..... last. And whereas she, the said ...., is desirous of securing the said estate, both real and personal, in the event of her marriage, to her sole use and benefit; and for this purpose it hath been agreed, that all the estate and property aforesaid shall be grauted, assigned, aud transferred unto the said .... ., aud to such other trustee as shall hereafter be appointed according to the provisions hereinafter expressed, to be held in trust by them for the separate and sole use aud benefit of her, the said ...., and her heirs (notwithstanding

any such coverture), upon the terms and conditions, for the uses, intents, and purposes, under the limitations, and for and during the time, as hereinafter is expressed.

Now, this indenture witnesseth, that the said ...., in consideration of the premises, and of the covenants hereinafter contained, and also of one dollar now paid to her by the said ...., the receipt whereof is hereby acknowledged, hath granted, bargained, sold, and transferred, and by these presents doth grant, bargain, sell, and transfer, unto the said ...., his heirs and assigns, forever, all the real and personal estate, stocks, notes, and bond, hereinbefore described and specified:

To have and to hold the same to him, the said ...., his heirs and assigns, forever, to and for the several uses, trusts, and purposes, and subject to the several provisions, limitations, powers, and agreements, hereinafter limited, declared, and expressed; that is to say, to the sole use and behoof of the said .... and her heirs until the solemnization of any such marriage, and, from and immediately afterwards, to and for the following uses, intents, and purposes, to wit:

That the said estate, both real and personal, stocks, notes, and bond, shall be held, during the natural life of the said ...., by him, the said ...., and by such other trustee as shall be appointed for that purpose in the manner hereinafter expressed and provided, to the sole use and separate benefit of her the said ...., without being liable to the debts, incumbrances, or control of any husband she may have during the existence and continuance of said trust; that said .... shall, from time to time, lease and demise said real estate to the best profit and advantage; and, at such time as he shall see fit and think proper, sell and dispose of all or any part of said real estate, upon the most advantageous terms, for the interest of said ....; and shall invest the proceeds thereof in the safest and most productive funds; and, upon payment of the capital stocks, notes, or bond aforesaid, invest the same in like manner; that he shall pay all the rents and profits of said real estate while unsold, and the clear interest and income of said funds, and also the clear interest and income of said personal property hereby assigned, and all the net profits arising and accruing therefrom, as well as such portion of the principal as he shall judge necessary for her convenience and support, unto her, the said ...., or to such person or persons, as she shall in writing, without the signature or interference of any husband appoint, for and during the natural life of her, the said ....; that is to say, for and during the term for which said .... trust shall continue, according to the provisions and limitations hereinafter expressed; and, after the decease of the said ...., the remaining income and profit unpaid, to the child or children of the said ...., if she shall leave any; and, upon such decease, grant, convey, and transfer the same estate, both real and personal, and any investments in funds, unto such child or children, his and their heirs and assigns, forever; and also grant and convey, in like manner, any real estate which may be purchased with the proceeds of said property; and in case the said .... should die without issue, then to grant, convey, and transfer the same, in like manner, unto the heirs-at-law of her the said ....

And the said ...., for himself, his heirs, executors, and administrators, doth covenant, grant, and agree, to and with the said ...., her executors and administrators, that in case she, the said ...., should desire any real estate to be purchased with any part of said capital stock, funds, or interest, of the estate and property hereby conveyed, and it should be deemed advantageous and proper by the said ...., to comply therewith, then he will make a purchase thereof, and take deeds of conveyance of such estate in his own name, and will hold the same subject to the like trust, limitations, powers, and agreements as are herein limited, declared, and expressed; and will pay over the rents and income thereof as is above provided, unless she, the said ...., shall choose to occupy and live on the same; and, in such case, no rents shall be exacted or required of any husband of the said .... And in case of mental infirmity, or any other incapacity, which shall, in the opinion of the Judge of Probate for the county of ..... for the time being, prevent a suitable execution of the aforesaid trust by him, the said ...., he does also covenant as aforesaid to grant, sell, and transfer the aforesaid estate and property, both real and personal, which shall then remain in his possession and under his control, and such other as he may have purchased in pursuance of the trust aforesaid, unto any trustee who shall be appointed by the said Judge of Probate for the time being (who, on the happening of such infirmity, or other incapacity, is hereby authorized to make such appointment); to have and to hold the same to such trustee, subject to the several provisions, limitations, powers, and agreements, and upon the same intent, uses, and trusts, in like manner as held by him, the said .... And upon the happening of the death of him, the said ...., he doth further covenant that his heirs or executors or administrators, shall and will, as soon as practicable thereafter, make good and sufficient instruments of conveyance to transfer and grant the aforesaid estate, both real and personal, or such parts thereof as shall then remain undisposed of, and such as may be purchased by him, the said ...., in pursuance of the trust and intent of this indenture, unto such person as shall be appointed the trustee of the said .... for that purpose by the said Judge of Probate for the time being; who is, in that event, authorized to make the appointment. And the said .... doth also further covenant as aforesaid, that upon the death of the said ...., if he shall then be her trustee under the provisions of this indenture, he will grant, transfer, and assign all and singular the estate and property, both real and personal, which he may then hold under the grant and trust aforesaid, unto the child or children of her, the said ...., if she shall leave any. But no grant and conveyance, as is above provided, shall be made unto any such trustee until he shall have given bond, with sufficient sureties, to the Judge of Probate for said county for the time being, for the benefit of the said .... and her heirs, upon condition that he, the said trustee, his heirs, executors, or administrators, shall hold the said estate and property, to be granted and transferred, subject to all limitations, provisions, powers, and agreements, and for the several uses, purposes, and trusts, in this indenture limited, declared, and expressed; and upon the condition that he shall at all times well and truly observe, fulfill, and perform the same.

And the said trustee so appointed shall thereupon have all the powers, and be bound to perform all the duties enjoined upon and required by this indenture, of him, the said ....

In Witness Whereof, The said parties have hereto interchangeably set their hand and seals, the day and year first above written. [SEAL.]

(*Signatures.*)

Signed, Sealed, and Delivered in Presence of ....

(*Witness.*)

....., ss., 30th September, A. D., 19..

Then personally appeared the above-named .... and ...., and severally acknowledged this indenture to be their free act and deed. (*Signature.*)

Justice of the Peace.

DIPPER, PIED WAGTAIL AND YELLOW WAGTAIL

LEGAL RIGHTS AND OBLIGATIONS OF FARMERS.

HIS TITLE TO HIS FARM LANDS.

This right may arise from and rest upon possession, inheritance, purchase, and hiring.

Possession.—If the farmer has possessed, or they from whom he inherits have possessed the land without disturbance or adverse claim for a sufficient number of years, it is his by what is called prescription.

Inheritance.—In this country there is not only an entire absence of the right of primogeniture, but no other difference between the inheritance of real estate or land, and of personal property in goods and chattles, than that which arises necessarily from the difference in the nature of these two kinds of property. In all the states the persons entitled to the real estate of a deceased person are almost always those to whom the personal property would go as to the next of kin to the deceased. A person who takes a farm by inheritance, must take it either under the will of the deceased, or by force of law as heir of the deceased.

Purchase.—In this country land can only be transferred by deeds. If a man makes a bargain to buy a farm and takes possession without having a sufficient deed duly executed, he has no legal title to the farm, which still remains the property of the man who agreed to sell it. If for any reason the parties are not ready to give and receive a deed, the intended buyer should take from the intended seller a bond for a deed. The following is one of several forms:

BOND FOR A DEED OF LAND WITH ACKNOWLEDGMENT BEFORE A NOTARY PUBLIC.

Know all Men by these Presents, That..... of the county of.....and State of..... held and firmly bound to ..... of..... in the sum of .....dollars, to be paid to said ..... his executors, administrators, or assigns, to the payment whereof.... ....bind ..... sel....., heirs, executors, administrators, firmly by these presents, sealed with.....seal, and dated the.....day of....., A. D., 19.....

The Condition of this Obligation is, that if..... the said.....upon payment of ..... dollars and interest, by said....., within.... ....years from this date, agreeably to.....note of even date herewith, shall convey to said....., and ..... heirs forever, a certain tract of land, situated in the County of .....and State of .....to wit: by a.....deed in common form duly executed and acknowledged, and in the meantime shall permit said..... to occupy and improve said premises for ..... own use, then this obligation shall be void, otherwise to remain in full force and effect.

In Testimony Whereof, ... have hereunto set ..... hand and seal ....., the day and year first above written. (*Signature.*) (*Seal.*)

STATE OF.....
COUNTY OF..... } *SS.*

Be It Remembered, That on this.....day of ....., nineteen hundred and.....before me, the undersigned, Notary Public in and for said County and State, duly commissioned and qualified, came .....who.....to be the same person whose name..... subscribed to the foregoing instrument of writing, as party thereto, and.....acknowledged the same to be.....act and deed for the purpose therein mentioned.

In Testimony Whereof, I have hereunto set my hand and affixed my official seal, at my office, in the city of....., the day and year last aforesaid.

Notary Public.

What One Takes by the Deed of a Farm.

1. **Boundaries and Description.**—What land is taken is the first question that arises and this is settled only by the clear and absolute knowledge of the boundaries. These cannot be stated too carefully, and cases where difficulties and law-suits have arisen from inaccurate or insufficient statements concerning them are without number. Always remember that evidence of what the parties meant and intended cannot be used to contradict what they have said in writing.

2. **Contents.**—The rule of law has been for many centuries that whosoever owns land owns all there is above it and all there is below it. Of course all buildings and everything fairly belonging to the buildings go with the farm.

3. **Fixtures.**—They are everything which is fixed or fastened to the land. And if anything be fastened to the land, whatever is fastened to that thing is fastened to the land. The disputes are innumerable which have arisen over whether this or that is a fixture. In general, whatever the owner of the farm fastens to a building or to the ground, or uses constantly with it as an appurtenance to it, is a fixture, and he sells it when he sells the farm. But if a hirer fastens something which he has bought or made to use on the farm and fastens it in such a way that he can remove it and leave the land or building in as good condition as before, he may remove and take it away.

Things held not to be removable by an outgoing tenant.—Barns and sheds fixed in the ground, statues erected on a permanent foundation, chimney-piece not ornamental if it be fast-

ened to the wall, closets and conservatory affixed to the house, fuel-house, hearths, hedges, pigeon-house, pump-house wagon-house, box-boarders not belonging to a gardener by trade, fruit trees not belonging to a nurseryman. These last two illustrate a rule of much force and frequent application; namely, that a tenant of land which he hires to carry on a business there may add things as a part of his business and take them away, which things he would be obliged to leave if they were not connected with his business.

Things held to be removable by an outgoing tenant.— Barns, stables, out-houses, and sheds affixed to the land only temporarily. Ornamental chimney-pieces, fire-frame, furnaces, cooking-stoves, gates, looking-glasses, trade fixtures generally. There are two rules to be remembered of almost universal force. One is that the outgoing tenant who has attached to the land or placed upon the premises anything which he cannot remove and leave the buildings or the land in as good condition as before, must leave that thing behind him. The other is that an owner of land who attaches to his land or building almost any of the things which a tenant may remove, when he sells the land or building sells that thing, unless he expressly reserves a right to remove it.

4. Manure.— If a man sells his farm he sells with the farm all the manure upon it, whether it be spread on the fields or is heaped up in the barn-yard or cellar. If he lets his farm to another the hirer takes the manure unless the lessor reserves the right to take it away and when the lease expires and the land returns to the owner, the manure goes with the land.

5. Rocks, Stones, Soil.— These belong wholly to the owner of the land, and whoever buys it buys an absolute right to them. No man can take away the least portion of earth without a breach of the law.

6. Adjoining Roads.— If one's farm is bounded by a road, and there are no restrictions or reservations in the deeds through which he derives title, he owns to the middle of the road, subject only to the public's right of way; subject also to whatever rights the law of the State gave to surveyors of roads and highways or other officers. Thus, he owns the grass on the road, and may take stone or gravel from the road as freely as from any part of the farm, provided he fills the vacant places with equally good road material and leaves the road in as good condition as before. When the owner of a farm owns to the middle of the adjoining road, he has all the rights to the land consistent with the public right of way. He may plant trees on the sidewalk if permitted by proper authority, or unless they obstruct the use of the road, and they remain his property. Officers charged with the roads may remove them, but individuals are liable for their wantoned destruction. If one fastens his horse to the trees and the horse injures the trees, the man who tied him there is liable.

7. Trees.— The owner of a farm buys and owns all the trees upon it. If at the time of the sale they were blown down or lie on the ground they are his also, unless they had been cut for sale or fuel. If a tree belonging to a farmer overhangs his neighbor's land the neighbor has the right to cut away every twig that comes over his land and every root that grows under his ground. But the fruit, whether it grows upon branches which overhang his neighbor's land or not, belongs to the owner of the tree, and the latter may enter peaceably the other's land and gather and take the fruit away.

Trespassing.

A farmer has entire and absolute possession to his farm, and no one can set foot upon it by day or night against the owner's will without committing a trespass in the eyes of the law, and the man wishing to exercise this right and expel a trespasser, has the protection of the law. But should the trespasser refuse to go and the farmer be compelled to use force to remove him, the farmer is restricted within certain bounds as to the amount of force that he dare use. The trespasser himself is protected to a certain extent. The owner may use whatever force is necessary to expel the trespasser, provided he does him no grievous bodily injury and uses no more force than the trespasser makes necessary.

Farmways.

A neighbor has nothing to do with the roads and ways of a farmer unless the owner give him leave to use them, and a right of way must be conveyed by deed; but should the neighbor claim a right to use one of them and under this claim use the way for twenty years without permission of owner he may claim the right of way by prescription.

Water Rights.

The ponds and running water on a farm belong to the owner but he cannot do anything to destroy the advantage which his neighbor derives therefrom; *i. e.*, he may change the course of the stream on his own land but he cannot divert it from his neighbor's land nor can he change the channel without his own boundaries. He may dam the stream but he cannot overflow his neighbor's land, and if he do so his neighbor may enter his land and remove the obstruction in so far as to relieve his own land from the overflow. If the stream is obstructed by rubbish in his neighbor's land he may remove the rubbish and place it on the shore. If a farm is bounded by a running stream the owner of the farm owns to the middle of the main current.

Fire.

The owner of a piece of land however small it may be may kindle whatever fire he wishes upon it, but he is also responsible for whatever damage may arise from negligence. If his neighbor's fence or buildings are so near that he cannot build a fire on his own land without endangering the other's property, then it would be an act of negligence on his part to build a fire or burn brush on his land anywhere; and if he were sued for damages it would be for the jury to determine whether he were liable and if so for how much. A question then arises which turns upon the established rule that a wrongdoer is always answerable for the immediate or direct effects of his wrongdoing but not further. If we apply this rule to this particular case the man who built the fire or neglected to build or attend it properly will be answerable to his neighbor for the damage done not only to a shed, should it catch fire, but also to the dwelling-house if it were ignited from the shed; but he would not be responsible to a third party whose house caught from the first house. Should a farmhouse be destroyed by fire caught from a railway engine, the railroad companies are responsible if

the damage arose from any fault of theirs. If it arose from no neglect of theirs, whether or not they would be responsible, is generally provided for by the statutes of the different states.

Game.

The game laws in this country are intended to preserve from wasteful destruction animals useful in one way or another. These laws we are forced to say are not particularly well observed and a pitiful and perpetual slaughter is continually going on. Wild animals belong to nobody and the wild birds on a farmer's land are not any more his than any one's else, he has no more right to shoot or ensnare than another. But, no other man has the right to come on his place to shoot them without his permission. The sign "no shooting allowed on these premises" does not mean that a man may be prosecuted for shooting on that piece of land but for trespassing on the land. The owner of a farm does not own the fish in a stream until he catches them, but no stranger has the right without his permission to fish in the stream within the boundaries of the owner's land.

Domestic Animals.

A farmer has certain rights to his domestic animals and has certain liabilities for them. He is liable for any damage they cause and if his cattle break into his neighbor's field, his neighbor may sue him for any harm they do. No one has a right to kill or injure another's domestic animals. If a neighbor's cattle, for instance, trespass on a farmer's land the latter has a perfect right in the eyes of the law to turn them out on the highway without even giving notice to the owner of the cattle. But courtesy would demand him to do so and give his neighbor a chance to recover his property. If the trespassing animals are hens or chickens they may be driven away but they cannot be shot even if the dead bodies are returned to the owner.

If any animals are loose in the public highway and do any damage to a person or property, the owner is answerable. This applies very decidedly to all four footed animals including dogs. Any one may kill a dog who runs at him on the public road or threatens him in any way, or if it annoys or wounds cattle in his own pasture. Most of the States require that dogs should be licensed or they are outlawed and if they are outlawed any one can kill them.

Sales With Warranty.

Animals.— There is one important rule: if anything be bought for special purpose and this purpose is made known to the seller it is considered in law that the article or thing is sold with a warranty that it is fit for that purpose. This rule has been applied to the sale of a horse without express warranty. Mere statements in advertisements or in the course of conversation do not amount to a warranty. Warranty may be limited as to its application or time.

Seeds.— Farmers often suffer immense loss by finding or discovering that seeds that they have bought and sowed were different than what they were bought for. The law here comes to his aid by applying the rule that anything sold for a special purpose is sold with a warranty that it is fit for that purpose. It has been decided in most of the States that if a buyer asks a seller for seed of a particular kind and he sells it to him as good seed of that particular kind, if it turns out to be of some other variety or worthless or dead, the seller is liable to the buyer not merely to the extent of the price which he may have paid for the seed but for all the direct damage which he may have suffered. The seller is thus liable even though the mistake or fraud was not his own. The direct damage thus cited would cover the cost of preparing the field for the seed and the difference in value between the crops which the owner raised and those which he would have raised had the seeds been good and those which they were represented to be.

Fertilizers.— The laws of the State have now greatly diminished the frauds practised in the sale of these articles. A buyer should always insist on a warranty as to the ingredients of which the article consists and as to the percentage of each. The essential iugredients are phospherous, nitrogen, and potash. If the percentage of each is known, the farmer can judge of the efficacy and value of the fertilizer.

Hiring of Help.

Rights and Duties of Help.— The relation of the hired and the hirer is one of contract only. One agrees to sell a certain amount of his time, labor, and skill; and the other agrees to pay for this so much money. Both parties may make just such a bargain as they like. If a man works for a farmer, even if there is no bargain at all, but with the farmer's knowledge and acceptance the law makes a bargain for the parties. The principle is that the man undertakes to perform his duties reasonably well and therefore the farmer is compelled to pay a reasonable price for his services. Another question arises when a man is hired to work for a certain time on certain terms and works only part of that time and then leaves his employer. There is a rule of law that if a party to a contract in which he engages to do one thing does only part of it he cannot claim payment for that part; and the greater part of our Courts apply this rule strictly. Thus, if a hired man engaged for a year leaves without sufficient cause at the end of the eleventh month, he forfeits all his wages and the law will help him with no claim against the hirer for any part of them. But should the man leave because of ill-treatment, sickness, or other sufficient cause, the hirer is bound to pay him for the time he worked.

Liability of the Farmer.— If a hired man commits a theft by the order of the man who hires him both the hired and the hirer would be held responsible; but the latter is not responsible if the theft is committed without his order or assent. But damages arising from negligence or ill-doing of the hired must be answered for by the man who hires him. Thus, if a a farmer directs his hired man to build a fire in a safe place and watch it carefully and the man neglects the farmer's commands, should damage arise to a neighbor's property or land, the farmer himself is responsible.

Hiring of a Farm.

Hiring by Lease.— A lease is a contract whereby one party called the tenant takes the possession of the land and all that is on it and the other party called the landlord gives

possession of the land and agrees to take a rent which a tenant pays him by way of compensation.

A Short Form of a Lease.

This Indenture, Made the.....day of ....., in the year of our Lord one thousand nine hundred and .....

Witnesseth, That I, ...(*name and residence of the lessor*) do hereby lease, demise, and let unto (*name and residence of lessee*) a certain farm or parcel of land, in the city (or town) of..... county of.....and State of.....with all the buildings thereon standing, and the appurtenances to the same belonging, bounded and described as follows:

(*The premises need not be described quite so minutely or fully as is proper in a deed or mortgage of land, but must be so described as to identify them perfectly, and make it certain just what premises are leased.*)

To Hold for the term of..... from the ..... day of.....yielding and paying therefor the rent of .....

And said lessee does promise to pay the said rent in four quarterly payments on the.....day of....., (*or state otherwise just when the payments are to be made*) and to quit and deliver up the premises to the lessor or his attorney, peaceably and quietly, at the end of the term, in as good order and condition, reasonable and proper use thereof, fire and other unavoidable casualties excepted, as the same now are or may be put into by the said lessor, and to pay the rent as above stated, and all taxes and duties levied or to be levied thereon, during the term, and also the rent and taxes, as above stated, for such further time as the lessee may hold the same, and not make or suffer any waste thereof; nor lease nor underlet, nor permit any other person or persons to occupy or improve the same, or any part thereof, or make or suffer to be made any alteration therein, but with the approbation of the lessor thereto, in writing, having been first obtained; and that the lessor may enter to view and make improvements, and to expel the lessee, if he shall fail to pay the rent and taxes as aforesaid, or make or suffer any strip or waste thereof, or fail to fulfill any of the obligations hereinafter recited. That is to say, the said lessee hereby covenants and agrees that he will cultivate the said farm during all his possession of the same, in such manner as good husbandry requires and in especial, that he will (*here insert carefully and fully all the agreements which the parties have made respecting the cultivation of the farm or to which the lessor intends to bind the lessee, and to which the lessee is willing to be bound*). And the said lessor on his part covenants that he will, at the request of the said lessee, renew the lease for the period of.....years, to begin at the expiration of his lease.

In Witness Whereof, The said parties have hereunto interchangeably set their hands and seals the day and year first above written.

(*Signature.*) (*Seal.*)
(*Signature.*) (*Seal.*)
Signed, Sealed, and Delivered in Presence of

There is always one rule to be observed — that it is much easier and much wiser to make all bargains and contracts in such a way as will avoid questions and doubts than it is to answer these questions and satisfy these doubts after they have arisen.

Renewal of Lease.— The lessor is not bound to renew a lease without an express covenant to that effect; a mere understanding or a spoken promise to that effect is not sufficient in the eyes of the law.

Remedy for Non-Payment of Rent.— Leases now almost always contain provisions on this subject. The general provision is that the lessor may expel the tenant if the rent is not duly paid or that the tenant forfeits the lease and all rights under it by non-payment. When the rent is due it becomes a debt and every means for recovering an ordinary debt may be resorted to in this case. But if no provision to this effect has been expressed; *i. e.*, no clause of forfeiture for non-payment of rent has been inserted, the lessor has not at common law the right of re-entry for this cause.

Tenant's Right.— If a lessee is deceived in a farm and he finds that he cannot cultivate the farm and make use of it in the manner he intended, he may vacate the premise and the farmer has no claim against him. The lease is cancelled and the landlord losses his rent if he maliciously interfers with the tenant's proper use and enjoyment of the farm.

Apportionment of the Rent.— The owner of a farm rented to a tenant can sell it as readily as if it were not leased, but he cannot impair the rights of the lessor. The buyer becomes the lessor and becomes possessed of all the owner's original rights and possessions. The owner may sell a part of his farm or he may sell it in different portions to different purchasers. In this case there must be an apportionment of rent; *i. e.*, the tenant pays the same rent as before to the persons entitled to it and in the proper proportion; which is apportioned according to value or quantity, depending on the manner in which the farm was divided. Should the lessor die in the middle of the term the lessee must pay to the executors or administrators of the deceased so much of the rent as accrued before the owner died; and to the heirs afterward in proper proportion.

Cultivation of the Farm.— The understanding of the owner and hirer of the farm on this subject should be reduced to writing in the lease. Distinct bargains as to crops or certain rotation of crops or as to certain lumber to be cut or what fields should be fertilized, etc., should be distinctly set forth in writing in the agreement. Verbal agreements have no effect whatsoever.

Hiring on Shares.— In this case the proprietor furnishes for the use of the occupier such cattle, implements, seeds, etc., as may be agreed upon and the occupier of the land pays an agreed proportion of the produce to the proprietor; proportion varying according to the circumstances, generally from one-third to one-half.

Miscellaneous.— A hirer of a farm is bound to put his lessee into possession with good title. He is, however, under no legal obligation to repair the house unless he expressly agrees to do so. If it becomes wholly uninhabited through no fault of the landlord or the house itself is destroyed, or should a stream overflow and ruin one of the fields or all of them, he is not bound to do anything unless by special agreement. But if the house is uninhabited by its own fault; *i. e.*, if it has some unwholesome defect or annoy-

ance, the tenant may leave the house provided that the defect is not one that tenant knew of or could have known of by reasonable investigation. This rule does not apply if the difficulty or objection has arisen after he has rented the house. If the house is wholly destroyed the tenant must still pay rent, under an ordinary lease. All well-drawn leases have clauses providing that the rent shall cease while the premises are uninhabitable by fire or any other unavoidable calamity.

A tenant of a farm must make all repairs necessary but he is not bound to make general repairs without general agreement. But under the covenant "in good order" he is bound for ornamental repairs such as paper and paint. He is not responsible for taxes unless it is expressly agreed in the lease that he shall be.

The tenant of a farm is bound even without an express covenant to cultivate the land in such a manner as good husbandry, or the usual course of management of such farms as those in his vicinity would require. Should his lease be terminated by an unforeseen and uncontrollable event he is entitled to the annual crop which he sowed while in legal possession of the farm.

COPYRIGHT

AND HOW TO SECURE IT.

Who May Obtain.— The author, inventer, designer, or proprietor of any book, map, chart, dramatic or musical composition, engraving, cut, print, or photograph or negative thereof, or of a painting, drawing, chromo, statuary, and of models or designs intended to be perfected as works of the fine arts, and the executors, administrators, or assigns of any such persons shall, on complying with certain provisions, have the sole liberty of printing, reprinting, publishing, completing, copying, executing, finishing, and vending the same; and, in case of a dramatic composition, of publicly performing or representing it, or causing it to be performed or represented by others. And authors or their assigns shall have exclusive right to dramatize or translate any of their works for which copyright shall have been obtained under the laws of the United States.

Sending of Title.— The author, inventor, or designer of any such book, map, chart, composition, engraving, cut, print, or any other article for which such protection is desired must deliver to the Library of Congress, or deposit in the mail, within the United States, prepaid and addressed to the "Librarian of Congress, Washington, D. C.," a printed copy of the title of the same; and this must be done before the date of publication of the same. Application blanks are furnished free of charge by the Librarian upon written request.

Requisite of Title.— Such "printed title" as the law requires may consist of a printed copy of the title page of such publications as have a title page. In all other cases the title must be printed expressly for copyright entries, with name of claimant of copyright. Typewritten print will be accepted in the lieu of regular press print, but a separate title is required for each entry.

Periodicals.— Current publications, as newspapers, magazines, etc., may be copyrighted, but in such case the title must include the date of publication and the number of the same, and each number of such publication requires a separate copyright entry.

If a musical composition is to be copyrighted the printed title page of the music should be sent. Songs without music are not copyrightable as musical compositions, but as "books." If a painting, drawing, statue, or a model or design for any work of the fine arts is to be copyrighted, a full description of it must be filed with the title, if there be one, as well as a photograph taken directly from the work of art itself.

Deposit of Publications.— To perfect the copyright, two complete copies of the best edition of each book or other article, must be deposited with, or addressed to, the Librarian of Congress, on a day not later than the date of publication of the same. Freight or postage must be prepaid; or, the Librarian will, on application, furnish printed penalty labels for parcels by mail only, in which case they will go free.

Limitations and Penalties.— In order to be copyrightable books must be printed from type set or plates made in the United States. So of the negatives and stones of photographs, chromos, lithographs, etc. Models or designs of works of art may be sent in place of the two printed copies. Without the deposit of the copies required the copyright is void, and a penalty of $25.00 is incurred. If a work is revised materially, a copy of the revised edition must be deposited with the Librarian of Congress.

Notice of Copyright.— The last step necessary to secure a valid copyright is the printing of a copyright notice on each copy of the article protected, for if such notice does not appear upon every copy produced infringement of the copyright cannot be prosecuted. The wording of the notice is determined by statute and must be one of these two forms:

a. Entered according to Act of Congress, in the year (*here insert date*) by (*here insert full name of claimant*) in the Office of the Librarian of Congress, at Washington.

b. Copyright, (*here insert the year*) by (*here insert full name of claimant*).

A penalty of $100 is imposed upon any person who shall insert notice of copyright, or words of the same purport, upon any book or article which has not been copyrighted.

Duration of Copyright.— A coypright runs for twenty-eight years, and, at the end of that time, it may be renewed for fourteen years more, provided application for renewal be made within six months before the end of the time of expiration.

Blanks and instructions for renewals will be furnished on application.

Assignment.—Copyrights are assignable in the usual written form. Every assignment must be recorded in the office of the Librarian of Congress within sixty days of its execution.

Fees.—For recording copyright, fifty cents; for copy of record or certificate of copyright, fifty cents. This renders an inclosure of $1 in all necessary if a certificate is desired. In case of foreign persons, the above fees become $1 and fifty cents respectively. Fees must be paid by express orders, money orders, or currency. Postage stamps are not received. Duplicates of copyright are furnished for fifty cents.

By an Act of Congress which went into effect July 1, 1891, the United States Government removed the limitation of the privilege of copyright to citizens of the United States, thus making it possible for foreign authors to obtain protection in this country upon the same terms as native authors, except that they are required to pay double fee. Under the operation of the amendment of the copyright law, therefore, the privileges of copyright in the United States have been extended to the authors of Belgium, Chili, Costa Rica, Denmark, France, Germany, Great Britain and her possessions, Italy, Mexico, Netherlands, Portugal, Spain, and Switzerland, and the artists, composers, and authors of these nations are now entitled to receive copyright protection from the United States; and American authors and artists may demand the same privilege for their productions under the laws of the other countries, since Congress stipulated that copyright protection should only apply to a citizen of a foreign state or nation when that foreign state or nation permitted citizens of the United States to enjoy the benefits of copyright on practically the same basis as its own subjects.

Agreement between Author and Publisher,—Short Form.

This Agreement, Made this.....day of.....in the year 19... by and between (*name of author*) and (*name of publisher*) witnesseth as follows:

The said (*name of author*) being now preparing a work, to be called.....(*or on the subject of*.....) to be in.....volume hereby agrees and promises to complete the same for the press as rapidly as practicable, and to sell to the same (*name of the publisher*) for the sum of....dollars, to be paid as hereinafter mentioned, the exclusive right of printing, publishing, and selling the first edition thereof, to consist of.... copies. The copyright of said work to be secured and retained by said (*name of author*) as author and proprietor.

And the said (*name of publisher*) hereby agrees and promises to publish said edition of.....copies, and to pay to said (*name of author*) the said sum of .....dollars, by their promissory, negotiable notes, payable at average credit of....months from the day of publication of said edition; and also to give him ....copies of said work, for presentation.

Witness our hands, in duplicate, this....day of....

(*Signature of Author.*)

(*Signature of Publisher.*)

Agreement between Author and Publishers,—Fuller Form.

Articles of Agreement, Made this....day of..... A. D. 19....by and between.....of the first part, and.....of.....State of....., booksellers and publishers, of the second part, witnesseth, That the said (*name of author*) in consideration of the agreements of the said (*name of publishers*) hereinafter contained, hereby agrees with them and their representatives and assigns that he will deliver to them on or before the....day of...., A. D. 19...., the manuscript of a book now in course of preparation by him, to be entitled....., said manuscript to be properly prepared for the press, and to be sufficient in amount for.....volume of not less than....pages,.....similar to those of.....that he will secure in his own name a good and valid copyright thereof for the United States, and any renewals or extensions of such copyright to which he may hereafter be entitled, and will defend the same from all infringements and adverse claims, and will save the said.....and their representatives and assigns, harmless and indemnified from all such infringements and claims, and from all damage, costs, and expenses arising to them by reason thereof; that he will license and allow the said .....and their representatives and assigns, but no other party or parties, to print, publish, and sell the aforesaid book, and any revisions of the same, during the continuance of any copyrights or renewals thereof which he may obtain therefor; provided, however, that the said.....and their representatives and assigns shall in substantial good faith keep and perform their agreements hereinafter contained; and that during the continuance of the exclusive rights hereby granted, he will revise said book as occasion may require, and will with all reasonable diligence and speed superintend in the usual manner of authors the printing of all editions thereof; and will not prepare, edit, or cause to be published, in his name or otherwise, anything which may injure or interfere with the sale of the aforesaid book.

And the said (*name of the publishers*) in consideration of the foregoing agreements of the said author of the aforesaid book, hereby agree on their part that they will, upon the delivery to them of the manuscript thereof as aforesaid, proceed at once to print and publish an edition of said book, of at least .....copies,..... of which they will deliver to the said author for his own use without charge; that they will subsequently, from time to time, during the continuance of their enjoyment of the exclusive rights herein granted them, print and publish such other editions of said book as the demand for the same may require,.....copies of each of which they will deliver to said author for his own use without charge; and they will use their best exertions to secure the speedy sale of all such editions published by them as aforesaid; and that, upon the publication of each and every edition of said book, they will pay unto the said author, or his representatives or assigns, a sum equal to.....upon each and every copy of which

said edition shall consist (excepting, however, said copies to be given to said author as aforesaid, and such other copies as may be used for presentation to editors and others for the purpose of obtaining reviews and notices, or otherwise to promote the sale of said book), which said sum shall be paid as follows (*state the manner and times of payment, as by cash or notes*) but from any sum so to be paid as aforesaid shall first be deducted the cost of any alterations or corrections, exceeding 10 per cent. of the cost of first setting up the type, made by the said author in said book after the portion altered or corrected is in type.

In Witness Whereof, The said parties have hereto, and to another instrument of like tenor, set their hands the day and year first above written.

(*Signature of author.*)

(*Witnesses.*) (*Signature of publishers.*)

An Assignment of a Copyright.

To all Whom it may Concern : Whereas I (*name of assignor*), of.....in the County of.....and State of.....did obtain a copyright from the United States for a work entitled.....and the certificate of said copyright bears date... A. D. nineteen hundred and .....

Now this Deed Witnesseth, That for a valuable consideration ; viz.,.....to me in hand paid, the receipt of which is hereby acknowledged, I have assigned, sold, and set over, and by these presents do assign, sell, and set over unto the said (*name of assignee*) all the right, title, and interest I have in the above book (*or design, etc.*) as secured to me by said copyright. The same to be held and enjoyed by the said (*name of assignee*) for his own use and behoof, and for the use and behoof of his legal representatives, to the full end of the term for which said copyright was issued, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

In Testimony Whereof, I have hereunto set my hand and affixed my seal, this....day of....in the year of our Lord one thousand nine hundred and....

(*Signature.*) (*Seal.*)

Sealed and Delivered in Presence of

LAWS OF NATURALIZATION

How to Become a Citizen of the United States.

Statutes.—The Revised Statutes of the United States prescribe the manner in which an alien may be admitted to citizenship.

Declaration of Intention.—At least two years before his admission he must declare upon oath before a Circuit or District Court of the United States, or a District or Supreme Court of the Territories, or a Court of Record of any of the States having common law jurisdiction and a seal and clerk, that it is his *bona fide* intention to become a citizen of the United States, and to renounce forever all allegiance and fidelity to any foreign prince or State, and particularly to the one of which he may be at the time a subject.

Form of Oath of Admission.—The form of the oath he shall make before one of the above-named courts, at the time he seeks admission to citizenship, must be "that he will support the Constitution of the United States, and that he absolutely and entirely renounces and abjures all allegiance and fidelity to every foreign prince, potentate, State, or sovereignty, and particularly, by name, to the prince, potentate, State, or sovereignty of which he was before a citizen or a subject." These proceedings must be made a matter of court record.

Admission to Citizenship.—If it shall appear to the satisfaction of the Court that the applicant alien has made his declaration of intentions two years before, and has resided five continuous years within the United States, and at least one year within the State or Territory in which the Court is, and that during that time he has behaved as a man of good moral character, attached to the principles of the Constitution of the United States, and well disposed to the good order and happiness of the same, the Court will admit him to citizenship, upon subscription to the above form of oath and renunciation of any title of nobility he may bear.

Alien Soldiers.—Any alien over twenty-one years of age, who has served in the army of the United States and been honorably discharged therefrom, and who has been a resident in the United States for at least one year prior to his application for citizenship, and who bears a good moral character, may become a citizen upon his petition without previous declaration of intention.

Persons Under Twenty-one.—If an alien minor has resided in the United States three years before reaching the age of twenty-one, and continuously thereafter, for a period of five years in all, he may be admitted to citizenship by declaring on

oath and proving to the Court that for two years preceding it has been his *bona fide* intention to become a citizen.

Children.— A child of a naturalized person, if under twenty-one years of age when the father was naturalized, and if living in the United States, shall be considered a citizen thereof.

Birth Abroad.— A child of a citizen of the United States, though born abroad, is a citizen thereof.

Chinese.— Naturalization is prohibited to a Chinaman.

Protection.— All naturalized citizens while in foreign countries are entitled to the same protection to person and property as if a native born citizen.

Voting Right.— Naturalization is a Federal right, but the franchise or right to vote comes from the State. Many States, by statute, permit aliens to vote. The Hawaiians have been declared citizens of the United States; but not as yet the inhabitants of Porto Rico and the Philippines.

Inhabitants of the New Insular Possessions.— The inhabitants of Hawaii were declared to be citizens of the United States under the act of 1900 creating Hawaii a Territory. Under the United States Supreme Court decision in the insular cases, in May, 1901, the inhabitants of the Philippines and Porto Rico are entitled to full protection under the Constitution, but not to the privileges of United States citizenship until Congress so decrees, by admitting the countries as States or organizing them as Territories.

The Law of Trade-Marks.

Who May Obtain.— Owners of trade-marks used in commerce with foreign nations or with Indian tribes, if such owners be domiciled in the United States or located in any foreign country or tribe which by treaty, convention, or law affords similar privileges to citizens of the United States, may obtain registration of their trade-marks by filing in the Patent Office a statement specifying name, domicile, location, and citizenship of the party applying, the class of merchandise, and the particular description of goods comprised in said class to which the trade-mark has been appropriated, a description of the trade-mark itself, a drawing illustrating it, which drawing must be of a standard size, and a statement of the mode in which the trade-mark is applied or affixed to the goods, and of the length of time during which the trade-mark has been used.

Verification.— This statement must be signed by the owner of the trade-mark and must be accompanied by a written declaration, verified by the person or by a member of the firm or by an officer of the company applying, to the effect that such party has at the time a right to the use of the trade-mark sought to be registered and that no other person, firm, or corporation has the right to such use, either in the identical form or in any such near resemblance thereto as might be calculated to deceive; that the trade-mark is used in commerce with a foreign nation or an Indian tribe, and that the description and drawing presented for registration truly represent the trade-mark sought to be registered.

Fee and Duration.— The fee for examining and registering a trade-mark is $25, which includes the certificate. This fee should accompany the application. The certificate of registration is issued in the name of United States of America, under the seal of the Department of the Interior, and signed by the Commissioner of Patents. It remains in force for thirty years from its date, except in a case where the trade-mark is claimed for and applied to an article not manufactured in this country, but receives protection under the laws of a foreign country for a shorter period. In that case it ceases to have any force in this country at the time the trade-mark ceases to be protected in the foreign country.

New Registry and Assignment.— At any time during the six months previous to the expiration of the thirty years the mark may be re-registered for the same term. The right to the use of a trade-mark is assignable by an instrument in writing, which instrument may be recorded in the Patent Office, but said instrument will not be recorded prior to the filing of an application, and it must identify the application by serial number and date of filing, or where the mark has been registered, by the certificate number and the date thereof.

LAWS AND RULES OF THE RAILWAY.

Flags and Lights.— Each train, while running, must display two green flags by day and two green lights by night, one on each side of the rear of the train, as markers, to indicate the rear of the train. Yard engines need not display markers.

Headlight.— Each train when running after sunset, or when the air is obscured by fog or other cause, must display the headlight in front and two or more red lights in the rear. Yard engines must display two green lights instead of red, except when provided with a headlight on both front and rear.

Communication with Engine.— Each car on a passenger train while running must be in communication with the engine.

In the absence of an equivalent appliance a bell-cord must be attached to the signal bell of the engine, passing through or over the entire length of the train, and secured to the end of it.

A Following Train.—Two green flags by day and night, and in addition, two green lights by night, displayed in the places provided for that purpose on the front of the engine, denote that the train is being followed by another train, running on the same schedule and entitled to the same time rights as the train carrying the signals.

Extra Trains.—Two white flags by day and night, and in addition two white lights by night, displayed in the places provided for that purpose on the front of an engine, denote that the train is an extra. These signals must be displayed by all extra trains.

The Safety Flag.—A blue flag by day and blue light by night placed on the end of a car, denote the car inspectors are at work under or about the car or train. The car or train thus protected must not be coupled to, or moved, until the blue signal is removed by the car inspectors.

Prior Notice.—When a car or train standing on a siding is protected by a blue signal, other cars must not be placed in front of it so that the blue signal will be obscured, without first notifying the car inspector, that he may protect himself.

Whistle Signals.—One long blast of the whistle is the signal for approaching stations, railroad crossings, and junctions (thus,—).

One short blast of the whistle is the signal to apply the brakes—stop (thus,-).

Two long blasts of the whistle is the signal to throw off the brakes (thus,— —).

Two short blasts of the whistle is an answer to any signal, except "train parted" (thus,- -).

Three long blasts of the whistle (to be repeated until answered as provided) is a signal that the train has parted (thus,— — —).

Three short blasts of the whistle, when the train is standing (to be repeated until answered), is a signal that the train will back (thus,- - -).

Four long blasts of the whistle is the signal to call in a flagman from the west or south (thus,— — — —).

Four long blasts followed by one short blast of the whistle is the signal to call a flagman from the east or north (thus, — — — — -).

Four short blasts of the whistle is the engine-man's call for signals, from switch tenders, watchman, trainmen, and others (thus,- - - -).

Five short blasts of the whistle is the signal to the flagman to go back and protect the rear of the train (thus,- - - - -).

One long, followed by two short blasts of the whistle, is a signal to be given by trains when displaying signals for a following train to call the attention of trains of the same or inferior class to the signals displayed, (thus,— - -).

Two long, followed by two short blasts of the whistle, is a signal for approaching road crossings at grade (thus,— — - -).

A succession of short blasts of the whistle is an alarm for persons or cattle on the track, and calls the attention of trainmen to danger ahead.

Whistle-Cord Signals.—One blast of the signal-whistle when the train is standing, is the signal to start.

Two blasts of the signal-whistle, when the train is running, is the signal to stop at once.

Two blasts of the signal-whistle, when the train is standing, is the signal to call in the flagman.

Three blasts of the signal-whistle, when the train is running, is the signal to stop at the next station.

Three blasts of the signal-whistle, when the train is standing, is the signal to back the train.

Four blasts of the signal-whistle, when the train is running, is the signal to reduce spead.

When one blast of the signal-whistle is heard, while the train is running, the engineer must immediately ascertain if the train is parted.

Signals of the same number of sounds shall have the same significance when given by other appliances.

Lamp Signals.—A lamp swung across the track is the signal to stop.

A lamp raised and lowered vertically is the signal to move ahead.

A lamp swung vertically in a circle across the track, when the train is standing, is the signal to move back.

A lamp swung vertically in a circle at arm's length across the track, when the train is running, is the signal that the train has parted.

A flag, or the hand, moved in any of the above directions, will indicate the same signal as given by a lamp.

Fixed Signals.—Fixed signals are placed at junctions, crossings, stations, and other places that require special protection, and special instructions indicate their position and use.

LEGAL DEFINITIONS

Abandonment.— By this is meant, in insurance law, the transferring of property insured, or what is left of it, to insurers.

Abduction.— This is the taking and carrying away of a child, ward, wife, etc., by force, fraud, persuasion, or open violence.

Abortion.— The criminal act of miscarrying or producing young before the natural time. It is classed as murder.

Abuse.— To treat rudely, or with reproachful language; to revile. The crime applies to property as well as person, as the person is liable for whatever injury arises from the abuse of property.

Accessory.— Is an abettor or accomplice in a crime, and in most of the states an accessory is equally punishable with the principal. An Accessory Before the Fact is one who, being absent at the time the crime is committed, yet commands, counsels, or procures another to commit it. An Accessory After the Fact is one who, knowing an offense to have been committed, assists, conceals, receives, or relieves the criminal.

Accusation.— Is the charge in writing, upon oath or affirmation, against one or more persons of a felony or misdemeanor. It must be presented in some court having jurisdiction of the offense, and must be made by a person competent to testify.

Acquittal.— Is the deliverance from the charge of an offense, either by the court or jury.

Action.— The word "action" as used in the New Revision of the Statutes, when applied to judicial proceedings, signifies an ordinary prosecution in a court of justice, by one party against another party, for the enforcement or protection of a right, the redress or prevention of a wrong, or the punishment of a public offense. Every other prosecution by a party for any of the purposes specified above is a "special proceeding." Actions are of two kinds: 1. Civil; 2. Criminal.

Administrator.— Is one appointed by the court to settle the estate of a deceased person. If the deceased left a will, but did not appoint an executor, or the appointed executor refuses to act, or resigns or dies, or fails for any reason to act, an administrator is appointed by the court "with the will annexed."

Admiralty.— Admiralty means that branch of the judiciary that takes cognizance of maritime affairs civil and criminal.

Admonition.— A reprimand from a person to a person accused, on being discharged, warning him of the consequences of his conduct.

Adulteration.— The unlawful act of corrupting or debasing an article of food so as to render it impure and unwholesome.

Adultery.— Voluntary sexual intercourse of a married person with a person other than the offender's husband or wife.

Affidavit.— This includes a verified pleading in an action or a verified petition or answer in a special proceeding.

Affray.— A fight by agreement between two or more persons in a public place. Fighting in private is assault and battery.

Affront.— An uncivil encounter, ill-treatment, insult, outrage, offense.

Agent.— A general agent is one authorized to represent his principal in all his business or in all of his business of a particular kind. A particular agent is one authorized to do only a specific thing or a few specified things.

Agreement.— A bargain where both parties make promises and come under obligations each to the other, if made without seal, is then called an agreement.

Aiding and Abetting.— The act of being in such communication, and so situated during the commission of a crime, as to readily aid the perpetrator.

Amercement.— The pecuniary penalty or fine imposed on an offender by the court.

Amnesty.— General pardon of the offenses of subjects against the Government.

Annulment.— A warrant of attachment against property is said to be "annulled" when the action in which it was granted abates or is discontinued; or a final judgment, rendered therein in favor of the plaintiff, is fully paid; or a final judgment is rendered therein in favor of the defendant. But in the case last specified, a stay of proceedings suspends the effect of the annulment and the reversal or vacating of the judgment revives the warrant.

Arbitration.— The hearing and determining of a controversy by a person or persons mutually agreed upon by the parties to the dispute.

Arraignment.— Act of calling a defendant before the court for trial.

Arrest.— The taking of a person into custody that he may be held to answer for a public offense.

Arson.— The malicious burning of another's house. The term "house" in law comprehends all other buildings.

Assassination.— A murder committed for hire, or without provocation or cause of resentment given by the murdered person.

Assault.— An unlawful setting upon a person; an attempt or offer to beat a person without touching his body. An aggravated assault is one committed with the intention of committing some additional crime. Assault is generally coupled with battery, for they generally go together.

Assets.— This word signifies personal property applicable to the payment of the debts of a decedent.

Banishment.— A punishment inflicted upon criminals by compelling them to quit their place or country for a stated time or for life.

Barratry.— The stirring up of quarrels and lawsuits.

Battery.— An unlawful beating, or other wrongful physical violence inflicted on a person without his consent.

Bigamy.— Wilfully contracting a second marriage when the party knows that a first already exists.

Bill.— The legal meaning of "bill" is always a draft or order on somebody to pay money.

Blasphemy.— Speaking evil of the Deity with impious purpose to derogate from the divine majesty.

Bona-Fide.— In good faith, without deceit.

Bona-Fide Creditor.— One whose claim is founded on a valuable consideration without taint of fraud or collusion.

Bona-Fide Purchaser.— One who has bought property in good faith and for good consideration.

Bribery.— The receiving or offering of an undue reward by or to any person connected with administrative affairs in order to influence his behavior or induce him to act contrary to duty.

Burglary.— Breaking in and entering the house of another in the night time, with the intent to commit a felony therein.

Chattels.— Any article of personal property. Chattels include every species of property which is not real estate.

Chattel Mortgage.— A conditional transfer of movable property as security for a debt.

Cheat.— Defrauding, or endeavoring to defraud, another of his known right by some wilful device contrary to rules of common honesty.

Choses in Action.— The same as "things in action."

Civil Action.— There is only one form of civil action. The distinctions between actions at law and suits at equity, and the forms of those actions and suits, have been abolished.

Clerk.— This word signifies the clerk of the court, wherein the action or special proceeding is brought, or wherein, or by whose authority, the act is to be done, which is referred to in the provision in which it is used. If the action or special proceeding is brought, or the act is to be done, in or by the authority of the Supreme Court, it signifies the clerk of the county wherein the action or special proceeding is triable, or the act is to be done.

Codicils.— A codicil is a little additional will; a testamentary disposition, not revoking the former will, but varying it in some way or making changes in it. There can be but one will and that the last; but there may be any number of codicils, all valid.

Common Law.— All law is divided into what is called Common Law and Statute Law. A large proportion of the laws binding upon us were made by legislatures in a formal and regular way; all these are Statutes and taken altogether they compose the Statute Law. Besides this, however, there is another large portion which was not enacted by legislature; and it is called the Common Law. All law was regularly enacted or it was not. If it was, it is Statute Law; if it was not so enacted it is Common Law.

Complaint.— An accusation made to a proper officer that some person, known or unknown, has been guilty of a designated offense.

Consideration.— It is an ancient rule of Common Law that no promise can be enforced at law unless it rests upon a consideration; the word as it is here used denotes some *substantial* cause or reason for the promise.

Consignee.— The person to whom goods or other property has been consigned.

Consignment.— The act of sending property to a person for care, sale, or shipment.

Conspiracy.— The combination of two or more persons to accomplish some criminal or unlawful purpose.

Contract.— An agreement recognized by law as constituting an obligation to do or not to do a particular thing.

Conveyance.— The act of transferring title to property by a written instrument. Also the instrument whereby the title is transferred.

Conviction.— That legal proceeding of record which ascertains the guilt of a party and becomes the basis of judgment or sentence.

Covenants.— A written agreement between parties under seal.

Coverture.— A law term meaning marriage.

Creditor.— This includes every person having a claim or demand upon which a judgment for a sum of money, or directing the payment of money could be recovered in an action; any person having a claim for expense of administration; or any person having a claim for funeral expenses.

Criminal Action.— A "criminal action" is prosecuted by the people of the State as a party, against a person charged with a public offense for the punishment thereof.

Criminal Contempts.— A Court of Record has power to punish for a criminal contempt of Court a person guilty of any of the following acts and no others: 1. Disorderly, contemptuous, or insolent behavior, committed during its sitting, in its immediate view and presence, and directly tending to interrupt its proceedings, or to impair the respect due to its authority. 2. Breach of the peace, noise, or other disturbance, directly intended to interrupt its proceedings. 3. Wilful disobedience to its lawful mandate. 4. Resistance wilfully offered to its lawful mandate. 5. Contumacious and unlawful refusal to be sworn as a witness; or after being sworn, to answer any legal and proper interrogatory. 6. Publication of a false or grossly inaccurate report of its proceedings. But a Court cannot punish as a contempt the publication of a fair and true report of a trial argument, decision, or other proceeding therein.

Culprit.— The person guilty, or supposed to be guilty, of a public offense.

Debts.— This word includes every claim and demand, upon which a judgment for a sum of money, or directing the payment of money, could be recovered in an action.

Decision.— This word when used in connection with a trial means the decision of the Court upon a hearing, or the trial of an issue, before the Court, without a jury.

Deed.— By the old law no instrument was considered made until it was sealed; then it was thought to be done, and the

word *deed*, which literally means only something done, was given to every written instrument to which a seal was affixed; and that is the legal meaning now. But the common meaning of the word is an instrument for the sale of lands.

Demurrage.— The detention of a vessel beyond her specified time of sailing; also, the compensation claimed or allowed for such delay.

Demurrer.— A pleading that admits the facts stated in the pleading to which it replies but denies that they are sufficient to constitute a good cause of action or defense in law; an issue on a question of law.

Desertion.— Unlawful abondonment of wife or child, or of the public service in army or navy.

Deviation.— Means, in the law of insurance, any departure from or change of the risks insured against.

Distinct Parcel.— A distinct parcel of real property is a part of the property which is or may be set off by boundary lines as distinguished from an undivided share or interest therein.

Domestic Corporation.— Is a corporation created by or under the laws of the State; or located in the State, and created by or under the laws of the United States.

Embezzlement.— Fraudulently removing and secreting personal property with which the party was intrusted, for the purpose of applying it to his own use.

Embracery.— An attempt to influence or corrupt a jury, or in any way incline them to favor one side or the other, by money promises, threats, or persuasions, whether the jurors on whom such attempt is made give a verdict or not, or whether the verdict be true or false.

Entry of Judgment.— Every interlocutory judgment or final judgment shall be signed by the clerk and filed in his office, and such filing and signing shall constitute the entry of the judgment.

Equity.— The system of collateral or supplementary law administered by Courts of Equity.

Equity of Redemption.— The equitable right accorded to a mortgagor to redeem his mortgaged premises on payment of the sum due notwithstanding that the time appointed for payment is past.

Exchange.— Is the transfer of chattels for other chattels.

Executor.— An executor is the one named in the will of a deceased person, to settle his or her estate. There may be one or more; and they may be either male or female.

Extortion.— The unlawful taking of an officer, under color of his office, of anything of value that is not due him or of more than is due, or before it is due.

False Pretense.— A false representation and statement made with a fraudulent design to obtain money, goods, wares, and merchandise with the intent to cheat.

Felony.— An offense punishable by death or imprisonment in the State prison or penitentiary. It is clearly defined by the statutes of most states.

Feme Covert.— Means a married woman.

Feme Sole.— Means a single woman.

Final Order and Decree.— The final determination of the rights of the parties to a special proceeding in a Surrogate's Court is styled indifferently a final order or a decree.

Fines.— A pecuniary punishment imposed by lawful tribunal upon a person convicted of a criminal offense.

Foreign Bills.— These are bills of exchange which are drawn or payable in a foreign country.

Forfeiture.— A punishment annexed by law to some illegal act or negligence.

Forgery.— Falsely making or materially altering, with intent to defraud, any writing which if genuine might be of legal efficacy or the foundation of a legal liabilty.

Fornication.— Unlawful carnal knowledge by an unmarried person of another whether the latter be married or unmarried.

Fraud.— Any deceitful practise by means of which one seeks to defraud another of his known right contrary to the rules of common honesty.

Gaming.— An agreement between two or more persons to play by certain rules of cards, dice, or other contrivance that the result shall determine the owner of an amount staked.

Garnishee.— 1. To secure by garnishment any debt or property, in the hands of a third person, which is due or belonging to the defendant in attachment. 2. A debtor who is warned not to pay or deliver to his creditor money or property due or belonging to the latter.

General and Special Verdict.— A general verdict is one by which the jury pronounces generally upon all or any of the issues, in favor either of the plaintiff or defendant. A special verdict is one by which the jury finds the facts only leaving the Court to determine which party is entitled to judgment thereupon.

Guarantor.— Is one who is bound to another to the fulfillment of a promise or of an engagement made by a third party.

Guilt.— Criminality, offense, liability to punishment. One is presumed to be innocent until guilt is proved.

Habeas Corpus.— A writ having for its object to bring a person before a Court or Judge, literally "have the body."

Homicide.— The killing of a human being by human agency. It may be excusable or felonious.

Housebreaking.— Breaking in and entering a dwelling-house of another by night or day with the intent to commit a felony therein. Housebreaking by night is burglary.

Impeachment.— A written accusation by the State or Federal House of Representatives to the Senate against a State or Federal official.

Incest.— Sexual commerce between persons related within the degrees wherein marriage is prohibited by law.

Incompetent Person.— A lunatic, idiot, habitual drunkard. or imbecile is constituted an incompetent person.

Indecency.— That which is unfit to be seen, offensive to delicacy and modesty.

Indenture.— A bargain where both parties make promises and come under obligations each to the other, if made under seal bears the name of indenture.

Indictment.— A written accusation or formal charge of a crime or misdemeanor referred to a Court by a grand jury under oath.

Infants.— All persons are infants in the law until the age of twenty-one.

Inheritance.— Signifies real property descended as prescribed by law.

Injury to Property.— Injury to property is an actionable act whereby the estate of another is lessened, other than a personal injury or the breach of a contract.

Inland Bills.— Bills of exchange may be foreign bills or inland bills. Inland bills are drawn and payable at home.

Interest.— Means the payment of money for the use of money.

Intestacy.— When a person dies without a will he or she is said to die intestate. Therefore, it becomes necessary for the State to provide laws for the descent and distribution of such intestate's property, real and personal — to whom it shall go, in what proportions, etc. Such laws are called intestate laws or laws of descent or inheritance, and are important to nearly every person.

Intestate.— This word signifies a person who died without leaving a valid will, but where it is used with respect to particular property, it signifies a person who died without effectually disposing of that property by will, whether he left a will or not.

Issue.— An issue arises where a fact or conclusion of law is maintained by one party and controverted by another. Issues are of two kinds: 1. Of law; 2. Of fact.

Joint-Tenancy and Joint-Tenants.— Are law terms; when two or more persons own anything jointly, as *joint-tenants*, if one dies, the survivor or survivors take the shares or interest of the deceased person.

Judge.— This word includes a Justice, Surrogate, Recorder, Justice of the Peace, or other judicial officer, authorized or required to act or prohibit from acting in or with respect to the matter or thing referred to in the provision wherein that word is used.

Judgment.— A judgment is either interlocutory or a final determination of the rights of the parties in the action.

Judgment Creditors.— This term signifies the person who is entitled to collect or otherwise enforce in his own right a judgment for sum of money or directing the payment of a sum of money.

Judgment Creditor's Action.— This is an action brought by a judgment creditor to aid the collection of a judgment for a sum of money, or directing the payment of a sum of money.

Judicial Settlement.— This expression, where it is applied to an account, signifies a decree of a Surrogate's Court, whereby the account is made conclusive upon the parties to the special proceeding, either for all purposes or for certain purposes specified in the statute; and an account thus made conclusive is said to be "judicially settled."

Kidnapping.— The act of stealing or forcible abduction of a human being from his home or country.

Larceny.— Unlawful or felonious taking and carrying away by one person of the personal goods and chattels of another with intent to convert them to his own use, and without the consent of the owner.

Law-Merchant.— By this is meant the law of mercantile transactions; all that branch of the law and all those principles and rules which govern mercantile transactions of any kind.

Law of Place.— If either of the parties to a contract is not at home, or if both are not at the same home, when they enter into the contract, or if it is to be executed abroad, or if it comes into litigation before a foreign tribunal, then the rights and the obligations of the parties may be effected either by the law of the place of the contract or by the law of a domicile or home of a party, or by the law of the place where the thing is situated to which the contract refers, or by the law of the tribunal before which the case is litigated. All of these are commonly included in the Latin phrase *lex loci* or as the phrase is translated, the Law of Place.

Lay-Days.— Lay-days or working days in the law of shipping, are so many days which the charterer is allowed, without paying for them, or paying only a small price, for loading or unloading the vessel.

Lease.— A lease is a contract whereby one party (the tenant) takes the possession of the land and all that is on it, and the other party (the landlord) gives possession of the land, and agrees to take a rent which the tenant pays him by way of compensation.

Lessee.— The person to whom property is granted or demised; a tenant holding under lease.

Letters of Administration.— This expression includes letters of temporary administration.

Libel.— Slander written and published; a malicious publication expressed either in print or in writing, or by signs or pictures, tending to injure the memory of one dead, or the reputation of one alive, and exposing to public hatred, contempt, and ridicule.

Lien.— A legal claim or hold on property as security for a debt or charge.

Lienor.— The holder of a lien.

Limitation.— The time within which the claim or an accusation may be made, or an indictment found for a crime. Limitation never expires for the crimes of murder and treason.

Maintenance.— Officious interference in a suit in which the offender has no interest, to assist one of the parties against the other.

Malice.— The intentional doing of an unlawful or felonious act without just cause or excuse.

Malpractise.— Bad or unskilful practise by a physician or other professional person whereby the health or members of a patient is injured.

Mandate.— This word includes a writ, process, or other written direction issued pursuant to law, out of a Court, or made pursuant to law by a Court, or a Judge, or a person acting as a judicial officer and commanding a Court, board, or other body, or an officer or another person, named or otherwise designated therein, to do or refrain from doing, an act therein specified.

Man-slaughter.— The unlawful killing of one human being by another, without malice or intention.

Mayhem.— Violently and unlawfully depriving another of the use of any bodily member, or wilfully disabling the tongue or eye, or slitting or biting the nose, ear, or lip of another.

Merger.— The absorption of a lesser offense, or title, or quantity of another.

Misdemeanor.— An offense punishable by a fine or impris-

onment in a common jail, or both. It is an inferior offense to felony.

Motion.— An application for an order is a motion. Such application or motion must be made to a Court or to a Judge or Justice thereof.

Mutiny.— Unlawful insurrection or revolt of soldiers or sailors against the authority of their commanders.

Naked Bargain.— Is a promise made without a consideration; and the promissor is under no legal obligation to perform it.

Negotiable Paper.— Paper; that is, bills of exchange or promissory notes, or drafts, or checks, payable to the order of a payee or to bearer.

Next of Kin.— This term includes all those entitled, under the provisions of law relating to the distribution of personal property, to share in the unbequeathed residue of the assets of a decedent after payment of debts and expenses, other than the surviving husband or wife.

Order.— A direction of a Court or Judge, made in an action or special proceeding, must be in writing, unless otherwise specified in the particular case. Such a direction, unless it is contained in a judgment, is an order.

Pardon.— An act of grace proceeding from the power entrusted with the execution of the laws, which exempts an offender from the penalty of his crime.

Parties to a Civil Action.— The party prosecuting the civil action is styled the plaintiff; the adverse party is styled the defendant.

Perjury.— The crime of making a false oath when lawfully administered in any judicial proceeding.

Person.— This term includes a natural person and also a corporation, joint-stock association, the state and political division thereof, and any commission, board, board of trustees, or managers in charge or having control of any of the charitable or other institutions of the State.

Personal Injury.— Personal injury includes libel, slander, criminal conversation, seduction, and malicious prosecution; also an assault, battery, false imprisonment, or other actionable injury to the person either of the plaintiff or of another.

Person Interested.— This expression, where it is used in connection with an estate or a fund, includes every person entitled, either absolutely or contingently, to share any estate or the proceeds thereof, or in the fund, as husband, wife, legatee, next of kin, heir, devisee, assignee, grantee, or otherwise, except as a creditor.

Personal Property.— This expression signifies every kind of property which survives the decedent other than real property as herein defined and includes the right of action conferred by special statutory provision upon an executor or administrator.

Per Capita.— As an individual, distinguished from

Per Stirpes.— As a family.

Piracy.— The crime of robbery or forcible depredation on the high seas. It corresponds to robbery on land.

Power of Attorney.— Legal written authority to transact business for another person.

Property.— The word is seldom or never used in law as it is in common conversation. In law it means the ownership of the things and not the things themselves.

Pro Rata.— Means in proportion; as, the loss was shared *pro rata*.

Rape.— Carnal knowledge of a woman by a man forcibly and against her will.

Real Property.— Includes every estate, interest, and right, legal or equitable, in lands, tenements, or hereditaments, except those which are determined or extinguished by the death of a person seized or possessed thereof, or in any manner entitled thereto, and except those which are declared by law to be assets.

Receipt.— Receipt is only acknowledgment that a sum of money has been paid.

Report.— When used in connection with a trial or other inquiry, or a judgment, means a referee's report.

Reprieve.— Withdrawal of sentence for a time. It operates in delay of execution.

Riot.— An act done in a violent and tumultuous way by three or more persons to the terror of the people, whether the act intended was lawful or unlawful.

Robbery.— The forcible and felonious taking from the person of another of goods, money, or any article of value, by violence or putting in fear.

Sale.— Sale is a transfer of the property in goods from a seller to a buyer for a price paid or to be paid in money; a sale is a transfer of chattels for money.

Salvage.— If a ship of cargo meets with disaster and the larger part is destroyed or lost, and any part be saved, that which is saved is called the "Salvage." Another meaning is: By an ancient law maritime property which has sustained disaster and is in danger of perishing may be saved by any person who can save it; and the person so saving it acquires a right to compensation and a lien or claim on the property saved for compensation.

Slander.— False and defamatory words spoken of another when they (1) charge the commission of a criminal offense, (2) impute a contagious or loathsome disease, (3) are spoken in reference to a person's profession or trade or his conduct in public office, or (4) are productive of special damage.

Smuggling.— The fraudulent taking into a country or out of it any article of merchandise prohibited by law.

Sodomy.— Carnal intercourse of human beings with each other against nature, or with a beast.

Statute Law.— See "Common Law."

Stealing.— See "Larceny."

Stoppage in Transitu.—*In transitu* means in the transit. The meaning of the whole phrase is: A seller who has sent goods to a buyer at a distance, and after sending them learns that the buyer is insolvent, may stop the goods at any time before they reach the buyer. His right to do this is called the right of *stoppage in transitu*.

Subornation of Perjury.— The offense of procuring another to commit legal perjury, who, in consequence of the persuasion, takes the oath to which he has been incited.

Supra Protest.— This is a phrase used both by merchants and in law meaning *upon* or *after protest*.

Tenancy by the Courtesy.— The life right of a husband in his wife's real estate is called in law his tenancy by the courtesy.

Testamentary Trustee.— This expression includes every person except an executor, an administrator with the will annexed, or a guardian, who is designated by a will or by any competent authority, to execute a trust created by a will; and it includes such an executor or administrator, where he is acting in the execution of a trust created by the will, which is separable from his functions as executor or administrator.

Things in Action.— Those which are so called because he who owns them cannot get possession of them without an action, if other persons choose to resist them.

Things in Possession.— Are things which one has now in his hands.

Tort.— A private or civil wrong or injury independent of a contract. The commission or omission of an act by one without right whereby another receives some injury directly or indirectly in person, property, or reputation.

Treason.— The levying of war against a State or Nation, adhering to its enemies, giving them aid and comfort.

Trespass.— Injurious visitation or encroachment on the property of another. Where wilful or mischievous it is malicious trespass.

Usury.— If more interest is paid or agreed to be paid than is allowed by the regulations of law it is called usurious interest.

Vagrant.— A wandering person without a home, who refuses to work and depends on begging for food, shelter, and clothing.

Vended.— The thing sold is vended.

Vendee.— Means the man to whom something is sold.

Vendor.— Means the man who sells.

Will.— This word signifies the last will and testament and includes all the codicils to a will.

LEGAL HOLIDAYS

IN THE UNITED STATES.

No National Holiday.— There is no national holiday in the United States. Congress has at various times appointed special holidays. Thus, the Fifty-third Congress made Labor Day a holiday in the District of Columbia, and it has recognized the existence of certain holidays for commercial purposes. The President's proclamation of Thanksgiving makes it a legal holiday only in the District of Columbia and in those States which provide for it by statute.

Saturday Half-Holiday.— This half-holiday is rapidly growing in favor and is recognized by law in Colorado, Connecticut, Delaware, District of Columbia, Louisiana, Massachusetts, Michigan, New Jersey, New York, Pennsylvania, Rhode Island, Virginia; and by custom in California, Illinois, Iowa, Minnesota, New Hampshire, Washington, Wisconsin. In Maryland it is recognized by law in Baltimore, Hartford, and Montgomery counties; in Missouri in cities over 100,000 population; in Ohio in cities over 50,000 population; in Texas by custom during summer; in South Carolina in Charleston only.

Arbor Day.— Is a legal holiday, rapidly growing in favor, in Arizona, Maine, Minnesota, North Dakota, Wisconsin, and Wyoming, the date being set by the Governor. In Texas it is observed February 22; in Nebraska, April 22; Montana, May 8; Utah, April 15; Rhode Island, May 11; Florida, first Friday in February; Georgia, first Friday in December; Colorado, first Friday after May 1, as a school holiday; in several other States on one or more customary dates as a school holiday only.

Other Legal Holidays.— Other legal holidays in the various States are:

January 1. New Year's Day: In all the States (including the District of Columbia, Arizona, and New Mexico), except Massachusetts, Mississippi, and New Hampshire.

January 8. Anniversary of the Battle of New Orleans: In Louisiana.

January 19. Lee's Birthday: In Florida, Georgia, North Carolina, South Carolina, Virginia, and Alabama.

February 11, 1903. Mardi-Gras: In Alabama and the parish of Orleans, Louisiana.

February 12. Lincoln's Birthday: In Connecticut, Illinois, Minnesota, New Jersey, New York, North Dakota, Pennsylvania, Washington (State), and Wyoming.

February (Third Tuesday). Spring Election Day: In Pennsylvania.

February 22. Washington's Birthday: In all the States (including the District of Columbia and Arizona), except Mississippi, where it is observed by exercises in the public schools only.

March 2. Anniversary of Texan Independence: In Texas.

April 1, 1904. Good Friday: In Alabama, Louisiana, Maryland, Pennsylvania, Tennessee.

April 6. Confederate Memorial Day: In Louisiana.

April 19. Patriots' Day: In Massachusetts.

April 21. Anniversary of the Battle of San Jacinto: In Texas.

April 26. Confederate Memorial Day: In Alabama, Florida, Georgia, and Mississippi.

May 10. Confederate Memorial Day: In North Carolina and South Carolina.

May (Second Friday). Confederate Day: In Tennessee.

May 20. Anniversary of the Signing of the Mecklenberg Declaration of Independence: In North Carolina.

May 30. Decoration Day: In all the States and Territories (and District of Columbia), except Alabama, Florida, Georgia, Idaho, Louisiana, Mississippi, North Carolina, South Carolina, Texas, and Virginia.

June 3. Jefferson Davis' Birthday: In Florida, Georgia, and Alabama.

July 4. Independence Day: In all the States and the District of Columbia, Arizona, and New Mexico.

July 24. Pioneers' Day: In Utah.

August 16. Bennington Battle Day: In Vermont.

September 7, 1903. Labor Day: In all the States and Territories (and District of Columbia), except Arizona, Louisiana, Mississippi, Nevada, North Dakota, and Oklahoma.

September 9. Admission Day: In California.

October 12. North Carolina Day: In Public Schools of the State of North Carolina.

November 1. All Saints' Day: In Louisiana.

November —. General Election Day: In Arizona, California, Colorado, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Missouri, Montana, Nevada, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, West Virginia, Washington, Wisconsin, Wyoming, in the years when elections are held in these States.

November —. Thanksgiving Day (usually the fourth Thursday in November): Is observed in all the States and in the District of Columbia, Arizona, and New Mexico, though in some States it is not a statutory holiday.

December 25. Christmas Day: In all the States and District of Columbia, Arizona, and New Mexico.

Sundays and Fast Days are legal holidays in all the States which designate them as such.

There are no statutory holidays in Mississippi, but by common consent the Fourth of July, Thanksgiving, and Christmas are observed as holidays. In Kansas, Decoration Day, Labor Day, and Washington's Birthday are the only legal holidays by legislative enactment; other legal holidays are so only by common consent. In New Mexico, Washington's Birthday, Decoration Day, Labor Day, Flag Day (June 14), and Arbor Day are holidays when so designated by the Governor.

PENSIONS.

THE germ of the United States pension system lay in the provision by Congress near the beginning of the Revolutionary War that officers who should continue in the service till the end of the war should receive half pay during seven years thereafter. In 1785 Congress recommended to the States that they should make provision for invalid pensioners, and in 1808 the United States assumed the pension obligations of the States. These were only for persons disabled in the service. In 1818 an act was passed granting pensions to all who had served nine months or more in the Revolutionary army, and were in indigent circumstances. More claimants applied than could possibly have survived from Washington's army, and the amount required to be paid during the first year was eleven times what had been estimated, and in the second year seventeen times. Subsequent acts provided for wars subsequent to the Revolution. Acts of 1836, 1848, and 1853 provided pensions for all widows of Revolutionary soldiers whenever married. A curious result has been that in 1868, when all Revolutionary pensioners were dead, there remained 888 widows of such soldiers. In 1899 four remained. Acts of July 14, 1862, and subsequent dates, provided pensions for soldiers and sailors disabled in the Civil War, and for the dependent relatives of those who had died. Under these acts expenditures for pensions reached a maximum ($34,443,895) in 1871, and then declined until, on

January 25, 1879, the Arrears Act was passed, allowing "back-pay" on all pensions to which claim was then successfully laid. This act doubled the total annual sum in two years. Meanwhile an act of 1871 had pensioned all who had served a certain time in the War of 1812, and their widows, if married before the Treaty of Ghent. (In 1899 there was one such, but 1,998 widows.) In 1887 a Service Pension Act for the Mexican War was passed. Finally, the act of June 27, 1890, called the Dependent Pension Act, pensioned all who served ninety days in the War of the Rebellion and were honorably discharged, and who are incapacitated for manual labor, and the widows, children, and dependent parents of such. The effect was nearly to double the number of pensioners, and to raise the annual charge for pensions for a time above $140,000,000. The total expenditure for pensions from 1861 to 1901, inclusive, was $2,702,556,241. In 1869 pensions were provided for retiring U. S. Judges, and widows of Presidents have been pensioned by special act. In 1901, there were 997,735 pensioners on the rolls, and the amount paid was $139,582,231. The total enrollment of pensioners, July 1, 1902, was 999,446 of which 738,809 were soldiers, and 266,637 widows. The total paid for pensions during the fiscal year ending June 30, 1902, was $137,504,268. In 1903, the total number of pensioners on the rolls was 996,545; and the total disbursements amounted to $137,759,653.71.

HOW TO PROCURE A PENSION.

First, secure a blank form of declaration which will be furnished on application.

The declaration should set forth in detail all facts regarding the company and regiment of the applicant, name of officer of company, dates of enlistment and discharge, and name of vessel on which the applicant served if he be a sailor. If the claim is made on account of wound or injury, all particulars should be carefully stated as to how, when, where, and under what circumstances the wound or injury was received; and should state precisely where it is situated and what the nature of the injury is; if on account of disease, all particulars relating to it — the date of its appearance, under what circumstances contracted, etc. — should be stated; hospitals where treatment was received should be mentioned with dates of admission and discharge. Two credible witnesses must appear with the applicant before the officer taking the declaration.

After receipt of claim, application is made by the Pension Office to the proper Bureau for report of applicant's service and corroborating evidence. If records of the War or Navy Departments do not show sufficient evidence, the applicant is required to furnish satisfactory evidence according to instructions given by Bureau of Pensions. Facts concerning the wound or disease must be shown by affidavit of some commissioned officer who has personal knowledge of the facts. If there are no records concerning the same, the testimony of the surgeon who treated him must be furnished; if this cannot be produced, the testimony of persons having personal knowledge of the facts will be considered. The claims of a widow or child are filed in the same manner as those of an invalid soldier or sailor.

A pensioner applying for an increase should file a declaration setting forth the grounds on which the increase should be granted.

Application for renewal of a pension must be made by declaration executed as in original claim, stating that the grounds for which the original pension was granted still exist.

A widow must prove the facts relating to the cause of the soldier's death by the testimony of the physician who attended him in his last illness concerning the date and place of death; when this cannot be furnished, the testimony of other persons acquainted with the facts will be considered. Her marriage to the person on whose account the pension is claimed should be shown by a duly verified copy of church or other public record, of the marriage, or a veri-

fied copy of church record of the baptism of the children; or by the affidavit of the magistrate or clergyman who officiated; or the testimony of two or more eye-witnesses to the ceremony, or two or more witnesses who know that the parties lived together as husband and wife and will state how long such co-habitation existed.

Claims in behalf of minor children, brothers, or sisters, are made by their duly appointed guardians. The death of father and mother must be proved and the marriage records and records of the birth of the children must be shown.

A mother or father claiming a pension through their son must prove their relationship to him, must show the cause of his death, whether he left a widow or minor children, and must prove his or her dependence upon the son at the time of his death.

There is no distinction made in the pension laws between brothers and sisters of the half-blood and those of the whole-blood.

By the present laws of the United States all persons entitled to pensions are classified in ten groups:

Any soldier, sailor or marine, or officer who has been disabled while in the service of United States either by wounds or disease contracted therein; and, in case of his death, from above causes, the widow, child or children, or dependent mother, father, sister, or brother come under the first class.

The widow (if not remarried) of any Revolutionary soldier who served 14 days or more or was in any battle of the Revolutionary War; or the widow of a Revolutionary soldier who drew a pension during his lifetime, is pensioned on proof of present widowhood whether she remarried or not.

Any soldier or sailor of the Civil War who was in active service for 90 days is entitled to a pension, provided he was honorably discharged and is suffering from some permanent disability contracted during that service, which renders him unable to earn a support. In case of his death, his widow is pensioned provided she married him before June 27, 1890, and is without other support than her daily labor; and in case of her death, the child or children of the first marriage.

All nurses in the Civil War employed by the Surgeon General, who served for 6 months or more, were honorably relieved, and are unable to earn a support.

Soldiers or sailors who served fourteen days or more in the War of 1812 or were in any battle of that War, honorably discharged; or the widows of such soldiers or sailors.

Any officer or enlisted man who served in the Black Hawk War, the Cherokee War, the Creek War, or the Seminole disturbance for 30 days are pensioned if they were honorably discharged or were personally mentioned by Congress for special service; or their widows provided they have not remarried.

Soldiers and sailors who served in the Mexican War for 60 days, honorably discharged, personally mentioned by resolution of Congress for any specific service therein, or whose names occur on the muster roll for that war; widows of such soldiers and sailors who are 62 years of age or on proof of pensionable disability.

Widows who forfeited pensions by remarriage are entitled to the benefits of the pension laws if she become again a widow or is divorced through no fault of her own.

Any member of the militia, officer or private, who is disabled by wounds received or disease contracted while in the service of the United States shall be entitled to all the benefits of the pension laws existing at the time of his service; also widow and children of the same.

Enlisted men and appointed petty officers, honorably discharged, are allowed pensions by the Secretary of the Navy.

VOTING POPULATION AND QUALIFICATIONS

OF EACH STATE AND TERRITORY.

State or Territory.	Requirements as to Voters. (1)	Excluded from Suffrage.	Previous Residence Required.			
			In State.	In County.	In Town.	In Precinct.
Alabama (6)	Those who can read or write, unless physically disabled, and who have worked in lawful employment for 12 months prior to registration and who have paid taxes, or who have paid taxes on 40 acres of land, or other property to the value of $300. Payment of poll tax also required.	Idiots, the insane, vagrants, or those convicted of treason, felonies, or election frauds unless pardoned.	2 years.	1 year.	3 months.	3 months.
Arizona (6)	Citizen of the United States by nativity, one who has declared intentions, or one who has elected to become a citizen under the 1848 and 1854 treaties with Mexico.	Same as Alabama.	1 year.	30 days.	30 days.	30 days.
Arkansas	Same as Alabama, upon payment of poll tax.	Same as Arizona.	1 year.	6 months.	30 days.	30 days.
California (6)	Citizenship by nativity, treaty, or naturalization effected 90 days prior to election.	Idiots, insane, embezzlers of public moneys, persons convicted of infamous crimes, or those unable to read the Constitution in English and write their names.	1 year.	90 days.	30 days.	30 days.
Colorado (6)	Citizen by nativity or treaty, or one who has resided in the State 1 year.	Idiots, insane, while confined in prison or under guardianship.	1 year.	90 days.		10 days.
Connecticut (6)	Citizens who can read English and are of good moral character.	Those convicted of heinous crime and not pardoned.	1 year.		6 months.	
Delaware (6)	Citizens who have paid the county tax, except those under 22 years old.	Paupers, insane, or felons.	1 year.	3 months.		30 days.
District of Columbia		Residents do not vote.				
Florida (6)	Citizens by nativity or naturalization, who have paid poll tax.	Idiots, persons convicted of felony or heinous crime, or duelists, or those interested in a bet on elections.	1 year.	6 months.		
Georgia (6)	Same as Florida, and all taxees, but no soldier, sailor, or marine.	Idiots, insane, and those convicted of felony, treason, bribery, or larceny, unless pardoned.*	1 year.	6 months.		
Hawaii	Male citizen, 21 years old, able to read and write in English or Hawaiian language, he having registered.	Idiots, insane, convicts, or those expelled from Legislature for bribery.	1 year.			3 months.
Idaho (6)	Citizen, whether male or female.	Idiots, insane, those convicted of felony, of buying and selling votes, or those under guardianship.	6 months.	30 days.	30 days.	
Illinois (6)	Same as Florida	Those convicted of felony or bribery at elections and not restored to citizenship.*	1 year.	90 days.	30 days.	30 days.
Indiana	Citizen or one who has declared intention and resided not less than 1 year in the United States.	Same as Georgia. Those imprisoned for crime shall be disfranchised while under imprisonment.	6 months.	60 days.	60 days.	30 days.
Iowa (11)	Same as Florida.	Same as Georgia. Additional: Dishonorably discharged soldiery.*	6 months.	60 days.	(5)	
Kansas (14)	Same as Alabama.	Same as Alabama. Additional: Those under guardianship, and those who have ever voluntarily borne arms against the U. S. (2)*.	6 months.	30 days.	30 days.	30 days.
Kentucky (13)	Same as Florida, poll tax omitted.	Same as Alabama.	1 year.	6 months.	60 days.	60 days.
Louisiana (6)	Citizens who can read and write, or who pay taxes on $300 worth of property, assessed in their own names, or whose father or grandfather was qualified to vote on January 1, 1867.	Idiots, insane, those under indictment for felony, or inmates of prisons or any charitable institution, except the Soldiers' Home.	2 years.	1 year.		6 months.

State or Territory.	Requirements as to Voters. (1)	Excluded from Suffrage.	Previous Residence Required.			
			In State.	In County.	In Town.	In Precinct.
Maine (16)	Citizens by nativity or naturalization, or those who had the right to vote on January 4, 1893, who were 60 years of age on that date, and who can read the Constitution.	Insane, paupers, and untaxed Indians.*	3 months.	3 months.	3 months.	3 months.
Maryland (6)	Same as Florida.	Idiots, insane, and unpardoned felons, and those who gave money for casting or refraining from a vote.	1 year.	6 months.	6 months.	.....
Massachusetts (6)	Citizens by nativity or naturalization who can read and write. Women may vote on school questions.	Paupers, or those under guardianship, except veterans of the Civil War.	1 year.	6 months.	6 months.	6 months.
Michigan (6)	Citizen by nativity, or one who declared intentions prior to May 8, 1894. Women may vote on school questions.	Indians still under tribal rule; duelists, or accessories.*	6 months.	20 days.	20 days.	20 days.
Minnesota (6)	Citizens, or those who have declared their intention of becoming such.	Same as Kansas. Additional: Uncivilized Indians.*	1 year.	10 days.	10 days.	10 days.
Mississippi (7)	Citizen by nativity or naturalization who can read and understand the Constitution.	Idiots, insane, convicted felons, bigamists, persons who have not paid taxes, and untaxed Indians.	2 years.	1 year.	1 year.	1 year (2).
Missouri (19)	Citizen by nativity, or one who has declared intentions not less than 1 or more than 5 years prior to election.	Persons in charitable institutions, except inmates of soldiers' homes, and persons convicted of felony or election frauds.*	1 year.	60 days.	60 days.	.....
Montana (6)	Same as Florida, except that women may vote on school questions.	Idiots, insane, unpardoned felons, and Indians.*	1 year.	30 days.	30 days.	30 days.
Nebraska (12)	Citizen by nativity, or one who has declared intentions at least 30 days before election.	Same as Maryland. Additional: U. S. soldiers, sailors, and marines.	6 months.	40 days.	10 days.	10 days.
Nevada (6)	Same as Florida, except for payment of poll tax.	Same as Maryland. Additional: Indians, Chinese, and those convicted of treason, unless pardoned.	6 months.	30 days.	.....	.....
New Hampshire	Same as Florida. Women may vote upon school questions.	Paupers and those excused from paying taxes at their own request.	6 months.	6 months.	6 months.	6 months.
New Jersey (6)	Citizen by nativity or naturalization.	Paupers, idiots, insane persons, and those convicted of crime specified by laws of 1844.	1 year.	5 months.	.....	.....
New Mexico (6)	Same as Florida, except as to poll taxes.	Unpardoned felons, Indians, or U. S. soldiers, sailors, or camp followers.	6 months.	3 months.	30 days.	30 days.
New York (8)	Same as California, except that women may vote at village elections on questions relating to tax or assessment if they own property.	Persons convicted of bribery or any infamous crime and not pardoned; persons betting on elections, or any offender against the franchises.	1 year.	4 months.	30 days.	30 days.
North Carolina (6)	Same as Florida.	Same as Maryland.	1 year.	6 months.	4 months.	4 months.
North Dakota (17)	Citizens by nativity or naturalization, and civilized Indians. Women may vote upon school questions.	Same as Kansas.*	1 year.	6 months.	.....	90 days.
Ohio (15)	Same as Montana.	Same as Nebraska.	1 year.	30 days.	20 days.	20 days.
Oklahoma	Same as North Dakota.	Same as Alabama.	6 months.	60 days.	60 days.	30 days.
Oregon (21)	Citizen by nativity or naturalization, or one who has declared intentions at least 1 year prior to election.	Same as Alabama. Additional: Chinese.	6 months.	.....	.....	.....
Pennsylvania (9)	Citizen by nativity or by naturalization, at least 1 month prior to election. If 22 years old or more, must have paid taxes in 2 years.	Persons convicted of perjury and election frauds or bribery.	1 year.	.....	.....	2 months.
Rhode Island (18)	Same as Florida.	Idiots, insane, paupers; those under guardianship, or those convicted of bribery or other infamous crime.*	1 year (3)	.....	6 months.	.....
South Carolina (6)	Citizens by nativity or naturalization, who can read and write any section of the Constitution, and who have paid all taxes, including the tax on property assessed at $300, which must be paid 6 months before election.	Idiots, insane, paupers, felons, unless pardoned, or those convicted of crimes against the election laws.*	2 years (4)	1 year.	4 months.	4 months.
South Dakota (21)	Citizens by nativity or naturalization; those who have declared intentions, or civilized Indians. Women may vote upon school questions.	Same as Nevada. Additional: Those under guardianship.	6 months.	30 days.	10 days.	10 days.

State or Territory.	Requirements as to Voters. (1)	Excluded from Suffrage.	Previous Residence Required.			
			In State.	In County.	In Town.	In Precinct.
Tennessee (6)	Citizen by nativity or naturalization who has paid poll tax of preceding year.	Persons convicted of bribery or other felony.	1 year.	6 months.	.....	.....
Texas (20)	Citizens by nativity or naturalization, or those who have declared intentions prior to election.	Idiots, insane, paupers, those convicted of felony, or U. S. soldiers, sailors, and marines.	1 year.	6 months.	.....	(5)
Utah (6)	Males and females over 21 who have been citizens for 90 days.	Idiots, insane, and those convicted of treason or crimes against the election laws, unless pardoned.	1 year.	4 months.	.....	60 days.
Vermont (10)	Same as Florida, except as to poll taxes.	All who have not obtained the approbation of the local board of civil authority.	1 year.	.....	3 months.	.....
Virginia (6)	Same as Florida, except as to poll taxes.	Idiots, insane, or those convicted of treason, bribery, embezzlement of public funds, duelling, or abetting duelling, unless pardoned by act of Legislature.	1 year.	3 months.	3 months.	30 days.
Washington (22)	Citizens by nativity or naturalization and all electors prior to Statehood. Women may vote upon school questions.*	Idiots, insane, untaxed Indians, and those convicted of infamous crimes.	1 year.	90 days.	30 days.	30 days.
West Virginia	Citizens of the State.	Same as South Carolina.	1 year.	60 days.	.....	(5)
Wisconsin (13)	Citizens by nativity or naturalization, or those who have declared intentions. Women may vote upon school questions.	Idiots, insane, those convicted of treason or other crimes, or of betting on election; those under guardianship.	1 year.	.....	10 days.	10 days.
Wyoming (6)	Same as Idaho.*	Idiots, insane, unpardoned felons, or those unable to read the State Constitution in English.	1 year.	60 days.	.....	.....

(1) While naturalization is conferred by the United States the right to vote is the gift of the State, and, as the result, in many States, aliens who have declared their intentions to become citizens and enjoy the right to vote.

The Australian ballot law, or some modification of it, is in force in all the States and Territories except New Mexico, North Carolina, Oklahoma, Oregon, South Carolina, and parts of Georgia.

Women are permitted equal suffrage with men in 4 States: Colorado, Idaho, Utah, and Wyoming. In New York they may vote at village elections upon questions of local taxation, providing they are property owners in the village affected, while in Kansas, Massachusetts, Michigan, Montana, New Hampshire, North Dakota, Ohio, Oklahoma, Washington, and Wisconsin women may vote at school elections.

(2) Clergymen are required to reside but 6 months in the precinct.

(3) Owners of real estate secure the voting right by 1 year's residence in the State.

(4) Pastors of organized churches and teachers in the public schools require but 6 months' residence in the State.

(5) Only actual residence required by law.

(6) The registration of voters is required.

(7) Registration required at least 4 months before election.

(8) Registration required in cities or in villages containing a population of more than 5,000.

(9) Voters registered by the assessors, but a voter missed by the assessors may swear in his vote.

(10) A free man's oath required before first vote.

(11) Registration required in cities of more than 3,500 population.

(12) Registration required in cities of more than 7,000.

(13) Registration required in cities of 3,000 or more population.

(14) Registration required in cities of the first and second class, and in Sumner and Montgomery counties.

(15) Registration required in cities of the first and second class only.

(16) Registration required in all cities and towns having 500 or more voters.

(17) Registration required in cities, towns, or villages having a population of 800 or more.

(18) Non tax-payers must register on or before December 31 of the year preceding election.

(19) Registration required in cities of 100,000 or more population.

(20) Registration required in cities of 10,000 or more inhabitants.

(21) If a voter has not registered he must establish his qualifications before he can vote.

(22) Registration required in towns or precincts containing 250 or more voters.

(23) If a voter proves that he was ill on the day of registration, he may register on election day.

(24) Unless disability to be removed by two-thirds vote of Legislature.

* A residence of one year for general elections and 3 months in town for town elections is required. Residence is neither gained nor lost by military or naval service for the United States, when stationed in the State, nor by attendance on an institution of learning, nor by those engaged in navigation, nor those in an almshouse or public asylum. In all States persons must be 21 years old before they can vote.

GAME LAWS OF THE SEVERAL STATES.

CLOSE SEASON FOR GAME IN THE UNITED STATES.

The following table shows the close season for all game in the United States, with the exception of mountain sheep and goat and a few unimportant species. Where no dates are given, kind of game does not exist or close season at all times.

	Mammals.				Birds.
	Deer.	Elk, Antelope, Moose, Caribou.	Squirrel.	Rabbit.	Quail.
1. Alabama (11)	Jan. 1 — Sept. 1.		Feb. 2 — July 1		March 2 — Nov. 15
2. Alaska (11)	Dec. 16 — Sept. 1	Nov. 1 — Sept. 1. (2)			
3. Arizona (11)	Nov. 1 — Sept. 15	At all times			March 1 — Oct. 15
4. Arkansas (11)	Feb. 1 — Sept. 1. (12)				Feb. 15 — Nov. 1
5. California (11)	Nov. 1 — July 15	At all times	Feb. 1 — Aug. 1		Feb. 15 — Oct. 15
6. Colorado	Oct. 1 — Sept. 15	To 1907			To Oct. 1, 1920. (9)
7. Connecticut (11)	To June 1, 1911		Dec. 1 — Oct. 1	Jan. 1 — Oct. 1	Dec. 1 — Oct. 1
8. Delaware				Jan. 1 — Nov. 15	Jan. 1 — Nov. 15
9. District of Columbia (11)	Jan. 1 — Sept. 1		Feb. 1 — Nov. 1	March 15 — Nov. 1	March 15 — Nov. 1
10. Florida	Feb. 1 — Nov. 1				March 1 — Nov. 1
11. Georgia	Jan. 1 — Sept. 1				March 15 — Nov. 1
12. Idaho	Jan. 1 — Sept. 1	Jan. 1 — Sept. 1. (1)			Dec. 1 — Nov. 1
13. Illinois	To 1913		Jan. 1 — July 1		Dec. 20 — Nov. 10
14. Indiana	At all times		Jan. 1 — Aug. 1		Jan. 1 — Nov. 10
15. Long Island	Four days in Nov. (13)		Jan. 1 — Nov. 1	Jan. 1 — Nov. 1	Jan. 1 — Nov. 10
16. Iowa	At all times	At all times	Jan. 1 — Sept. 1		Jan. 1 — Nov. 1
17. Kansas (11)		At all times			Jan. 1 — Nov. 15. (8)
18. Kentucky	March 1 — Sept. 1		Feb. 1 — June 15		Jan. 1 — Nov. 15
19. Louisiana (11)	April 1 — Nov. 1			April 1 — Nov. 1	April 1 — Nov. 1
20. Maine	Dec. 15 — Oct. 1. (12)	Dec. 1 — Oct. 15. (2)		April 1 — Sept. 1	At all times
21. Maryland	Loca Laws		Dec. 1 — Sept. 1	Dec. 25 — Nov. 1	Dec. 25 — Nov. 1
22. Massachusetts (11)	To Nov. 1, 1903		March 1 — Oct. 1	March 1 — Oct. 1	Dec. 1 — Oct. 1
23. Michigan	Dec. 1 — Nov. 8. (12)	To 1911	Dec. 1 — Oct. 15		Dec. 1 — Oct. 20
24. Minnesota	Dec. 1 — Nov. 11	Dec. 1 — Nov. 11. (2)			Dec. 15 — Oct. 15
25. Mississippi	March 1 — Sept. 15				May 1 — Oct. 1
26. Missouri	Jan. 1 — Oct. 1				Jan. 1 — Nov. 1
27. Montana	Dec. 1 — Sept. 1	At all times. (1)			At all times
28. Nebraska	Nov. 16 — Aug. 16	At all times. (7)			Dec. 1 — Nov. 1
29. Nevada (11)	Nov. 15 — Sept. 15	Nov. 15 — Sept. 15. (7)			March 1 — Sept. 15
30. New Hampshire	At all times	At all times	Jan. 1 — Sept. 15	April 1 — Oct. 1	Dec. 15 — Sept. 15
31. New Jersey	To April 14, 1905		Jan. 1 — Nov. 10	Jan. 1 — Nov. 10	Jan. 1 — Nov. 10
32. New Mexico (11)	Jan. 1 — Nov. 1	To March 7, 1905			March 1 — Oct. 1
33. New York	Nov. 16 — Sept. 1	At all times	Dec. 1 — Sept. 16	Dec. 16 — Sept. 16. (14)	Dec. 1 — Nov. 1
34. North Carolina	Jan. 1 — Oct. 1		Local Laws		March 15 — Nov. 1
35. North Dakota	Dec. 1 — Nov. 10	At all times			To Sept. 1, 1905
36. Ohio	Dec. 16 — Nov. 10		Sept. 2 — Aug. 1	Dec. 2 — Nov. 10	Dec. 2 — Nov. 10
37. Oklahoma (11)	At all times	At all times			Feb. 1 — Oct. 15
38. Oregon	Nov. 1 — July 15	Nov. 1 — July 15. (6)	Jan. 1 — Oct. 1		Dec. 1 — Oct. 1
39. Pennsylvania	Dec. 1 — Nov. 1	Dec. 1 — Nov. 1. (1)	Dec. 16 — Oct. 15	Dec. 16 — Nov. 1	Dec. 16 — Oct. 15
40. Rhode Island (11)	To Feb. 1, 1905		Jan. 1 — Oct. 15	Jan. 1 — Oct. 15	Dec. 16 — Oct. 15
41. South Carolina	Feb. 1 — Sept. 1. (12)				April 1 — Nov. 1
42. South Dakota	Dec. 15 — Nov. 15	Jan. 1, 1911 (1)			Jan. 1 — Sept. 1
43. Tennessee	Dec. 15 — Oct. 1.		March 1 — June 1		March 1 — Nov. 1
44. Texas (11)	Jan. 1 — Nov. 1	To July 1, 1908			Feb. 1 — Nov. 1
45. Utah	Nov. 1 — Sept. 1	At all times			At all times
46. Vermont (11)	Nov. 1 — Oct. 22.	At all times		May 1 — Sept. 1	Jan. 1 — Sept. 1
47. Virginia	Jan. 1 — Oct. 1			Local Laws	Feb. 1 — Nov. 1
48. Washington	Dec. 15 — Sept. 15	Nov. 1 — Sept. 15			Jan. 1 — Oct. 1
49. West Virginia	Dec. 15 — Oct. 15		Jan. 1 — Sept. 15	Jan. 1 — Sept. 15	Dec. 20 — Nov. 1
50. Wisconsin	Dec. 1 — Nov. 11. (12)		May 1 — Sept. 1	May 1 — Sept. 1	To Sept. 1, 1905
51. Wyoming	Nov. 15 — Sept. 15	Nov. 15 — Sept. 15. (1)			At all times

(1) Elk only. (2) Moose and caribou, Oct. 15, 1905. (3) Grouse. (4) Prairie chicken — Minnesota, Nov. 1 - Sept. 1; Missouri, Dec. 1 - Sept. 1; Wyoming, Dec. 1 - Sept. 1. (5) Snipe — New Hampshire, Dec. 15 - Sept. 15; Connecticut, May 1 - Aug. 1; Nebraska, April 16 - Sept. 1. (6) Elk, to Sept. 15, 1904. (7) Antelope — Nebraska, Nov. 16 - Aug. 15; Nevada, Nov. 15 - Sept. 15. (8) In 20 counties to March 18, 1906. (9) Except crested quail. (10) Certain species. (11) No non-resident license fee. (12) Local exceptions. (13) First two Wednesdays and first two Fridays after first Tuesday in Nov. (14) Except some counties where local laws govern. Prohibitory laws against hunting doves and robins exist in nearly all States. Sale of game during close season is prohibited in most States. License fees from non-residents required in some States.

GAME LAWS OF THE SEVERAL STATES — CONTINUED.

	BIRDS (*Continued.*)					
	Grouse and Prairie Chicken.	Wild Turkey.	Pheasant.	Woodcock.	Duck, Goose, and Swan.	Plover, Snip, Rail.
1. Alabama (11)	March 2 — Nov. 15	March 2 — Nov. 15	Feb. 8, 1904	March 2 — Nov. 15		
2. Alaska (11)	Dec. 16 — Sept. 4		March 1 — Oct. 15		Dec. 16 — Sept. 1	Dec. 16 — Sept. 1.
3. Arizona (11)	March 1 — Oct. 15	Nov. 1 — Sept. 15				
4. Arkansas (11)	Dec. 1 — Oct. 31	May 1 — Sept. 1	At all times			
5. California (11)	Feb. 15 — Sept. 1		At all times		Feb. 15 — Oct. 15	Feb. 15 — Oct. 15.
6. Colorado	Oct. 21 — Sept. 1	To 1907	June 1, 1906	Dec. 1 — Oct. 1	April 16 — Sept. 10	
7. Connecticut (11)	Dec. 1 — Oct. 1				May — Sept. 1	April 1 — Sept. 1. (5)
8. Delaware	Jan. 1 — Nov. 15			Jan. 1 — July 1	April 15 — Oct. 1	
9. District of Columbia (11)	Dec. 26 — Nov. 1	Dec. 26 — Nov. 1			April 1 — Sept. 1	April 1 — Sept. 1.
10. Florida		March 1 — Nov. 1.			April 1 — Oct. 1	
11. Georgia	March 15 — Nov. 1	March 15 — Nov. 1	Nov. 30, 1905	Feb. 1 — Sept. 1	Feb. 1 — Sept. 1. (10)	
12. Idaho	Dec. 1 — Aug. 15		March 11, 1907		Feb. 15 — Sept. 15	July 15 — Feb. 15.
13. Illinois	To 1907	To 1908	To 1908	Dec. 1 — Aug. 1	April 15 — Sept. 1	May 1 — Sept. 1.
14. Indiana	Jan. 1 — Nov. 10	At all times	At all times	Jan. 1 — Nov. 10	April 15 — Sept. 1	
15. Long Island	Jan. 1 — Nov. 1		Jan. 1 — Nov. 1	Jan. 1 — Aug. 1	Jan. 1 — Oct. 1	Jan. 1 — July 1.
16. Iowa	Jan. 1 — Nov. 1	Jan. 1 — Nov. 1		Jan. 1 — July 10	April 15 — Sept. 1	April 15 — Sept. 1.
17. Kansas (11)	Oct. 1 — Aug. 15. (8)		Feb. 28, 1907		April 25 — Sept. 1	Sept. 15 — July 15.
18. Kentucky	Jan. 1 — Nov. 15	Feb. 1 — Sept. 1		Feb. 1 — June 20	April 1 — Aug. 15	
19. Louisiana (11)	March 1 — Nov. 1	April 1 — Nov. 1			April 1 — Sept. 1	Oct. 1 — Aug. 1.
20. Maine	Dec. 1 — Sept. 15		To March 22, 1911	Dec. 1 — Sept. 13	Dec. 1 — Sept. 1. (10)	May 1 — Aug. 1.
21. Maryland	Dec. 25 — Nov. 1	Dec. 25 — Nov. 1	Dec. 25 — Nov. 1	Dec. 25 — Nov. 1	April 10 — Nov. 1	May 1 — Aug. 15.
22. Massachusetts (11)	Dec. 1 — Oct. 1		To Feb. 13, 1905	Dec. 1 — Oct. 1	March 1 — Sept 1. (10)	March 1 — July 15.
23. Michigan	Dec. 1 — Oct. 20. (3)	To 1910	To 1910	Dec. 1 — Oct. 20	Dec. 1 — Oct. 1	Dec. 1 — Oct. 1.
24. Minnesota	Dec. 15 — Oct. 15. (4)		At all times	Nov. 1 — Sept. 1	Dec. 1 — Sept. 1	Nov. 1 — Sept. 1.
25. Mississippi		May 1 — Oct. 1				
26. Missouri	Jan. 1 — Nov. 1. (4)	Jan. 1 — Nov. 1	Jan. 1 — Nov. 1	Jan. 1 — Aug. 1	April 1 — Oct. 1	Jan. 1 — Aug. 1.
27. Montana	Dec. 1 — Aug. 15		At all times		Jan. 1 — Sept. 1	
28. Nebraska	Dec. 1 — Oct. 1	At all times	At all times		April 16 — Sept. 1	Oct. 31 — April 15. (5)
29. Nevada (11)	March 1 — Sept. 15		Sept. 1, 1906	March 1 — Sept. 15	March 1 — Sept. 15	
30. New Hampshire	Dec. 15 — Sept. 15		To 1905	Dec. 15 — Sept. 15	Feb. 1 — Aug. 1. (10)	Feb. 1 — Aug. 1. (5)
31. New Jersey	Jan. 1 — Nov. 10	Jan. 1 — Nov. 10	Jan. 1 — Nov. 1	Jan. 1 — Oct. 1	May 1 — Oct. 1	Jan. 1 — July 15.
32. New Mexico (11)	Jan. 1 — Oct. 1	Jan. 1 — Oct. 1	March 14, 1906			
33. New York	Dec. 1 — Oct. 16		To 1905	Dec. 1 — Sept. 16	Jan. 1 — Sept. 16	May 1 — Sept. 1.
34. North Carolina		March 15 — Nov. 1		Local Laws	Local Laws	
35. North Dakota	Oct. 15 — Sept. 1		Sept. 1, 1905	Oct. 15 — Sept. 1	May 1 — Sept. 1	
36. Ohio	To Nov. 10, 1904	Dec. 2 — Nov. 10	Nov. 10, 1904	Sept. 2 — Aug. 1	Dec. 16 — Sept. 1	Dec. 2 — Nov. 10.
37. Oklahoma (11)	Jan. 1 — Sept. 1	Jan. 1 — Sept. 1	Jan. 1, 1904			Jan. 1 — Aug. 1.
38. Oregon	Dec. 1 — Oct. 1	To Oct. 1, 1905	Oct. 1, 1905	Oct. 1, 1905	March 1 — Sept. 1	Jan. 1 — Aug. 1.
39. Pennsylvania	Dec. 16 — Oct. 15	Dec. 16 — Oct. 15	Dec. 16 — Oct. 15	Dec. 16 — Oct. 15	May 1 — Sept. 1. (10)	Jan. 1 — July 15
40. Rhode Island (11)	Dec. 16 — Oct. 15		To Oct. 1, 1905	Dec. 16 — Oct. 15	April 1 — Aug. 15. (10)	
41. South Carolina	April 1 — Nov. 1	April 1 — Nov. 1	Jan. 1, 1905	April 1 — Nov. 1		
42. South Dakota	Jan. 1 — Sept. 1			Jan. 1 — Sept. 1	May 1 — Sept. 1	May 15 — Sept. 1.
43. Tennessee	March 1 — Nov. 1	March 1 — Nov. 1	Jan. 1 — Dec. 1	April 15 — Oct. 1	April 15 — Oct. 1	April 15 — Oct. 1.
44. Texas (11)	Feb. 1 — Nov. 1	Feb. 1 — Nov. 1	July 1, 1908			
45. Utah	Dec. 1 — Aug. 15		At all times		March 15 — Feb. 15	
46. Vermont (11)	Jan. 1 — Sept. 1		Nov. 20 — Oct. 1	Jan. 1 — Sept. 1	Jan. 1 — Sept. 1	Jan. 1 — Sept. 1.
47. Virginia	Feb. 1 — Nov. 1	Feb. 1 — Nov. 1	Local Laws	Feb. 1 — Nov. 1	April 1 — Oct. 15. (10)	Jan. 1 — July 20.
48. Washington	Jan. 1 — Sept. 1		Oct. 15, 1906		March 1 — Sept. 1	March 1 — Aug. 15.
49. West Virginia	Dec. 15 — Oct. 15	Dec. 15 — Oct. 15		Nov. 2 — July 15	April 1 — Oct. 1	
50. Wisconsin	Dec. 1 — Sept. 1		Sept. 1, 1905	Dec. 1 — Sept. 1	Jan. 1 — Sept. 1	Dec. 1 — Sept. 1.
51. Wyoming	Oct. 15 — July 15 (4)		Sept. 1, 1906		May 1 — Sept. 1	May 1 — Sept. 1.

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BEING A

HOME BOOK OF HEALTH

Embodying in revised and condensed form DR. JOHN C. GUNN'S ∴ ∴ ∴

"NEW FAMILY PHYSICIAN"

and giving many valuable suggestions from other famous physicians for the avoidance of disease and treatment in cases of emergencies ∴ ∴ ∴ ∴

PHYSIOLOGY AND MEDICINE

This PHYSIOLOGY and MEDICAL GUIDE has been carefully compiled with the view not only of explaining in familiar language the intricate human mechanism and how we live, breathe, and have our being; but also of offering seasonable advice to the suffering and afflicted, and of rendering aid and relief in case of any of the thousand and one ills that human flesh is heir to.

THE mechanism to be studied in the body of a living animal—more particularly the highest of all animals, man—is of such wonder and beauty, exquisite finish and perfection, that, could it all be comprehended and long enough retained by the memory to afford one broad contemplation of its simplest facts, all the triumphs of art could bear no relation to its loveliness.

Huxley so concisely and clearly begins his delightful little volume of *Elementary Physiology*, that for the purposes of this article we cannot do better than to quote his opening lines. "The body of a living man," he says, "performs a great diversity of actions, some of which are quite obvious, others require more or less careful observation, and yet others can be detected only by the most delicate appliances of science.

"Thus some part of the body of a living man is plainly always in motion. Even in sleep, when the limbs, head and eyelids may be still, the incessant rise and fall of the chest continues to remind us that we are viewing slumber and not death.

"More careful observation is needed, however, to detect the motion of the heart, or the pulsation of the arteries, or the changes in the size of the pupil of the eye with varying light, or to ascertain that the air which is breathed out of the body is hotter and damper than that which is taken in by breathing.

"And lastly, when we try to ascertain what happens in the eye when that organ is adjusted to different distances, or what in a nerve when it is excited; or of what materials flesh and blood are made; or in virtue of what mechanism it is that a sudden pain makes one start—we have to call into operation all the methods of inductive and deductive logic, all the resources of physics and chemistry, and all of the delicacies of the art of experiment."

It is plainly obvious that man differs from the stones and earth, the flowers and trees, and all inanimate objects. He is warm, while these things are cold; he is able to move about at will while they must remain always in one place; he can exert power and force, while they must remain forever inactive; he is possessed of mind and purpose to guide him, while they are influenced only by the elements.

Combustion and Heat.

Now warmth is clearly due to the burning of something. The warmth of the day and the heat of the summer come to us from that great central fire, the sun, whose flames leap up from its surface tens of thousands of miles. The warm breezes at night, when the sun does not shine upon us, and the temperate winds which from time to time visit us in winter, all gain their warmth from some great tract of southern land or tropical body of water, which, previously heated by the fires of the sun, now radiates the heat absorbed therefrom, warming the surrounding atmosphere, which, moving in currents, carries heat from the tropics even to the very poles.

When the sun's heat is not sufficient for our purpose, we make artificial fires of wood, coal, oil or gas. There is no heat or warmth, however slight, that is not produced by *combustion*, or *oxidation*, or, in other words, the *burning* of something. But all things do not *oxidize* or *burn* with a flame, as in the case of our furnace fires. You every day see objects burn without coming to a blaze, but only with the red glow of a live coal. Other things you see burn and crumble to ashes which never even come to a glow. If you hold over a lamp, and at a little distance from it, a piece of writing-paper, it will burn black and finally crumble in ashes without showing a single spark of fire or light, and yet it so rapidly burns that it crumbles to pieces in the space of only a few moments. The character or appearance of combustion or oxidation depends entirely upon the rapidity with which the article is burned. Thus, some objects burn with an *explosion*, some with a *flame*, some with a *glow*, while some show only a simple evolution of heat. Gun-

powder so quickly burns that great force is exerted, though we see but a single flash of light. Dry pine burns far more slowly; the force of its heat is distributed over a greater length of time, and hence there is no disastrous explosion, though it burns with a roaring flame. Peat burns still more slowly, and with the glow of a live coal. In the slaking of fresh lime an *oxidation* or *burning* takes place, and great heat is given off, but there is no flame, no glow, no spark of light. A thousand things burn still more slowly, some of them requiring years or centuries, under certain conditions, in oxidation, and, while constantly giving off heat, the burning is so slow and the amount of heat given off therefore so exceedingly small, that it is not detectable except by the most delicate instruments of science.

If combustion takes place almost instantly, as in the case of dynamite, or gunpowder, or certain gases, we call the result *explosion*. If it goes on more slowly, as with wood, coal or peat, we call the process *burning*. If combustion takes place still more slowly, as in slacking lime, or in a bin of wheat or barley, where heat is given off, but without a spark of fire or light visible, we commonly call the process oxidation. Thus, you see, the words *explosion*, *combustion*, *burning* and *oxidation* mean practically one and the same thing, and that all force, or heat, or warmth, comes from the *oxidation* or burning of something, either rapidly or slowly, visibly or invisibly.

"If a mass of seeds be laid together," says Draper, "as barley in the making of malt, the operation conducted at a gentle temperature, and with the access of atmospheric air, oxygen disappears, carbonic acid is set free, and the temperature rises forty or fifty degrees. A process of *oxidation* must, therefore, have been carried into effect, and to it we trace the heat disengaged; for carbon cannot produce carbonic acid without a rise of temperature ensuing. The loss of weight which the seed exhibits is therefore due to its loss of carbon, and the whole effect is explained in the statement that atmospheric air has united with a portion of the carbon contained in the seed, producing carbonic acid gas and an evolution of heat."

If we put a lighted candle into a glass jar and seal it up airtight, it will continue to burn for a certain time, the duration of which will depend upon the size of the jar; the flame will grow less and less, until finally it will go out, and the candle will cease to burn. As soon as the air in the jar has cooled a little, drops of moisture will collect on the inside of the jar, showing that in burning the candle has given off water. If we now open the jar and test the temperature with a thermometer, we find the air of the jar warmer than when the candle was put into it, showing that in burning heat was given off. If we now force some of the air of the jar through lime water, the water becomes milky from the precipitate of carbonate of lime, showing the presence of *carbonic acid* in the air of the jar, which was not present before the burning of the candle—showing that in the burning *carbonic acid* was given off. If a further analysis be made it will be discovered that the oxygen of the air in the jar has disappeared, and if the candle be weighed, it will be found to have lost weight.

Such is the result of all combustion or oxidation—*heat* is given off, *water* and *carbonic acid* are evolved, *oxygen* is consumed, and the burning object *loses substance.*

Oxidation and Animal Heat.

If, in winter, we place a healthy living man in a cold, dry room with closed glass windows, having carefully noted the temperature of the room and the exact weight of the man, and shut him in as we did the burning candle in the glass jar, and then require him to walk up and down for an hour, the same important facts may be observed as in the case of the candle. In his exercise he will have obviously exerted a great amount of mechanical force—as much at least as would be required to lift his own weight as high and as often as he has raised himself at every step, which, in the aggregate, would be about a mile or more above the ground. At the end of an hour let the temperature of the room again be taken, and it will be found to be warmer than at the beginning. The man has, therefore, given off heat. If the windows of the room be observed, the glass will be found covered with the vapor of water, which, if the air outside be sufficiently cold, will be converted into ice or frost, such as is seen in the morning upon the window-panes of our sleeping-rooms in winter—showing that he has given off water. If some of the air in the room be now forced through lime water, the water will be found milky from the precipitate of carbonate of lime, showing the presence of carbonic acid in the air, which, like the heat and the water, has been given off by the man, just as we have seen that heat, water and carbonic acid are given off by a burning candle.

And so, if the air of the room be further analyzed, a large amount of oxygen will be found to have disappeared. The flame of the candle died and the light went out when all the oxygen in the jar had been consumed; so would the fires of life in the man likewise have died out had he not been released before all the oxygen in the closed room had been breathed into his lungs and consumed. Furthermore, if the man be now again weighed at the end of the hour, he will be found to have lost weight just as the candle lost weight in burning and the barley in oxidation. Thus, in the concise language of Huxley: "A living, active man constantly exerts *mechanical force*, gives off *heat*, evolves *carbonic acid* and *water*, and undergoes a *loss of substance.*" In other words, his tissues are constantly burning up, or *oxidizing*, and when this process ceases he grows cold and dies. Oxidation of the candle is started by applying a flame to the wick. Once begun, it needs no further aid. The oxygen of the air unites with the carbon of the candle, and the evolution of heat, carbonic acid gas and water in the form of vapor is the result, and the process continues until the candle is consumed or the supply of oxygen shut off.

As we have seen, a man, like the lighted candle, is constantly burning up, or oxidizing—giving off heat and water and carbonic acid, and the ashes of his burned tissues. He loses every day 300 grains of nitrogen (which is the ashes of his muscles), six and a half pounds of water, and burns ten and a half ounces of carbon. Altogether he loses from seven to ten pounds in weight daily. It is clear that this state of things could not continue very many days or the man would dwindle to nothingness. He would last but a few days longer than his candle. But long before this loss of substance can be noticed by another it is felt by the subject, who suffers from hunger and thirst. He takes food and drink, which being digested and made into blood, his wasted tissues are repaired, and the loss by oxidation

is made good. A man may be likened to a lamp that is ceaselessly fed and as ceaselessly wastes away. Or he may be likened to a steam engine. The food which he takes, digests, assimilates and burns, corresponds to the coal which is burned in the furnace of the machine; his warmth and life and strength correspond to the heat and power of the engine. The warmth and strength of the man and the heat and power of the engine are due to the fuel burned in the tissues of the one and the furnace of the other.

Power and Life Due to Heat.

All force, of whatever kind, is due to heat. A large part of the machinery of the world is run by steam power, which is produced by heat. The winds are caused by the heated tracts of land or bodies of water, where the atmosphere in consequence becomes rarified, and currents of colder air rush across the face of the earth with gentle, or sometimes terrific force, to fill the vacuum. All the force of the stream and the waterfall is due to heat, which evaporates the water of the sea, and, lifting it up in vapor, carries it in the warm breezes back to the high land, where, cooling, it falls in rain and rushes with force through gulleys and the river-beds back to the sea. In like manner heat is the cause of power in animals and men. Food is the fuel; the entire body is the furnace; through the lungs is the draft of air. Oxidation and heat and life and power and force are the result.

But the fuel proper for the steam engine is wholly unsuitable for this human engine. To enable the body to continue exerting force and giving out heat, water and carbonic acid at the same rate, for an indefinite period, it is absolutely necessary that the body should be supplied with three things, and with three only. These are fresh air, water and food. Mr. Huxley says: "In a properly nourished man a stream of food is constantly entering the body in the shape of complex compounds containing comparatively little oxygen; as constantly the elements of the food (whether before or after they have formed a part of the living substance) are leaving the body combined with more oxygen. And the incessant breaking down and oxidation of the complex compounds which enter the body are definitely proportioned to the amount of force which the body exerts, whether in the shape of heat or otherwise. Let a man lift a heavy body from the ground, and the loss of weight which he would have undergone without that exertion will be immediately increased by a definite amount, which cannot be made good unless a proportionate amount of extra food be supplied him; just in the same way as the amount of work to be gotten out of a steam engine and the amount of heat it and its furnace give off bear a strict proportion to its consumption of fuel."

In every instance the production of animal heat and force is due to oxidation taking place in the economy. This oxidation takes place in the blood, and in the tissues themselves in every part of the body. The food, which is the fuel of this human engine, before it can reach the tissues where it is burned, must undergo elaborate preparation.

THE DIGESTIVE ORGANS.

There are a large number of organs whose sole use is the preparation and elaboration of the food, rendering it suitable for cousumption by the economy. These organs, taken together, are known as the *digestive organs*. They consist of machinery for dividing and grinding the food and testing its quality; of glands for the manufacture of chemical fluids for dissolving it; of receptacles for holding and warming it while it is acted upon by the dissolving fluids; of canals through which it is passed from one receptacle to another; of absorbents which take up and carry the refined product into the current of the blood, and of a further tube to carry out of the body the insoluble and unsuitable constituents of the mass taken into the stomach. These organs are the *mouth*, *tongue*, *palate*, *teeth*, *salivary glands*, *pharynx*, *œsophagus*, *stomach*, *small intestines*, *large intestines*, the *liver*, and the *pancreas*, or *sweetbread*.

Mastication and Deglutition.

Although the blood is the immediate agent of nutrition by which the body in all its parts is sustained and developed, yet the blood itself with all its elements of nutrition is derived from the food we eat. This change of foreign substances into the material of the body is one of the most extraordinary phenomena in Nature, and is eminently worthy of our study both as a matter of interest and of utility.

The first stage of the process of digestion is that of *mastication*, which consists in chewing the food, and thus preparing it for entering the stomach. As soon as food is taken into the mouth, and the act of chewing commences — particularly if it be dry food — the salivary glands begin to secrete and pour into the mouth, their fluid, which serves to moisten the food and helps to reduce it to a condition suitable for entering the stomach. The saliva, it is thought, also aids in the process of digestion before the food passes into the stomach.

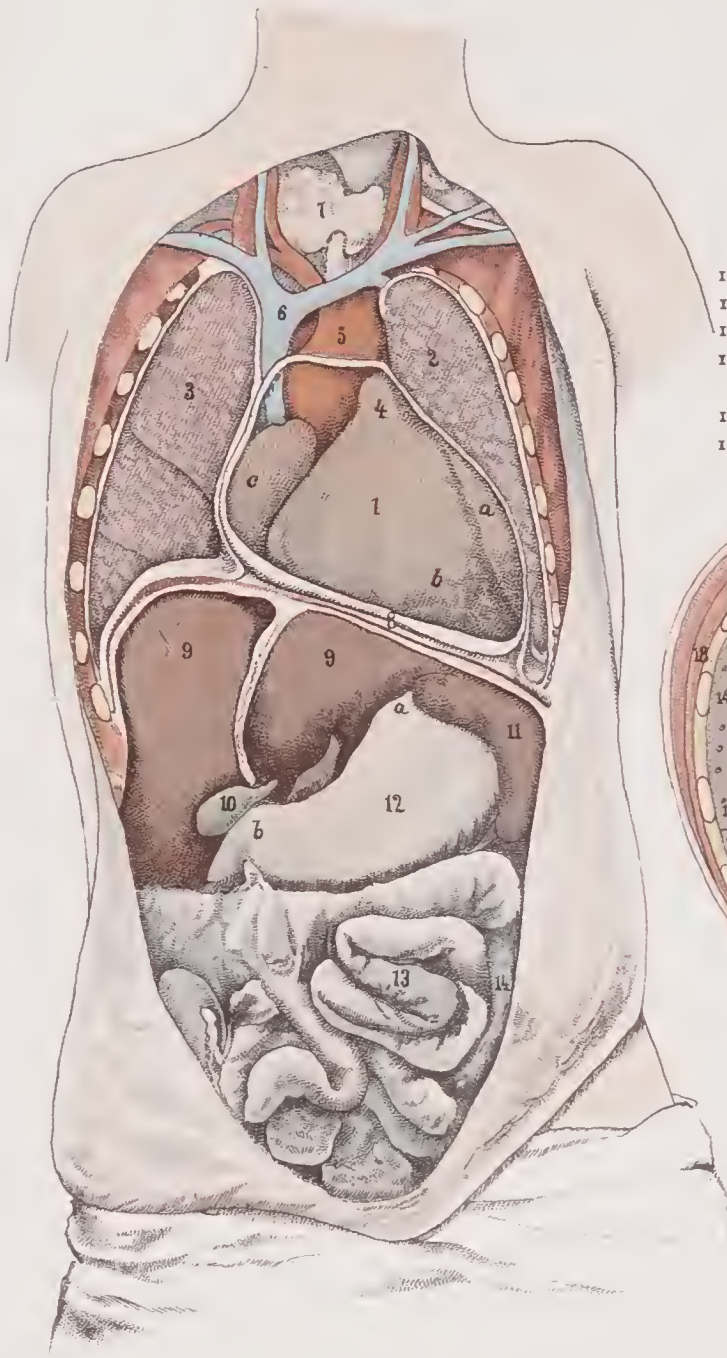
The next act after mastication is that of *deglutition*, or swallowing. The habit of taking fluids, as tea, coffee, or even water, with our food, is by no means a good one. One reason of this is, that it *prevents the flow of the saliva*. If drinks must be taken at meals, it should be done when there is no food in the mouth — after it has been masticated and swallowed; or, still better, after the meal has been finished.

Chymification.

Soon after the food enters the stomach, which it does through a pipe or tube called the *œsophagus*, it undergoes the first part of the real process of digestion, by being converted into a homogeneous, semi-fluid mass of grayish pulp, called *chyme*. The stomach, as will be shown, is a kind of pouch or bag, with strong muscular walls, which, by their alternate contraction and relaxation, keep the masticated food in

THE CHEST AND ABDOMINAL CAVITY.

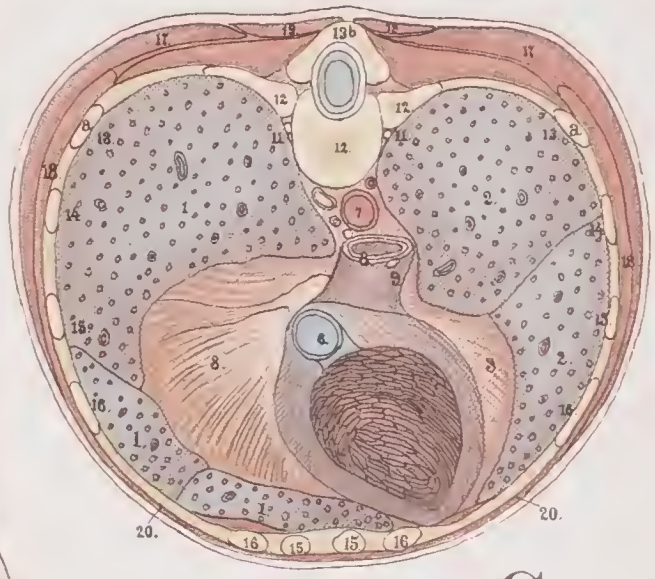
C—Transverse section through the chest, when frozen. (Close to the diaphragm).



1. Right lung, as seen from above.
2. Left lung.
3. The diaphragm.
4. The lower part (apex) of the heart.
5. The pericardium.
6. Inferior vena cava.
7. The aorta.
8. The oesophagus.
9. Nerves of the lungs and the stomach.
10. The thoracic duct.
11. The sympathetic nerve.
12. The ninth thoracic vertebra and its ribs.
13. The eighth rib (*a*) and the acantha (*b*) of the eighth vertebra.

14–16. Seventh, sixth and fifth ribs.

17–20. Muscles divided by cutting.



C.

A.

A—Position of the thoracic and abdominal viscera. (Front view.)

1. The heart.
   - *a*. Visible part of left ventricle.
   - *b*. Right ventricle.
   - *c*. Right auricle directed to the left.
2. Left lung.
3. Right lung.
4. The pulmonary artery.
5. The arch of the aorta.
6. Superior vena cava.
7. The thyroid gland.
8. The diaphragm, pressed upwards on its left side by the liver.
9. The liver.
10. The gall bladder.
11. The spleen.
12. The stomach.
    - *a*. Orifice.
    - *b*. Pylorus.
13. The convolutions of the small intestine.
14. Descending colon.

constant motion — churning it from side to side, and thus breaking it still finer and finer, and mixing it more intimately. The grand agent, however, in converting the food into chyme, is a peculiar fluid known as the *gastric juice*, which is secreted from the inner walls, or lining membrane, of the stomach. This fluid has a remarkably solvent power, and will act upon ordinary articles of food with the greatest readiness. It is so powerful, even out of the body, that a portion put into a bottle, for instance, will dissolve or digest a piece of meat or other food suspended in it, almost the same as though it were in the stomach. The gastric juice differs in its nature according to the character of the food upon which the animal subsists. Thus, in herbivorous animals, that live altogether upon vegetables, as the sheep, or the ox, it cannot dissolve flesh, while in exclusively carnivorous animals, it cannot dissolve vegetables; but in man, as in other omnivorous animals, it acts equally upon both animal and vegetable food. A somewhat remarkable peculiarity of this fluid, however, is that it cannot act upon any substance possessing life or vitality; hence, it does not injure the coats of the stomach and intestines, with which it comes in contact; and hence, also, we often find that worms live unhurt in the stomach and bowels. But as soon as they die, they are dissolved by it, or digested. It will also soon destroy the coats of the stomach after death. The natural appearance of the gastric juice is that of a limpid, colorless fluid, slightly viscid, and somewhat acid to the taste.

When the food has become properly digested, or converted into chyme, it passes from the stomach, through the *pyloric orifice*, into the *duodenum*, where it undergoes the process of what is termed *chylification*. A peculiarity in this pyloric orifice, or *pylorus*, is that it will not allow the food to pass it without first being properly dissolved by the gastric juice, or *chymified*. All undigested masses, pieces of beef, or whatever else it may be, will be refused exit until they are reduced to the proper consistence. Hence the name *pylorus*, which means *gate-keeper*.

Chylification.

This consists in the separation of the nutritious portion of the food from the innutritious or refuse. In the duodenum the food or chyme, as it now is, meets with two other fluids, the *bile* and the *pancreatic juice*. The bile is a dark green, bitter, and alkaline fluid, while the pancreatic juice somewhat resembles the saliva. These fluids are conveyed into the duodenum through small tubes or ducts coming from the organs which secrete them — the liver and the pancreas — as will be fully explained in the anatomy of these organs.

Immediately after the chyme becomes mixed with these fluids, it begins to separate into two distinct portions, one of which is the chyle, or nutritious portion, and the other the refuse portion, which passes off by the bowels. The chyle is a white, milk-like fluid. It resembles blood, however, in nearly every particular except its color; and hence has been called *white blood*.

Absorption of the Chyle.

The refuse or innutritious portion of the food passes off by the bowels; but the chyle is absorbed or taken up by an immense number of little vessels or tubes, which open upon the inner surface of the duodenum and small intestines, called *lacteals*, and is by them carried and emptied into the *thoracic duct*, a long tube about the size of a goose-quill, or, hardly so large, which runs up along the spine, behind the stomach and heart, and empties into the left *subclavian vein*, at a point under the left clavicle, near the neck. Through this the chyle passes, and is thus mixed with the *venous blood*, and goes with it direct to the heart, and thence to the lungs. From the lungs it passes back again to the heart, through the pulmonary veins, and is distributed along with the general mass of blood to all parts of the body, through the arteries; thus nourishing and invigorating the system, and supplying the waste that is continually taking place, as well as furnishing additional material for increasing the size of the body during its growth. All the nourishment and strength we receive from our food is obtained in this manner; and all our bones, muscles, and every part of our bodies, are made in this way; the food we eat making the blood, and the blood in turn making the more solid parts. When we reflect that this piece of bread, or this potato, which we are about to eat, *to satisfy our hunger*, will, in a few hours, be converted into red blood, flowing through our veins and arteries, and that probably before we rise in the morning from our slumbers and our dreams, it will constitute a part of the living flesh of our body — the change will appear little less than a miracle.

PHYSIOLOGY OF THE DIGESTIVE ORGANS.

The Mouth.

The mouth is the cavity into which food is first introduced. It is supplied with organs for testing the quality of the food; with organs for dividing and grinding, and with a fluid for moistening and softening, and for converting the insoluble starch of the food into a soluble sugar. It has a fixed roof, formed by what is known as the *hard palate* (3), and with a movable floor made up of the tongue and the lower jaw. Around the sides and front of the mouth are two rows of sixteen teeth each, which spring from the upper and lower jaws, and outside of these the cavity is closed at the sides by the cheeks, and in front by the lips. When the mouth is closed the tongue comes in close contact with the roof (3), and back of the hard palate the communication with the nasal cavity and the pharynx is further impeded by a curtain of flesh, the *soft palate*, in the middle of which, at the extreme back part of the cavity of the mouth, is a small prolongation or teat of flesh, the *uvula* (4). On each side are double muscular cords (5 and 6), which are known as *pillars of the fauces*, and between these on each side are the tonsils (7). At the back part of the base of the tongue is a lid, the *epiglotis* (9), made of *cartilage*, or gristle, which closes the entrance to the trachea (12). Behind the uvula and the epiglotis is the cavity of the *pharynx* (8 and 11), which has walls of muscles and covered with mucous membrane. It is larger at the top than at the bottom and has seven openings into it: two from the back part of the nasal cavity; two (one on each side) above and close to these—the openings of the *eustachian* tube (2), leading to the ears; one from the back part of the cavity of the mouth (8); one from the *trachea* (12) or windpipe, and one leading into the *œsophagus* (11) or gullet. The whole cavity of the mouth and the *pharynx* (as well as the entire *alimentary tract*, which includes the *gullet*, *stomach* and *intes-*

tines) is lined by a delicate membrane, known as the *mucous membrane*. It commences on the lips where it joins the skin; it is red and moist and soft and tender; its structure is like that of the skin, only more delicate and more easily wounded. It is full of minute little glands which secrete a fluid known as mucus, and which keep the membrane moist. Besides these little mucous glands there are three pairs of large glands which secrete three different kinds of fluid, known as *saliva*, and the glands as *salivary glands*. These glands are named according to their situation: the *sub-lingual*, under the tongue; the *sub-maxillary*, under and to the inside of the lower jaw. The saliva secreted by these two pairs of glands is emptied into the mouth through a small duct under the tip of the tongue. The *parotid* gland lies in front of the ear, and its duct opens into the mouth on the inside of the cheek opposite the second upper double tooth.

The Teeth.

Each of the thirty-two teeth has a *crown*, a *pulp*, and one or more roots or *fangs*, which are received into sockets in the jaw-bone. The teeth are composed of ivory, an enamel and a cement which securely fastens them in their sockets.

Every person who lives to adult life is given two sets of teeth. The first set, consisting of twenty teeth (ten above and ten below), are known as the *temporary* set, and the last, consisting of thirty-two (sixteen above and sixteen below), are known as the *permanent* set.

After these, now-a-day, a person can have as many additional sets of teeth as he can pay for.

The four teeth in each jaw which are directly in front have sharp, chisel-like edges, and are known as the *incisors*, or cutting teeth. Next these on each side is a long, round-cornered and sharp tooth, something like the tooth of the dog, and hence known as the *canine* or tearing tooth. The next two teeth on each side have two prominent points or *cusps* on the surface of the crown, and are therefore called *bi-cuspids*. All of these have generally but a single root or fang. The remaining twelve teeth have two or more roots and broad, heavy crowns, and are known as *molars* or grinding teeth. (See Fig. 2.)

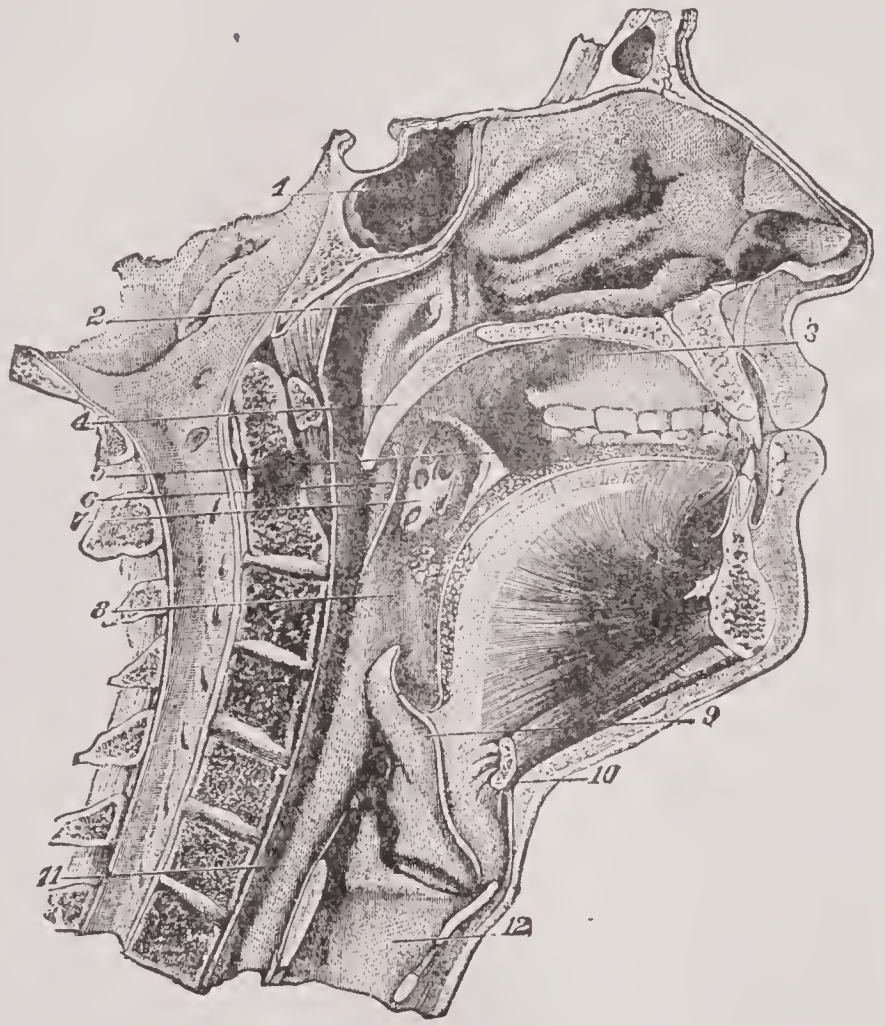


Fig. 1.

2, Opening of the eustachian tube; 3, hard palate; 4, soft palate; 5 and 6, pillows of the fauces; 7, tonsil; 8 and 11, pharynx; 9, epiglotis; 12, larynx.

Each tooth is supplied with blood-vessels and a nerve, which enter, to pass into the pulp, at the root of the tooth, as shown by the illustration.

When solid food is first taken into the mouth, it is first submitted to division and grinding by the teeth. It is kept between the teeth by the muscles of the cheeks on the outside, and by the tongue from the inside. When the teeth are closed together the food is pressed out on either side, but is immediately replaced by the action of these muscles, and this is continued until the entire mass is thoroughly rubbed down. During this process the salivary glands have been excited and have poured into the mouth their fluids, which have become incorporated with the food, while the glairy mucus from the mouth coats the bolus of food thus prepared for the action of the stomach. By the action of the tongue the bolus is forced backward into the pharynx, the soft palate and valve preventing its passage upwards into the back part of the nasal cavity, while the epiglotis closes down securely over the entrance into the wind-pipe, and, the muscles of the pharynx contracting upon the bolus, the movement or act of swallowing is performed. The bolus glides over the epiglotis and is then carried through the œsophagus, or gullet, into the stomach, where it is digested.

The Stomach.

The stomach (see Fig. 3) is the principal organ of digestion. It lies immediately below the diaphragm in the cavity of the abdomen, being separated from the heart and lungs above by the diaphragm, and lies more upon the right side of the body than the left. It is a muscular pouch, being, when moderately full, about twelve inches long by four inches deep. It is covered on the outside by a delicate, smooth membrane, which covers also the intestines and lines the entire cavity of the abdomen. This membrane secretes a small amount of fluid in health, sufficient to so lubricate its surfaces that the organs may glide over each other without injury. The stomach is lined by the mucous membrane, spoken of previously as lining the entire alimentary tract. This membrane in the stomach is thick, smooth, soft and velvety. When the stomach is empty it lies in folds, or *rugæ*. When the stomach is full these folds are

obliterated. When the mucous membrane of the stomach is examined by a magnifying-glass, it presents a peculiar honey-combed appearance, which is due to the opening of the ducts from little glands situated in and beneath the membrane. These glands secrete an acid fluid known as the *gastric juice*, and a certain substance known as *pepsin*, which, together, have the power to dissolve a certain class of foods known as *proteids*, presently to be described. The stomach has two openings, one by which food is received from the gullet, or *œsophagus*, and called the cardiac orifice; the other by which the contents of the stomach are passed into the small intestine, and known as the pyloric orifice, which is guarded by a kind of valve—the *pylorus*.

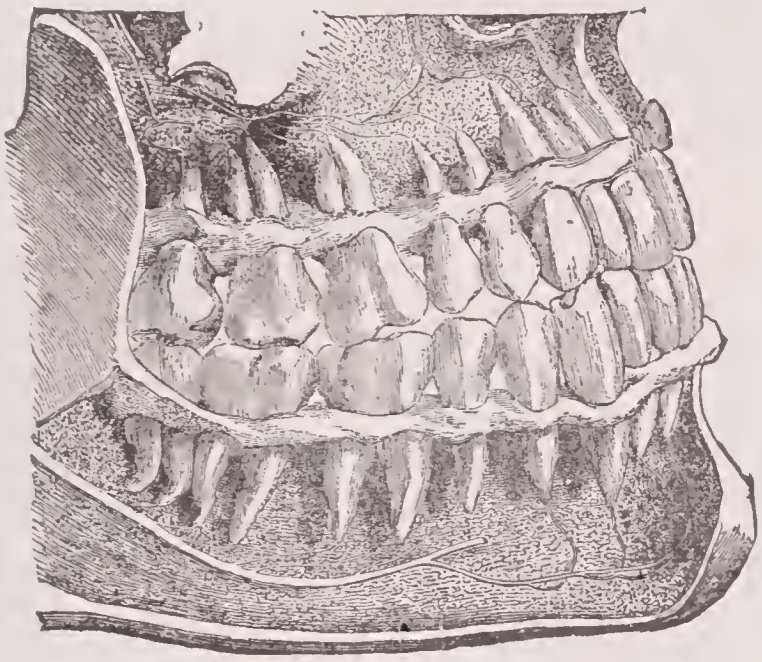


Fig. 2.

The Intestines.

The intestines form one long convoluted tube with muscular and mucous coats like the stomach, lie wholly within the abdominal cavity, and are enveloped by the peritoneum. They are divided into the *small intestines* and the *large intestines*, the latter having a far greater diameter than the former. The small intestine is about twenty feet long and divided into the *duodenum*, the *jejunum* and the *ilium*. The lining mucous membrane is thick, velvety, and full of blood vessels. It is thrown into transverse folds, which are about two inches long, and half an inch in depth in their broadest place, and are called *valvulæ conniventes*. These folds are covered by a net-work or tufts of capillary and lacteal vessels known as *villi*. These are very numerous—the number in the whole length of the intestines being estimated at four millions. In the upper part of the duodenum empties the duct from the pancreas and the bile duct from the liver, both of which organs secrete a digestive fluid which, being poured into the duodenum, completes the solution of the food received from the stomach.

The large intestine extends from the termination of the small intestine to the outlet. It is about five feet in length. It differs from the small intestine in its greater size, more fixed position and its sacculated form. It is divided into the *cæcum*, the *colon* and the *rectum*. The cæcum is a dilated pouch, into which the ilium empties. It is situated on the right side of the body in the lower part of the abdominal cavity. Continuous with this rises the colon. It passes upward on the right side of the body, until it reaches the under surface of the liver, when it crosses transversely to the left side of the body, and then descends. It is lined by mucous membrane, but its structure is not of sufficient importance to demand attention here.

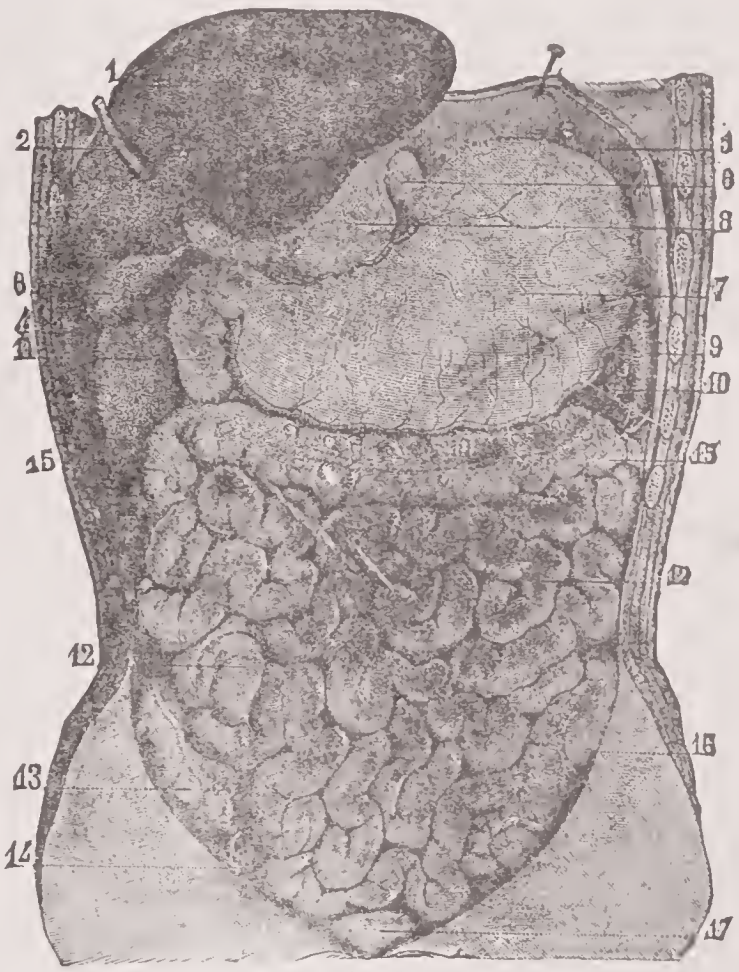


Fig. 3.

1, 4, Liver; 2, ligament of liver; 3, gall-bladder; 5, diaphragm; 6, lower end of the œsophagus; 7, stomach; 8, 10, omentum; 9, spleen; 11, duodenum; 12, 12, small intestine; 13, cæcum; 14, ensiform appendix; 15, 15, transverse colon; 16, descending colon; 17, urinary bladder.

The Liver.

The liver is the largest gland in the body, weighing from three to four pounds. It belongs to the digestive apparatus, its function being chiefly the secretion of bile; still it undoubtedly effects important changes in the blood during its passage through the gland. It is placed in the abdominal cavity, on the right side of the body, on a level with the lower ribs. Its upper surface is in contact with the diaphragm, which separates the liver from the right lung. It measures, from side to side, ten to eleven inches; from before backwards, six to seven inches, and is about three inches thick in its thickest part. It is held in place by strong ligaments, and is covered by the same serous membrane, the *peritoneum*, which covers the stomach and other abdominal organs. The liver is made up of *hepatic* or liver cells, whose function it is to secrete the bile, and of a substance known as *glycogen*, which will be spoken of again. The *bile* or gall is a compound fluid of golden yellow color, and very

bitter in taste, and the total quantity secreted in twenty-four hours is probably not less than two or three pounds. It is both a *secretion*, *i.e.*, an essential digestive fluid, and an *excretion*, *i.e.*, contains elements of waste—the ashes, so to speak, of oxidized tissues, which, being emptied into the intestines, are carried out of the body.

The Pancreas.

The pancreas is very similar in structure to the salivary glands. It is placed in the abdominal cavity beneath the stomach, and extends from the duodenum on the right to the spleen on the left. The pancreas is oblong in shape, and larger at one end than the other. The larger end, known as the *head*, is in contact with the duodenum, gently tapering to the left as it approaches the spleen, into what is called the *tail*. The entire gland is about six or seven inches long, an inch and a half broad, and three-quarters of an inch thick, and averages three ounces in weight. The pancreas secretes a digestive fluid very similar to the saliva, which empties into the duodenum through an orifice in common with the bile from the gall-bladder.

The Process of Digestion.

When the stomach is empty the lining membrane is pale, the blood-vessels contracted, and the stomach glands secreting scarcely more than enough fluid to moisten the surface. As soon, however, as food is taken into the stomach, the nerves of the part are stimulated to activity, the blood-vessels dilate, the mucous membrane becomes red, and little drops of fluid begin to appear at the mouths of a thousand little glands and run down as gastric juice. The presence of food in the stomach sets up a contraction of its walls, which rolls the food about, not unlike cream in a churn, until the digestive or dissolving fluid becomes thoroughly incorporated with the food. We have seen that saliva has the power of acting upon starchy foods, converting the starch into sugar, but has no power to dissolve that class of foods essential to life and known as vital food-stuffs—*proteids*. Among the proteids may be mentioned the *gluten*, *albumen*, *fibrin*, *syntonin*, *casein*, etc., which are the chief food constituents of bread, eggs, meat, cheese and milk. Now the gastric juice has the power of dissolving these articles of food at the temperature of about 100 degrees, or that to which the food is raised in the stomach. The motion of the food in the stomach has no other value than to thoroughly mix it with the digestive fluid. When the *proteids*, whether from meat, or bread, or eggs, or cheese, are dissolved, we have a substance known as *peptones*. Peptones are readily absorbed and taken into the current of the blood. Still there are many articles of food that are not dissolved in the stomach. As soon as the starch-foods, or *amyloids*, become incorporated with acid fluid of the stomach, the solution which has begun by the alkaline saliva ceases, and these starchy foods pass out of the stomach unchanged. The fats, too, are not digested in the stomach; neither is the solution of *proteids*—bread, meat, cheese, etc.—completed in the stomach. A large part of the *peptones* are absorbed by the stomach and taken into the current of the blood. The remaining contents, the starches, fats, and half-dissolved *proteids*, are permitted slowly to flow out of the stomach through the pyloric orifice into the *duodenum*. Here it mixes with the bile from the liver, which has been saved up in a little reservoir, the *gall-bladder*, for this purpose, and with the fluid from the pancreas, and with the juice from the intestinal glands, which together have the power of digesting the starchy foods, breaking up the fats into an *emulsion* (or held in suspension, as butter is in new milk before it is churned) and completing the solution of the *proteids*, so that here all the starch of the vegetables we eat is converted into a peculiar sugar known as grape sugar; all the butter, fats and oils made into an emulsion; all the *gluten*, and *syntonin*, and *casein*, and *albumen* of the bread, and meat, and milk, and cheese, and eggs which we eat is converted into *peptones*. Now this *grape sugar*, and the *emulsions*, and the *peptones*, are very readily absorbed by the millions of *villi*, or the velvety little tufts of blood-vessels and lacteals which cover the folds on the intestinal mucous membrane. Those parts of the food unfit for the use of the body, or which are not needed, are passed along into the large intestine, and finally carried out of the body.

DISEASES OF THE DIGESTIVE ORGANS.

We have seen how perfect is the machinery for the elaboration of our food, and the many processes through which it goes, by which it is rendered fit to be taken into the current of the blood to rebuild the wonderful organs of man's mechanism and to restore the tissues which have been burned up in the production of power necessary in work, and in the production of animal heat, which is essential to life. More than this, man is supplied with every desirable means of testing the kind and quality of his food before it is introduced into this wonderful laboratory. To digest the stone of a peach would be impossible; such things, taken into the stomach, could not result otherwise than in death. The pit is taken into the hand, or tried between the teeth, and, perceiving its hardness, it is rejected, even by a starving idiot, as unfit for food. Two wonderful faculties is man possessed of necessary to the proper inspection of food—the sense of *smell* and the sense of *taste*. The aroma and flavor of substances fit for food he is made to like; while the odor and taste of substances unfit for food and harmful to the body are made disagreeable, nauseous, or even disgusting to him. Tainted meat, or decomposing eggs, would be most harmful taken into the stomach. Hence, such articles are promptly rejected by the official inspectors—*smell* and *taste*. Certain harmful substances may fail of detection, either by sight, or smell, or taste, or any of the senses a part of whose function is to inspect the food, and therefore, as in the case of certain poisons, be taken into the stomach. But even in the stomach there seems to reside a sense of the fitness of things, and the poison is, by the act of vomiting, immediately rejected. If any part of an offending substance is carried into the duodenum, an action is there immediately set up to hurry it out of the body. Nothing could be more perfect than this system of inspection and elaboration of the food. Nothing further in this direction could be desired, so long as the apparatus of this wonderful laboratory continues in good repair—in other words, so long as the organs remain in health. Every organ and tissue in the body is liable to get out of repair. Whenever any organ fails to do its work or shows any defect, we say it is *diseased*.

DISEASES OF THE MOUTH AND THROAT.

Stomatitis — Inflammation of the Mouth — Canker.

This condition is usually the effect of digestive disorders, or lack of attention to the mouth and teeth.

Small sores or ulcers make their appearance on the mucous membranes of the tongue, gums, or cheeks. They have a pearly white punched out appearance, and are quite painful.

Treatment.— First of all the bowels should be attended to, the diet should be light, nutritious, and of a readily digestible character. Each separate ulcer should be touched with stick Nitrate of Silver, or with Alum. A mouth-wash of Potassium Chlorate or Borax, or any mild alkaline antiseptic should be used.

THRUSH is another form of Inflammation of the Mouth, usually occurring in infants and caused by a living fungus growing in the mucous membrane.

Treatment.— Mouth-washes, especially one of Bicarbonate of Soda, are valuable; but the general condition of the patient must be attended to.

Acute Tonsilitis—Quinsy.

QUINSY, or TONSILITIS, is an inflammation of the tonsil. One or both tonsils may be involved. It is a very distressing and painful disease, and swallowing is rendered very difficult by the great swelling of the tonsils, which often apparently quite closes the opening into the pharynx. The affection, however, is not dangerous. It usually ends in an abscess, which breaks upon the inside. There is a predisposition to the disease in some persons, who suffer from repeated attacks. An attack is sometimes caused by exposure to cold. Persons predisposed to the disease should have the tonsils removed, as should be done in all persons with permanently enlarged tonsils. A perfect instrument is made especially for this purpose. The removal of a tonsil is but the work of a moment on the part of the surgeon. The operation is attended with scarcely any pain, the wound is altogether trivial, and a permanent cure is effected and the patient relieved from a constant source of discomfort. During an acute case of tonsilitis, or quinsy, the patient should remain in bed; poultices, or flannels wrung out of hot water, may be applied to the throat; steam may be inhaled, and a gargle of a saturated solution of *chlorate of potassium* in water may be used. In addition, the following prescription will be found of great use:

Quinine, - - - - - -	24 grains.
Morphine, - - - - -	1 grain.

Make six powders. Take one every four hours.

Acute Pharyngitis—Sore Throat—Cold.

ACUTE PHARYNGITIS is an acute inflammation of the mucous membrane of the pharynx, and is one form of a *cold*. On looking into the throat the membrane is found to be red and inflamed. If it extends deep into the pharynx there will be a cough, which is not in any way husky, showing that the larynx is not affected. There is considerable soreness and pain when an attempt is made to swallow, and very often there is a white exudation, both in the throat and on the tonsils, which are usually more or less inflamed. These white points often lead to mistaking the disease for diphtheria. The affection is often attended with considerable fever. The duration of the disease is from five to ten days. The treatment recommended for *quinsy* should be employed.

Chronic Granular Pharyngitis—Clergyman's Sore Throat.

CHRONIC PHARYNGITIS is an inflammation of the mucous membrane of the pharynx of long standing. It frequently exists without the patient making any complaint. There is usually, however, a dry, hacking cough, which is increased by fatigue or mental depression, and the voice frequently becomes hoarse from speaking. It is a disease of middle life, is much more common in men than women, and from the annoyance it occasions clergymen it has received the name of *clergyman's sore throat*. It occurs no more frequently among clergymen than other persons, but, because of the necessity for using the voice, it occasions them more inconvenience. The disease is not dangerous and has no tendency to run into consumption or any other disease. Still it is apt to persist for many years, and is very difficult to cure. The following prescription will do good, and, with proper hygienic care, may produce a cure.

Iodide of potassium, - - -	4 drams.
Bromide of potassium, - - -	1 ounce.
Compound tincture of gentian, -	6 ounces.

Dose.—One teaspoonful in a wine-glass of water three times a day after meals.

The above should be continued for a long time. Quinine in two-grain doses may be taken three times a day. Outdoor exercise should be taken; relaxation from mental labor, together with recreation and good living, will be found of the greatest benefit. If the patient is dyspeptic, particularly, he should abandon the starvation brown-bread diet, and demonstrate his ability to live as other men do, upon a generous diet such as his appetite craves. Let the variety of food taken be as great as possible.

Bleeding from the Stomach.

This may be caused by blows on the region of the stomach, from ulceration, from debility of the blood-vessels of the inner coat of the stomach, or it may be a symptom of cancer of the stomach. It is sometimes brought on by suppression of the Menses. A few doses of common table salt and vinegar may be a sufficient remedy. Alum water may also be given. The patient should be kept quietly in bed and allowed to swallow small particles of ice. It is well to give a quarter of a grain of morphine to an adult. If it arise from suppressed Menstruation measures must be taken to restore that discharge.

Heartburn.

This is nothing more than sour stomach, for which a teaspoonful of Bicarbonate of Soda in a little water is an excellent remedy. Magnesia is very good; a dose may be one, two, or three teaspoonfuls in a tumbler of water.

DYSPEPSIA—CHRONIC GASTRITIS.

The greater number of persons afflicted with Dyspepsia are to be found among those confined to sedentary habits, who neglect or have no opportunity to take sufficient exercise, and whose nervous systems are easily excited. Thousands are also afflicted with this disease from the too constant use of medicines. There can be no doubt that sedentary habits concur with mental excitement in producing this disease, but as long as excessive mental excitement is kept up, but little relief can be obtained by medicine, or the strictest attention to diet. Absence from mental toil, cheerful company, exercise, a country excursion, and relaxation of mind, will soon accomplish a cure, when all the prescriptions of physicians and medicines in the world would prove unsuccessful without them.

The gastric juice, or the chief digestive fluid, is naturally proportioned to the real wants of the system at the time. When a moderate meal is eaten, a sufficiency of juice is speedily secreted for its solution, digestion goes on rapidly, the coats of the stomach retain their usual healthy appearance, and after an interval of repose, a fresh supply of juice is ready to be poured out when wanted for the digestion of the succeeding meal. But when food is eaten to excess, the portion left undissolved by the gastric juice begins to ferment, and by its physical and chemical properties acts as a local irritant, just as any foreign body would do, and produces an inflammatory action on the inner coats of the stomach, which necessarily interferes with the gastric secretion, and thereby impairs the power of digestion.

The power of digestion varies considerably under different circumstances, even in the same individual. In youth, for example, and during convalescence from illness, and after much exercise, when copious materials are required for both nutrition and growth, the gastric secretion seems to be very abundant, and hence the vigorous appetite, and easy digestion of early life. But after maturity, when the living fabric is complete in all its parts, and when the restless activity of youth is exchanged for the staid and comparatively sedentary pursuits of middle age, and when, therefore, no such abundance of nutritive materials is required, the secretion of gastric juice is, in all probability, much diminished in quantity, which is the chief cause of the proportionally diminished power of digestion. We ought clearly, on the approach of maturity, to place ourselves in accordance with our altered circumstances, and diminish our quantity of food, more or less, according to circumstances, adapting our mode of living to our sedentary habits, diminishing the quantity of food, in due proportion between supply and expenditure, which alone is compatible with the continuance of health. This precaution is, however, very generally neglected. The other conditions most influential in diminishing the secretion of the gastric juice, are bodily fatigue, strong mental emotions, such as anger and febrile excitement. Hence the obvious necessity of avoiding full meals under such circumstances, and never eating a second meal until the stomach has had time to recover from the labor of digesting the one preceding—for it requires an interval of repose just as the muscles do.

Sometimes one eats an article of food that does not agree with one, or there is not gastric juice or acid enough to digest the food, then it ferments, produces belching, colicky pains, sick stomach, and the like. A mixture of a drop of diluted Hydrochloric Acid and a teaspoonful of essence of Pepsin, which is an excellent artificial gastric juice, will be used to great advantage, especially by those persons known to have weak digestive organs.

The principal and general causes of Dyspepsia, and the whole train of distressing complaints resulting therefrom, are produced from the present habits of luxury and intemperance both in eating and drinking, such as spirituous liquors, high-seasoned meats, excessive use of tea and coffee, hot bread, spices, pastry, tobacco in every form, irregular evacuations, excessive venery, swallowing the food without chewing it sufficiently, overloading the stomach, derangements of the liver and spleen, want of exercise and pure air, the depressing passions, or great anxiety of the mind, and whatever has a tendency to debilitate the lining of the stomach so as to prevent it from the healthy performance of its functions.

Symptoms.—The following are the most common and constant symptoms of this complaint, namely: want of appetite, indigestion of the food, and a sensation as of great internal *sinking* and distortion of the stomach; flatulency or wind in the bowels; acid eructations, or throwing up acid water; nausea or sickness of the stomach, and frequently vomiting of food; pain and not unfrequently spasms extending over the region of the stomach; great depression or lowness of spirits, irritability of temper, very nervous and easily excited, anxiety; whitish or clay-colored evacuations from the bowels or intestines, which are sometimes in a loose or relaxed state, at others in a costive state, not unfrequently afflicted with piles, and discharges of blood from the fundament; alternate flushes of heat and cold; irregular, wandering pains in the back and shoulders; twitching or spasmodic affections of the muscles; nervous twitchings and tremblingly alive all over to every sense of danger, real or imaginary; great restlessness and want of sleep; sudden startings at the slightest unexpected noise; frequent sighing; a sense of great oppression about the region of the heart with palpitations; dry skin, furred tongue, unpleasant taste in the mouth, offensive breath, yawnings, and uncomfortable feelings; often a giddiness, and noises or singing in the ears; sight frequently obstructed; the memory not so good as formerly; want of resolution; great weakness after any corporeal exertion.

Treatment.—In the beginning of Dyspepsia, strengthening medicines should not be used, but after the disease has impaired the general strength, and relaxed or weakened the stomach, it will then be necessary to use them. The acidity and hot belchings may be removed by a gentle emetic of Ipecacuanha, from 5 to 10 or even 20 grains in a teacupful of warm water. The emetic should be repeated when a small dose has been given, if the first dose does not vomit; but generally the first dose is sufficient. When the operation is over, and the stomach has become quiet, give a gentle purgative, a Seidlitz Powder; but if the bowels are very constipated, give some more active medicine, as pills of Aloin, Belladonna, and Strychnine. For children a dram of powdered Rhubarb, and the same quantity of calcined Magnesia, divided into four

equal parts, one stirred up in syrup and given morning and evening, will effectually relieve the digestive organs from all sourness and wind colics, with which young persons are so much tormented. Keep the bowels regular, for they are generally sluggish and costive. A daily habit of attending to the natural calls of the bowels, however feeble the desire, should never be neglected. The use of injections is in the case of delicate persons much better for moving the bowels, than by swallowing daily potions of physic, and for this purpose all that is necessary is Glycerine and Warm Water; or Warm Water in which is put a teaspoonful or two of common Salt.

Attend to the quantity and quality of your food; avoid all dissipation; secure sound sleep; take plenty of exercise, and take a Soda Powder, two or three times a day, in a tumbler of cold water. This will correct the sourness of the stomach, and if the bowels are costive, or bound up, take a Seidlitz Powder once or twice a day; if much wind, a little Spearmint or Peppermint Tea, drunk warm, will relieve you. If the distress is great, from wind or colic, a teaspoonful of Paregoric, in a little hot water, should be taken. If the suffering arises from the quantity or quality of the food, then take a dose of Salts, or a gentle emetic. But after a fit of indigestion, where the stomach has suffered much from wind, pain, heartburn, and hot, sour eructations, or perhaps sickness and vomiting, then give the stomach rest for twenty-four hours, living on Boiled Rice, Hard Crackers, Rye Bread, and cooling light diet, or such food as may be most suitable to assist the powers of digestion. In every form of Dyspepsia, coffee, tea, and hot bread are injurious. If there is a constant feeling of soreness and pain at the pit of the stomach, a large blister should be drawn — as small blisters are of no service — and if the pain continues, and no relief is produced from the blister, half a dozen Leeches should be applied to the pit of the stomach, every two or three days, until relief is obtained. If there is a constant costiveness of the bowels, the best medicine is Aloes, unless you have the Piles, then you must not use it, otherwise it is a valuable medicine; one, two, or three pills, as you may require, on going to bed, to open the bowels, and continue to use them for three or four weeks at a time, if the digestive organs are not strengthened before.

In bad cases of Dyspepsia, or where this complaint has been of long standing, you will find the following a valuable remedy, for I have used it with great benefit in many difficult cases:

The Oxide of Bismuth, and Aloes, made into pills, with Molasses, or a solution of Gum Arabic. The proportion is one part of the Oxide of Bismuth, and two of Aloes, made into common sized pills. Four of these pills are to be taken every night, on going to bed, until you find improvement in your digestion, or the stomach is strengthened. These pills are greatly celebrated, and sold as a patent medicine for this disease. The Oxide of Bismuth can be used alone, in powder of 5 grains at a dose, and in cases where a daily use of physic is not needed, it is better to use it in this way, or you may try both to see which is of the greater benefit.

Rubbing the skin often with a flesh brush, or a coarse towel, is of great benefit in this complaint. It arouses the action of the blood-vessels of the skin, awakens its sensibility, and finally draws to the surface a greater amount of fresh blood. It will be of great benefit, half an hour before eating, to knead the stomach well, as if you were using your hands in kneading bread; knead up toward the breast bone or use brisk friction with a brush or coarse cloth, over the region of the stomach. This kneading particularly invigorates, promotes insensible perspiration, increases the action of the stomach, and consequently its power of digestion.

Exercise on horseback, riding before breakfast, change of place, travel and amusing scenes, all assist to cure Dyspepsia.

The following bitters will be found very valuable in this disease: Peruvian Bark, 1 ounce; Gentian Root, 1 ounce; Orange Peel, ½ ounce; Coriander Seeds, ½ ounce; bruise these four articles in a mortar, or with any convenient article if you have no mortar, put them into a quart of the best French Brandy, and let it steep for five or six days before you use it. The dose is from 1 teaspoonful to ½ a table-spoonful in a wine-glassful of water, about one hour before meals.

Pills made of Aloes and Myrrh, called the pill *Rufi*, form one of the best pills for the stomach now in use. The Myrrh is slightly stimulating, and very strengthening to the stomach; or you may give the powder of Aloes alone, in a dose of 20 grains, three times a day; or the Sulphate of Iron mixed with Myrrh, in the form of a pill — this is called generally Griffith's Mixture, which has helped many persons afflicted with this disease; and this is the reason why the Mineral Waters which contain Iron are so valuable in Chronic Diseases, or, in plainer language, Dyspepsia of long standing.

As the acid in the stomach is usually diminished in quantity in this disease, and as this acid is made from common salt, it is evident that one suffering from Dyspepsia should be very liberal in his use of salt. Sometimes there is a decided craving for salt in this disease; such craving should be satisfied.

And in conclusion of this important subject, we must impress upon your minds that Dyspepsia, in its more aggravated form, is a disease which requires, on your part, great patience. Its gradual progress and constant increase require that the means for its removal should be gradual — increasing or diminishing the strength of the remedies as you may find it necessary. In this disease, you must assist nature by giving rest to the stomach, by strengthening it, and by mildly keeping the bowels regular.

After the bowels have once been opened, a tablespoonful of Castor and Olive Oil may be given once or twice a day, with 15 or 20 drops Oil of Turpentine in it, to keep them open. A tea of Senna and Manna, with a teaspoonful of Epsom Salts, is also good. No harsh or drastic purgatives should be given.

Gastritis — Inflammation of the Stomach.

ACUTE GASTRITIS is a very rare affection. It seldom occurs except as the result of a wound or of some corrosive poison. Pain is intense; thirst is excessive; vomiting is frequent and very distressing. The vomited matters are at first of a greenish color; but if life is prolonged, in fatal cases, the vomited matters are black, with the appearance of coffee grounds. The surface is cold, and prostration is extreme. Besides poisons, the taking of large quantities of alcoholic stimulants without food may act as the cause of an attack. Death, in fatal cases, takes place in

from a few hours to a few days. Cases of this disease are so grave that a physician is always promptly called. The treatment will therefore best be left to his advice. When the cause is by a corrosive poison, the proper treatment will be found under the head of poisons.

SUBACUTE GASTRITIS, or *catarrhal inflammation of the stomach*, is much more frequent in infants than in adults. When it occurs in adults, appetite is impaired or lost; nausea and vomiting are very likely to occur; sometimes it is a very severe and persistent symptom. Thirst is very great, and cold water is craved. Hęadache is usually very great, and weakness and exhaustion keep the patient in bed. Many of the symptoms are identical with the disease already spoken of under the heads of *acute dyspepsia* and *sick headache*. The most prominent distinction is found in the duration of the attack, subacute gastritis continuing for from one to three weeks. The termination is almost always favorable; only very rarely, and in the most severe cases, when the symptoms approach those of *acute* gastritis, is there any cause for alarm concerning the termination of the case. The cause of the disease is not always clear. Among adults, those addicted to intoxicating beverages are especially liable to it.

Treatment.—The patient may, for a few days, be restricted to a milk diet. If the stomach is intolerant of food, enemas of milk may be given, half a pint at a time, and as often as once in three or four hours, until the condition of the stomach has improved. Small pieces of ice may be swallowed to relieve the thirst and the nausea. The following prescription will perhaps prove the most useful of any that could be taken to relieve the pain and vomiting:

Subnitrate of bismuth, - - -	1 dram.
Sulphate of morphine, - - -	1½ grains.

Make eight powders. Give one powder as often as necessary to relieve pain.

Neither emetics, cathartics nor laxatives should be used. If constipation exists, an *enema* or injection of warm water should be used to produce an evacuation.

CHRONIC GASTRITIS is a chronic inflammation of the mucous membrane of the stomach. It is sometimes very difficult to distinguish between chronic gastritis and the functional disease *dyspepsia*. If there is great thirst, tenderness and soreness at all times over the stomach, loss of weight, occasional vomiting, the symptoms point to *gastritis* rather than to *dyspepsia*, in which none of the above symptoms are prominent.

Many causes lead to the disease. Insufficient food is perhaps the most frequent cause.

Persons suffering from functional dyspepsia brought about by a nervous condition due to anxiety or depression, may, by limiting the quantity and variety of the food, bring about a real inflammation of the coats of the stomach. Remember that harm is always the result of severe so-called "dieting," that is, limiting the food taken to an insufficient quantity and small variety.

Another and almost as frequent a cause is, as in the subacute variety, the use of alcoholic stimulants. It is also caused by the continued use of arsenic, taken sometimes as a medicine, but more often to improve the complexion. Disease of the liver, by causing congestion of the stomach, also acts as a cause.

Treatment.—The food best adapted in cases of this sort is milk, bread, butter and eggs, beef extract, rice, corn-starch, etc. A change of scene, fair exercise, and recreation for the mind, are in the direction of the best results. As regards medicine, nothing can be better than the treatment recommended in dyspeysia.

Ulcer of the Stomach.

GASTRIC ULCER is a tolerably frequent disease. It is also a disease of gravity and danger. The ulcer is of two kinds. One, known as the *perforating ulcer*, is small and deep, and affects chiefly young people—girls and young women with much greater frequency than young men. It is said that servant-girls are more often afflicted by this form of ulcer than others, although I can see no reason for this and doubt the fact. The other form is larger and not so deep. It may be as large as a silver dollar, or even larger, and people of middle age are more often the subjects.

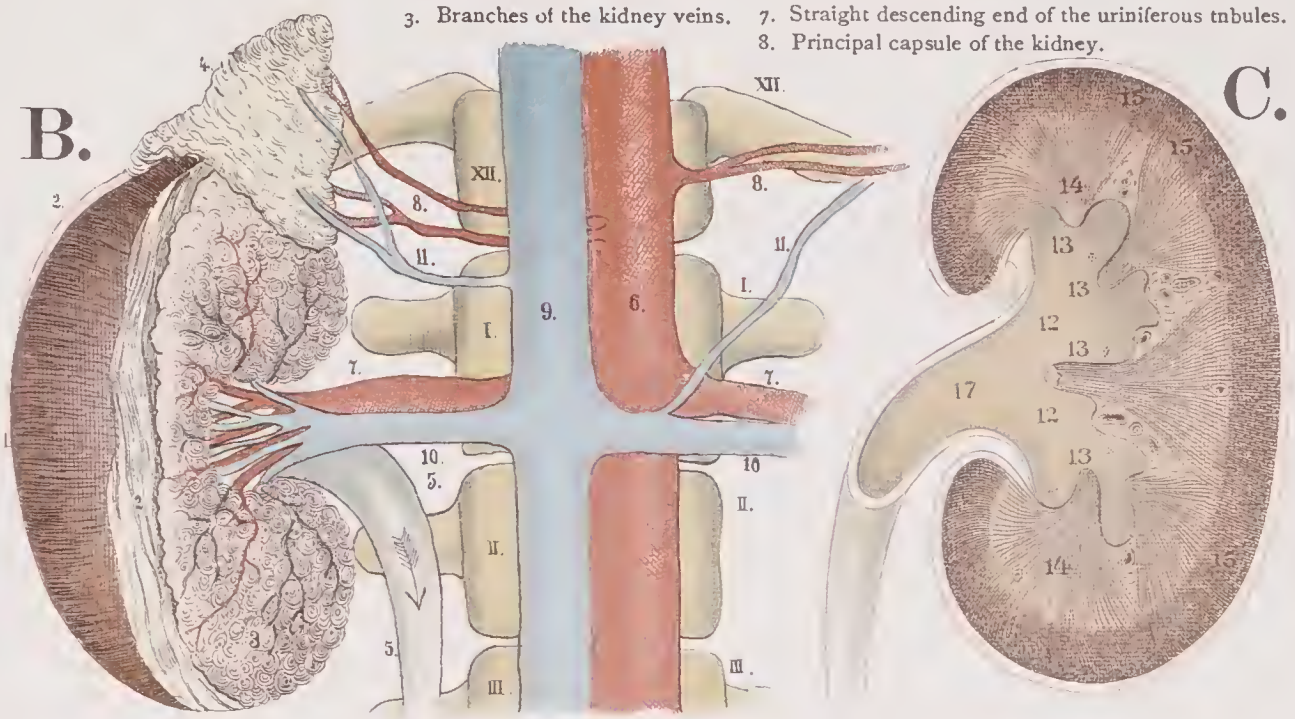
The prominent symptoms are pain directly after eating, local tenderness on pressure, vomiting after eating, and hemorrhage or bleeding into the stomach. If blood is poured out into the stomach it is very likely to be vomited. If it is not vomited immediately it is turned black by the action of the gastric juice. From the fact that the matter vomited is *black*, without further examination it can be almost certainly relied upon as being blood. If vomited immediately that hemorrhage takes place, it will have the red color of blood. If the above symptoms occur in a young person, it is almost certain that ulcer of the stomach is the cause. Hemorrhage may take place into the stomach, however, without causing vomiting. But even without this proof, the other symptoms are usually sufficiently clear to render an opinion upon. In case of ulcer, pain occurs immediately upon introducing food into the stomach. In other stomach diseases (with the exception of cancer) the pain does not occur until some time later. If any considerable bleeding takes place and is not vomited, the patient shows the fact by weakness, paleness, prostration, thirst, and a peculiar throbbing of the arteries in the neck, caused by being only half filled with blood at each pulsation. If the patient is young we may be absolutely certain that the ulcer is not a cancer of the stomach (which, in many respects, has the same symptoms), for cancer rarely happens in young people. If the patient is of middle age, then we may not be able to decide the case at once, although the peculiar symptoms as regards the appearance, in addition to peculiarities in the character of the pain in a patient suffering from cancer, are usually sufficient to render an opinion tolerably safe.

In fatal cases death takes place by different ways. It sometimes happens that the vomiting of blood is the first symptom pointing to the disease. Hemorrhage sometimes is so great as to cause death. By the ulceration af a blood-vessel of considerable size, the patient bleeds to death. Another cause of death is by the ulcer perforating the walls of the stomach, thus permitting some of the contents of the stomach to escape into the abdominal cavity, and thus setting up an inflammation of the lining membrane of the abdomen (*peritonitis*, a very painful fever), which, when produced by this cause, speedily results in death. The other way in which gastric or *stomach* ulcer causes death is by *inanition*, or starvation. When food is

ORGANS OF DIGESTION.

D,—Structure of the Kidney.

1. Branches of the kidney artery.
2. The glomerules of the kidney.
3. Branches of the kidney veins.
4. Beginnings of the uriniferous tubules.
5. Long, descending loops of the uriniferous tubules.
6. Ascending loops.
7. Straight descending end of the uriniferous tubules.
8. Principal capsule of the kidney.



B—Right Kidney and Secondary Kidney (Suprarenal Capsule).

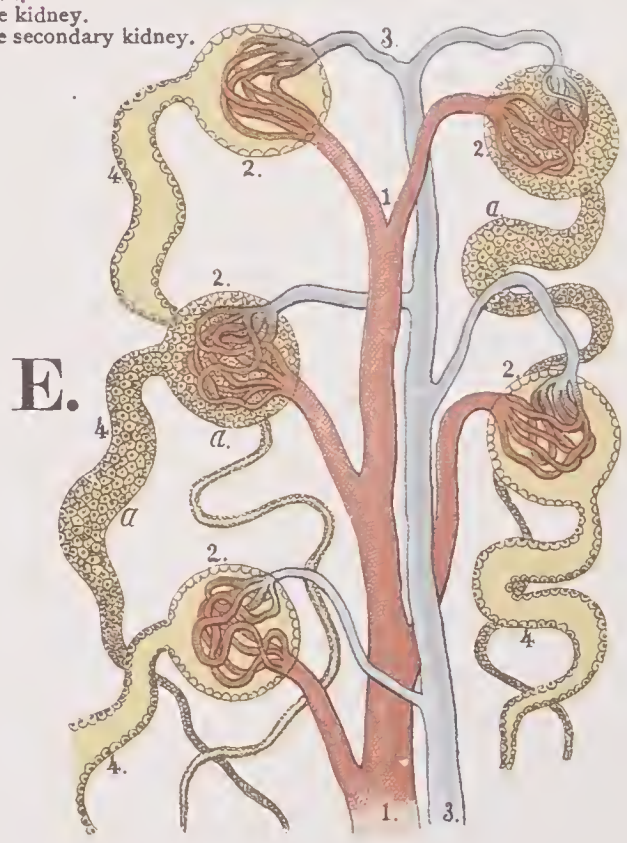
XII. Dorsal vertebra and the last rib.
I, II, III. Joint of the loin.

1. Kidney, external border.
2. The capsular membrane covering of the kidney.
3. The fatty capsule of the kidney.
4. Secondary kidney (suprarenal capsule).
5. The uretor.
6. The abdominal aorta.
7. The arteries of the kidney.
8. The arteries of the secondary kidney.
9. Lower vena cava.
10. The veins of the kidney.
11. The veins of the secondary kidney.

C—Left Kidney in Longitudinal Section.

12. The renal calixes.
13. Papillae and fine openings of the uriniferous tubules.
14. The Malpighi pyramides (in the medullary tissues)= straight end of the uriniferous tubules.
15. Boundary tissues and loops of the uriniferous tubules.
16. Cortical tissues and the beginnings of the uriniferous tubules.
17. The pelvis of the kidney.

E—Glomerules of the Kidney (greatly enlarged.)



1. Kidney artery.
2. Glomerules of the kidney, enclosing a tissue of fine capillarae.
3. Kidney vein.
4. Beginning of the uriniferous tubules, which, together with the glomerules (as shown under a), are lined with cells.

vomited as soon as taken, day after day and week after week, the patient rapidly loses weight, and if nutrition is not supplied in some other way, soon dies for want of food.

Treatment.—To stop hemorrhage, pieces of ice may be given to the patient to swallow, and cold may be applied over the stomach. If perforation takes place, nothing can be done. If vomiting is persistent, it is well not to give the patient any food by stomach, but give enemas of half a pint of good rich milk, beef-tea or mutton broth, and the white of eggs beaten up with the milk. This is for the purpose of giving the stomach a rest, and the ulcer, being thus left free from irritation, a chance to heal. This method of feeding has, in some cases, been kept up for two or three months at a time, with the best results.

Morphine and *bismuth* may be given, to relieve pain and vomiting. If food is given by stomach, it should consist principally of milk.

Cathartics or laxatives should never be given by stomach. If at all, they should be given by enema. Usually enemas of water are all that will be required.

Cancer of the Stomach.

CANCER OF THE STOMACH is not a frequent disease. Simple ulcer of the stomach is far more common. Perhaps one-third of all cancers are of the stomach. The disease rarely occurs before forty years of age. It is most common between fifty and sixty. It is twice as common in men as in women. Sometimes there is considerable difficulty in finding out what is the matter. There is usually loss of appetite and loss of flesh, with weakness and exhaustion. There is pain in the stomach, which is increased after meals, and frequently vomiting also. Often there is a peculiar yellow complexion, which points to cancer as the cause. If these symptoms should occur in a young person, simple ulcer of the stomach is more probable. Sometimes a tumor can be felt through the abdominal walls over the stomach. If this can be done, and the other symptoms are present, there can scarcely be two opinions in the case. The loss of appetite, the cutting pains, the vomiting, the black, coffee-grounds-appearing substance (blood acted upon by gastric juice) in the vomited matter, indicate that the trouble is not dyspepsia. The pain of cancer is "cutting." Of simple ulcer it is described as "burning" or "gnawing."

The pain in cancer is more constant, while in ulcer it occurs more particularly after eating; vomiting more immediately after eating in simple ulcer. Hemorrhage is more frequent and greater in amount in ulcer than in cancer. A tumor is never found in simple ulcer, and is often to be found in case of cancer of the stomach. These things, taken in connection with the history of the case, are usually sufficient to decide the case.

Treatment.—There is no treatment that is of any avail in curing the disease. Remedies may be given to relieve pain, and life may be prolonged by careful attention to the nutrition of the patient.

Diarrhœa.

DIARRHŒA is an affection of the small intestines, and is due to many different causes. It may be temporary, lasting but for a few hours, or it may be chronic, lasting for months. It may be caused by any trivial thing, as a slight change in the weather or some temporary indigestion, or may be a symptom of some grave or chronic disease, as typhoid fever, consumption or intestinal catarrh. There is one type which is probably due to disease of the pancreas, in which fat, in appearance like melted butter, is evacuated, which upon cooling over the stool gives it the appearance of being mostly fat. This form is of considerable gravity, and often proves fatal.

Diarrhœa occurs most frequently during the summer months. In September, when the weather suddenly becomes cooler, there are always a large number of cases.

Treatment.—If in the beginning of a diarrhœa the bowels are freely evacuated by some mild cathartic, nothing further is generally required. For this purpose a small dose of *salts*, or what is better, *castor oil*, may be taken. If the diarrhœa continues, twenty-five drops of *laudanum* may be taken every three to six hours. Or instead, five-grain doses of *Dover's powder*, or a sixth of a grain of *morphine*.

In case of chronic diarrhœa, more dependence for a cure must be had upon suitable diet. Those articles should be eaten which are principally or wholly digested in the stomach, and not those which are digested in the small intestine. Tender meats of all sorts are best digested; milk may be taken also, and ripe fruits. Vegetables generally should not be eaten. The food should be taken frequently, and a small amount at a time. If the patient lives in the city, a change should be made to the country. A malarious district should be avoided, and care should be taken as to dress. Woolen should be worn next the person at all seasons. Rest in bed is useful. Tonics should be taken—among the best are *iron* and *quinine*. Fifteen or twenty drops of laudanum may be taken when required to check the diarrhœa.

Summer Complaint.

Diarrhœa occurring in young children, and prevailing during the warm season, is known as *summer complaint*. It is common during teething, and may begin in an acute attack of *cholera infantum*. It is a cause of great mortality among little children. In the large cities during certain months fully one-half of the deaths are due to this cause. The little patient should be removed to the country if possible. A spot should be selected that is free from malaria, that is cool and dry. Pure, fresh, sweet milk, together with lean, tender meats, rare done, or raw tender beef chopped fine and seasoned to taste, should be fed the child. Tonics may be given, and from twenty to sixty drops (according to the age of the child and severity of the diarrhœa) of the *camphorated tincture of opium* (paregoric) may be given every few hours. Food should be taken often, and a small amount at a time.

Enteritis — Inflammation of the Small Intestine.

ENTERITIS, either *acute* or *subacute*, is very rare after the age of infancy. The diagnosis is not always clear, but diarrhœa is always a sympton, and is generally in children classed under *summer complaint* or *cholera infantum*. The treatment advised under these heads should be employed. When occurring in adults, rest in bed is to be strictly enjoined, hot poultices or hot water dressing over the abdomen may be used,

and opium in some shape, *laudanum* or *morphine*, is to be given, together with *quinine*.

Dysentery — Inflammation of the Large Intestine.

ACUTE DYSENTERY, or "*flux*," occurs in single, isolated cases, and as an epidemic. The disease is more frequent in hot than in temperate or cold climates. It is more common in the summer or fall than at other seasons. The inflammation is confined to the large intestine, and in many cases affects only a very small portion of it. The isolated cases usually end in recovery, although death sometimes results in the most severe cases. The epidemic variety, commonly known as the *bloody flux*, very frequently proves fatal.

The disease usually begins with loose passages having the appearance of an ordinary diarrhœa, but within a short time the character of the evacuations changes, showing a large amount of mucus, commonly spoken of as *slime*. Following this, very dark evacuations frequently take place, the color being due to blood, the red color of the blood being changed to black by the contents of the intestine. There is considerable griping and pain with a constant desire (called by physicians *tenesmus*) to evacuate the bowels. There is more or less fever and weakness. Vomiting is also common.

In the epidemic variety the progress of the disease is much more rapid. All of the symptoms are exaggerated. The quantity of *slime* is more abundant; blood in its red color is evacuated, sometimes in considerable quantity. The fever is much higher, and exhaustion and prostration are much more marked. Death sometimes takes place within a few hours, and sometimes not until the third week. The great majority of cases recover. The disease may occur at any age, but is most common from thirty to forty years.

Treatment.—A full dose of *castor oil* or *salts* may be administered in the beginning of the disease, to remove all offending substances from the bowels. This is not to be repeated. The treatment from this on consists in efforts to support the strength of the patient and to limit the movements from the bowels. The patient should be kept quiet in bed, and should restrain a movement as long as possible. Meat broths and milk should form the chief part of the diet. Vegetables should not be permitted. Opium in some form, either as *laudanum* or *morphine*, or *Dover's powders*, should be given after every movement. It is well to introduce this medicine by injection or suppository if it can be so retained; otherwise it must be taken by stomach. If vomiting is present, efforts to relieve this must be made, directions for which will be found in this article, under its proper head. *Quinine* in four-grain doses should be given to keep up the strength. In malarious districts especially is quinine imperatively called for. Stimulants, as *brandy* or *whisky* or *milk punch*, should be given in all cases of great prostration.

CHRONIC DYSENTERY rarely occurs except as it follows acute dysentery. It is a very grave and most intractable disease. It may be difficult to determine whether a given case is chronic dysentery or chronic diarrhœa; that is, whether the inflammation is of the large or small intestine.

Treatment.—Enemas of warm water should be used after each movement, and immediately returned, the object being to keep free from irritating matter the ulcerated and inflamed spots. Tonics must be given, and the diet should be most nutritious, and contain as little waste as possible to pass over the diseased parts. Opium should not be used except when especially indicated by pain, for the reason that it interferes with the appetite. The tendency of the disease is to progressive loss of appetite and flesh, and gradual decline, prostration, apathy and death from exhaustion.

Constipation—Costiveness.

CONSTIPATION, or *costiveness*, may proceed from a variety of causes. It is an affection of the large intestines, and is generally *functional*, *i.e.*, it is not due to any *organic* change in the part. It is a very frequent, and is generally not at all a serious affection, although it brings about great discomfort, and may be the origin of dyspepsia, piles and various other troublesome diseases. It occasions headache, dulness of mind, palpitation of the heart, accumulation of gas in the stomach and intestines, colic pains, and sometimes diarrhœa. Severe straining may produce great harm. Blood-vessels in the brain have been ruptured, and protrusion of the rectum has been occasioned by it.

It is caused most frequently by neglect to attend to the calls of nature when it is demanded, and both the sensation and desire after a time subside. It may be twelve or twenty-four hours before the call is repeated. Again it may be ignored, and again subside. In this way a habit is formed which becomes very troublesome, destroys one's comfort, and frequently, by interfering with digestion, undermines the general health. This habit of neglecting the calls of nature is brought about chiefly by two causes: the mind may be occupied and the patient driven with work. He will not take the time either to eat properly, or to visit the closet. But the far more frequent cause, in my opinion, especially in the country, is the neglect of people to provide themselves with comfortable closets, and sometimes not even uncomfortable out-houses. In winter, when the thermometer is from five to forty degrees below zero, with deep snow-drifts, and the wind blowing a gale, a trip to a stable, or to a cold out-house, through the cracks of which the wind drives a freezing blast, is indeed a dreaded experience. To bare oneself in such cold, and perhaps stop the wind out of the privy with a portion of one's anatomy, is not an experience that seeks frequent repetition. Again, when it rains in spring and fall, there is a dread of going out into the storm. And in summer the stench from the privy vault is often so offensive as to deter frequent visits. Thus, by these inconvenieces, people develop a habit of waiting as long as possible, frequently for days together, until a troublesome constipation is developed, which may be very difficult to cure.

Treatment. — Attention should first be directed to a cure of the bad habit of irregularity. The patient should go regularly every morning after breakfast, and take plenty of time to complete the act. Every house should have a comfortable closet, free from bad smells. If in the country where there are no sewers, and no closet is possible in the house, the privy should be well built, the outside well boarded up and battened and the inside lathed and plastered, so as to keep out the wind. A wooden box should extend up through the privy and open outside, so as to ventilate the vault, which should be often

cleaned out. A good board walk should extend from it to the house; then, if the house will keep an umbrella for rainy weather, the comfort and health of the family will be greatly enhanced, and the doctor's bills will be smaller.

Of course there are other causes, but, whatever they are, care should be taken to remove or avoid them. If constipation is only temporary, a laxative pill may be taken, or an enema of water. If, however, it be habitual or chronic, other means will have to be employed to cure it. The diet should be, in good part, articles which leave a large residue of undigested matter to be carried out of the body, such as vegetables, salads, cabbage, greens; or corn-bread, oat meal, cracked wheat, etc. A glass of cold water taken fifteen or twenty minutes before breakfast is often very useful. If medicines be taken they should be taken in small doses and frequently repeated, so as to bring about a regular habit. Free purgation should never be sought; much harm is done by it. A small pill of *aloes*, or of *aloes and strychnine*, which may be had at the drug stores, will be found very effective. One pill should be taken every night; sometimes one every night and morning may prove most effective.

Colic.

COLIC, strictly speaking, is a functional affection of the colon, characterized by spasmodic pains. It has, however, by common usage, been made to apply generally to all severe spasmodic pains in the abdomen. Thus it is applied to the pains in certain inflammations, as *peritonitis*, *enteritis* and *dysentery*, to the pain caused by the passage of gall-stones, and to that caused by the passage of small stones from the kidney into the bladder, as well as to certain neuralgias of the abdominal organs, as that caused by lead-poisoning. So the distinctions are made by prefixing a word, as *flatulent*, or wind colic; *crapulous* colic, or that caused by indigestion, as in *cholera morbus; hepatic* colic, caused by the passage of gall-stones; *nephritic* colic, caused by passage of calculi from the kidney, and *lead* colic, caused by lead-poisoning.

For treatment of the colic of dysentery, peritonitis, cholera morbus et cetera as well as of the pain accompanying the passage of stones from the gall-bladder and kidney, see the proper heads as above.

The pain in colic is caused by spasm of the muscular coat of the intestine. The object of treatment is to relieve this spasm. Some persons are subject to frequent attacks, which are brought about by slight causes. Constipation is a frequent cause.

Treatment should first be directed to the relief of the pain. Hot cloths placed over the abdomen, or cloths wrung out of hot water, will aid, and will sometimes alone fully relieve the patient. Various hot and stimuluting drinks are useful, but there is no remedy so absolutely certain of relief as some form of opium. Twenty-five to forty drops of *laudanum* may be given every half hour to an adult, either by injection or by the stomach, until relief is obtained. For children, a proportionate dose. For infants and children under four years, *paregoric* is safest. For adults, *morphine* may be given in quarter-grain doses, every half hour until relieved. If the patient is constipated, two or three compound cathartic pills may be taken, or what is better, a large injection of warm water, so as to free the bowels. This, in most instances, will complete the cure.

LEAD COLIC is caused by poisoning by lead. The lead may be taken into the system by many different ways, without the knowledge of the patient. Persons manufacturing paints or working in shot-factories or other places where lead is used may be poisoned. Painters are very liable to lead-poisoning. Persons have been poisoned by sleeping in a newly-painted room, or by using certain face-washes and hair-dyes which contain lead, or by drinking water which has stood in lead pipes, or beer or cider which has been for some time in contact with a lead faucet, and by many accidental or intentional adulterations of food. Lead-poisoning is manifested by various affections of the nervous system, such as paralysis, as of the extensor muscles of the hand, and neuralgias, of which colic, or neuralgia of the intestines, is one.

The bowels are usually constipated. The pain is sometimes dull and heavy, and sometimes sharp and cutting. It usually comes on very gradually, beginning with slight pain, and grows worse until it may become very severe. There is seldom entire relief from pain, but there are periods of great increase, when the paroxysms are excruciating. If not relieved by treatment, the pain is likely to continue for days, and perhaps for weeks, and attacks will frequently occur. Persons do not die from lead colic, although they may from other effects of lead-poisoning. A blue line along the gums next the teeth is usually present in these cases.

Treatment should first be given as in ordinary colic. When the pain is relieved and the bowels moved, the following prescription should be taken, which will produce a permanent cure:

Iodide of potassium, - - - - 1 ounce.
Distilled water, ad. - - - - 1 ounce.
Mix.

Dose: As directed.

The above is a saturated solution. Begin with five drops in a wine-glass of water three times a day after meals, and increase one drop each day until the patient is taking twenty-five to thirty drops three times a day.

Cholera Morbus.

CHOLERA MORBUS, or *sporadic* cholera, begins very suddenly by vomiting and colic pains. This is followed by purging and increase in pain and continued vomiting. The vomiting is sometimes preceded by a sense of weight and uneasiness in the stomach. If the vomiting and purging continue long, both the vomited matters and the dejections become entirely fluid and acrid. The skin is usually cool or cold; cramps occur in the legs and feet and in the abdominal muscles. During the interims between vomiting and purging, the patient is greatly prostrated and exhausted. The mouth is dry, and the patient suffers from great thirst.

The disease is more frequent in the summer months, and is more likely to occur at night than in the day-time. The patient usually recovers.

Treatment.—There is but one remedy worthy of mention in this disease, and that is opium in some shape. The injec-

tion of a solution of morphia under the skin is the best way to administer it. But none except physicians are possessed of the necessary instrument for this purpose. Therefore, if the method of administration given below should fail, by being vomited or evacuated before an effect can be produced, a physician should be called.

Half a grain of morphia should be taken dry on the tongue and dissolved in the mouth, and should be given directly after vomiting. If this is rejected, the dose should be at once repeated. If this is again rejected, it may again be repeated, or from sixty to eighty drops of laudanum may be given in two tablespoonfuls of water by injection. This should be given directly after a movement of the bowels, so as to have time to take effect before the next movement occurs. If this be rejected, the injection should be repeated.

To relieve thirst, small pieces of ice may be taken into the mouth, or a spoonful of water may be allowed every few minutes. Sometimes a very hot cup of tea, taken without milk or sugar, acts well in relieving the vomiting. The body should be wrapped in a warm blanket.

Cholera Infantum.

The affection treated of under this head is similar to the *cholera morbus* of adults, except that it is applied to children usually under two years of age. Unlike the disease in adults, where recovery is almost certain, in children under two years it is frequently fatal. Indeed, cholera infantum, together with the more chronic affection known as *summer complaint*, causes, in the large cities of the United States, nearly one-half the deaths during the hot season. Children of the poor living in crowded tenement-houses are more liable to the disease than others. Change of food, as in weaning, frequently acts as a cause. Children brought up on a bottle are especially liable to it. Doubtless poor, diluted, changed or soured milk is a cause. The greatest care should be taken to obtain fresh and pure milk for infants during these months. Unless there is urgent need in the interest of the mother's health, a child should not be weaned during the hot months.

The attack usually begins with vomiting and purging, which acts are frequently repeated. The vomited matters and the dejections are very fluid; pain, prostration and cramps ensue; the body is cold. If the purging and vomiting can be arrested recovery may quickly take place. If this cannot be controlled, however, the child rapidly fails, suffers from thirst and pain and prostration, aud in the course of two or three days goes into collapse and dies. It may, however, become chronic, an affection previously treated under the head of *summer complaint*, when the child, in unfavorable cases, gradually fails, becomes emaciated and dull, and finally dies of starvation.

Treatment.—When an attack begins the babe should be wrapped in a warm shawl or blanket. Twenty to thirty drops of *paregoric* should be given directly after vomiting. If it is rejected the dose is to be repeated. If this is again rejected or if relief does not follow, it is again to be repeated. Each time it should be given directly after the act of purging. If purging is not so frequent the medicine is better given by injection. Drinks of very warm tea may be given; let the tea be as hot as can be well taken. A physician should be called if relief is not soon obtained.

The treatment for the chronic form will be found under the head of summer complaint.

Peritonitis.

This is a disease of the thin and delicate membrane which lines the abdominal cavity, and forms the outermost coat of the intestines. It is rarely caused by catching cold; most often it is caused by perforation of the bowel during an attack of Typhoid Fever, or perforation of the vermiform appendix during an attack of Appendicitis, or the breaking of an abscess in the tube leading from the ovary to the womb in women.

The symptoms are intense pain in the abdomen, which becomes bloated and balloon-like. The thighs are drawn up, and the patient lies on his back with a pillow under his shoulders, this being the most comfortable position. There is sometimes a chill, but it is always followed by fever, the pulse becomes rapid; vomiting and diarrhea often develop.

This is usually a fatal disease. Sometimes in case of perforation an operation may save the patient's life; but there should be no delay.

The treatment consists in making the patient as comfortable as possible with Opium, stimulating and bathing.

Intestinal Obstruction.

This is a condition of the bowel in which there is something which prevents the onward passage of the contents of the intestines. This condition may follow cases of recovery from Peritonitis; it may be caused by Appendicitis, or by Hernia (rupture), or by one part of the intestine telescoping into another part. It may be due to twists or sharp kinks, or to tumors.

The symptoms are a very sudden attack of pain, the patient often being able to put his finger on the very spot. Vomiting comes on soon and cannot be checked readily. The bowels do not move. The act of vomiting soon takes place without any effort, the material vomited soon becoming extremely offensive.

The treatment consists in making the patient comfortable with Morphine, washing the stomach, and injecting large quantities of warm salt water into the rectum. Changing the position, shaking the patient, and kneading the abdomen, may be tried early. If these measures do not succeed, an operation should be performed at once, and is usually successful. Purgatives should not be given.

Appendicitis.

Many people think that this is a new disease, and that it is much on the increase. These are probably mistaken ideas. However, it is only in the last few years that doctors have known just what was the matter with people who had intense attacks of pain in the lower right side of their abdomen. Sometimes people were said to have died of Peritonitis, the cause of the Peritonitis then being unknown; but now we know that Appendicitis is frequently the cause of Peritonitis. Hence Appendicitis is now said to be the cause of death, when it was in the past credited to Peritonitis.

The vermiform appendix is a blind pouch, being, so far as we know, useless, which extends from the large intestine, for from four to six inches, free in the abdominal cavity. It is about as large round as the little finger and is hollow to the tip, and lined with mucous membrane.

The contents of the intestine can readily enter this blind tube, but they cannot so easily escape. Sometimes fecal matter collects in this tube, dries out, is molded and broken by the intestinal movements until the particles resemble grape-seeds, date-seeds, or fruit-seeds of various kinds; hence the erroneous idea that grapes often cause this disease. I have seen many appendices, which have been diseased, opened, and have never yet seen grape-seeds in a single instance, though I have seen particles of dried fecal matter which very much resembled grape-seeds. Don't misunderstand me, I believe grape-seeds might cause Appendicitis, perhaps have done so, though I do not think they are often a cause. Hundreds of people eat grapes, swallowing the seeds, who never have an attack of Appendicitis.

Appendicitis then is an inflamed condition of the vermiform appendix. If the inflammation continues for any considerable time, matter is liable to be formed, and we then have an abscess in the appendix. The inflammation may subside before matter is formed, or the matter being formed, may be taken up by the blood and the patient recovers from the attack apparently as well as ever; but the appendix is not left unchanged, a scar is formed, and the appendix is now more liable than ever to become inflamed. So often do other attacks follow the first one, that the exceptions only make the commoner cases stand out more prominently, in fact "prove the rule."

The symptoms of acute Appendicitis are, intense colicky pain in the right side of the abdomen; this pain may extend to the back, shoulders, and in fact all over. The abdominal muscles become hard, the thighs are drawn up, and the right side becomes very sensitive to pressure. There may be either constipation or looseness of the bowels. There is some fever, and the pulse becomes more frequent. The patient has the appearance of intense suffering. It is sometimes difficult to distinguish between Typhoid Fever and Appendicitis.

When a person has Appendicitis, and there is no doubt about it, I believe that the sooner the appendix is removed the better. Whenever there is matter formed, we all know it must be let out. Matter usually forms in the appendix during an attack of Appendicitis; sometimes it does not. There is no way of telling positively whether matter has been or is going to be formed or not. Almost invariably if one recovers from a first attack, he will have a second, a third, perhaps many more, usually in increasing severity.

Some people do not recover from the operation, but these are usually cases in which the operation has been too long delayed. Some people die who refuse to be operated upon; many of these would have been saved by the operation.

Some people recover from an attack, but, as I said before, they never know when they are going to have another and more severe attack, perhaps in a locality where the conveniences for proper treatment are lacking. Upon the diagnosis of Appendicitis being made, only the lack of proper conveniences and the absence of a competent surgeon should deter one from being operated upon.

When one thinks that he is going to have Appendicitis, absolute rest in bed is imperative. The hot-water bottle filled with ice-water and kept constantly cold should be kept on the right side of the abdomen. Calomel in quarter-grain doses should be given every fifteen minutes until two grains have been given, or until the bowels move freely. If the bowels do not move, a half an ounce to an ounce of Epsom Salts should be given.

If the pain is very intense, it should be controlled with Opium, to the extent of a quarter of a grain of Morphine for adults.

If one recovers without an operation, he should be careful not to overwork for several weeks, being especially cautious not to strain himself by lifting.

In case one is operated upon, one to three weeks are required in bed. The same precautions should be observed after the operation as are given for those who recover from an attack without an operation.

This disease occurs in men and women, more often, however, in men. It may occur at any age, from infancy to old age, but more often between the ages of twenty and thirty years.

Liver Complaint.

LIVER COMPLAINT is commonly divided into two varieties; namely, *Acute* and *Chronic Hepatitis*. The symptoms of the Acute form of this disease are a sense of weight and pain in the right side and shoulder, or between the shoulder-blades; yellowish or pale complexion; great depression of spirits; loss of appetite; costiveness of the bowels; the urine, or water, is high colored, and deposits a red sediment and ropy mucus. This complaint is most generally accompanied by more or less fever, a dry heat, attended with a dull pain in the right side, similar to that of Pleurisy; great uneasiness is felt in the left side, on lying down, with difficulty of breathing. It is accompanied with a dry cough, and sometimes a sickness at the stomach, with vomiting.

The Chronic form may, in addition to the before-mentioned symptoms, be accompanied with flatulency; pain in the stomach; foul mouth; the tongue much coated; indigestion; skin and white of the eyes of a yellow color; the stools, or passes from the bowels, resembling a clay color; great weakness; and slow progressive emaciation. These symptoms are, frequently, however, so mild and gradual, as to pass without much notice, until at last large abscesses, or collections of matter, are formed by the disease, followed by hectic fever, and the patient sinks without any bursting of the abscess. When the constitution has been good, and the strength sufficient, it often happens that adhesions form between the part where the abscess is, and some part near to it; and the pus, or matter, is discharged by the various passages with which this organ is connected, by vomiting, by coughing, or by purging; and, not unfrequently, by the abscess breaking inwardly. The patient then generally recovers, unless the constitution has been greatly reduced.

Inflammation of the Liver is much more frequent in warm

climates than in cold ones; and, in the former, is very apt to end in the formation of abscess, as before described. Those going to a hot climate, who are predisposed to this complaint, should be careful in diet, etc., for, like other Liver diseases, it is much more likely to attack the free-living than the temperate man.

Biliary Disorders, arising from a derangement of the Liver, are so frequent, that those who are more or less subject to such Bilious Complaints, by which the general health is greatly impaired, should strictly attend to the prevention, or at least alleviation, of these accompaniments of a diseased state of the Liver; and which, as they are so much under individual control, have special claim upon our attention. Some individuals are so constituted that they have a much greater tendency to biliary disorders than others; particularly those who suffer habitually from sick-headaches — which arise generally from the presence of bile in the stomach — and from other forms of biliary disorders common to this country, which are generally traceable to improper diet, eating rich food, such as fat bacon, rich gravies, melted butter, pastry, etc., and indulging too freely in spirituous liquors, while, at the same time, very little active exercise is taken; also not unfrequently from the cares of business, by which the mind is over-taxed, and from which the health becomes impaired.

The question is, in reality, *not one of medicine*, but of diet and regimen. Medicine may certainly be required; but not by any means to the extent it is so often used. Those persons who are habitually liable to biliary disorders, arising from a diseased state of the Liver, ought most strictly to regulate their diet, avoiding coffee, strong tea, and all stimulants; to use plain food, take plenty of exercise, and keep the skin clean by the frequent use of the bath and friction; as the sympathy between the skin and internal organs, particularly the Liver, Lungs, and Kidneys, is very great; they all sympathize and intimately coöperate one with the other, being alike subsidiary to the grand object of removing the impurities of the blood. This is the reason why, in this state of the system, purgatives are so frequently given; and why decided advantages are often found at watering places, where sometimes the most salutary and beneficial effects are produced, when medicines have entirely failed.

Remedies.— When the bowels are confined, usually termed *costive* state of the bowels, 1 pint of warm Water, 1 tablespoonful of Salt, and 1 ounce of Glycerine, as a clyster, will give relief; or take a pill of Aloin, Belladonna, and Strychnine at bed-time, and in the morning two drachms of Phosphate of Soda. When, from any cause, the languor, sleepiness, furred tongue, etc., give notice of an impending bilious attack, 1 or 2 of the pills should be taken at night, and followed in the morning by a dose of Salts, or a dose of Castor Oil. Extract of Dandelion made into pills with 1 grain of Leptandrin to each pill, one taken every night, is an excellent remedy. Sick-headache, foul tongue, or heaviness in the region of the stomach, will indicate the necessity of giving a mild emetic of Ipecacuanha; and should there be great heat, inflammation, or feverishness, the use of warm Lemonade, or a dose of Salts mixed in warm Water, and bathing the feet in warm Water, so as to produce perspiration, or determination to the surface, will afford relief. Should the bowels be costive, regulate them with the ordinary compound cathartic pill obtained at any drug-store.

JAUNDICE.—This disease is occasioned by some derangement in the secretions of the Liver, by obstructions in the tubes, or the canal, or gall duct, or by the bile becoming so thick that it cannot flow freely into the intestines. In this case, the bile not being appropriated to its natural use, is absorbed into the vascular system, and diffused through the blood; which is quickly manifested by the yellowness of the skin, and of the whites of the eyes; by sleepiness; loss of appetite; loathing of food; disinclination to move or stir about; sourness and sometimes sickness of the stomach and vomiting. There is usually felt a load at the pit of the stomach; the urine is of a yellow color, and will stain the linen a yellow tinge; there is a bitter taste in the mouth; and the stools, instead of the yellow, bilious color which they naturally possess, are of a clay color; the bowels are costive; and the strength and energy of the body and mind are greatly weakened. A dull pain is generally felt in the right side, which is increased on the application of pressure by the hand. The pulse is not often much changed, either in frequency or strength, unless from some signs of an Inflammation of the Liver.

On dissection of those who have died of this disease, the whole body is found filled with bile. The fatty portions of the body, as well as the bones, muscles, and membranes, are found of a deep yellow color. In this complaint, the bile is diverted from the bowels, its natural passage, and absorbed by the veins, and diffused over the whole body.

The bile issues from the Liver, through a duct or passage the size of a goose-quill, which leads into the bowels, a short distance below the stomach, about four or five inches. This little duct or vessel, which is constructed like a vein, and conveys the bile as a vein does the blood, receives the bile from a smaller vessel called the *hepatic duct*, and also from another duct which leads to the gall-bladder, called the *cystic* duct. If any of these three ducts become obstructed or stopped up by the thickened or viscid bile, or by gall-stones, which frequently form in the Liver, or by anything which irritates these ducts, and causes them to contract, Jaundice will, to a greater or less extent, be produced. The hepatic duct and the common duct which lead into the intestines, become filled with bile, which, having no outlet, greatly distends them, and causes more or less pain and soreness, sometimes being very painful. This is generally owing to the distension of the gall-bladder and the three bile ducts which I have before fully described to you. When the urine is obstructed or stopped, it produces the greatest uneasiness and pain. This disease is frequently produced by nervous affections, such as the hysterics, hypochondriacism, and violent mental excitement, when it is called Spasmodic Jaundice; also, by costiveness, and by irregular habits of living, particularly with those who are predisposed to this disease. The bile ducts are closed from the effects of these nervous affections, which finally block up the passages into the intestines. Mental excitement and nervous affections produce this disease in thousands of cases; excessive heat, and marsh miasm, or

damp, unhealthy locations, have more or less influence on such temperaments in producing and aggravating this complaint.

Remedies.— No medicines are more beneficial in Jaundice, than *Emetics* occasionally repeated, and followed by gentle purges of Rhubarb, or Epsom Salts. I have, in this disease, given an emetic every other day, for a week or a fortnight; for a simple vomit rarely relaxes the system sufficiently to produce a permanent flow of the bile. The first vomit, give 20 or 30 grains of Ipecacuanha in six tablespoonfuls of Warm Water, followed by a dose of 2 grains of Calomel in quarter grain doses every fifteen minutes, to be followed with a drachm or two of Phosphate of Soda, and it may be well to take half an ounce of this Salt twice a week for some weeks, and whenever there is any yellowness of the eyes associated with constipation. The Warm Bath, if used daily, has a powerful effect in relaxing the bile ducts, and turning the bile into its right channel. The professional remedies are generally: Calomel and Jalap, 10 grains each at a dose, or 5 to 10 grains of Blue Pill, once a day. Keep quiet, and keep the body clean, by bathing or sponging once a day with warm Saleratus Water, and rubbing well all over.

It has lately been discovered, and proved by experience in some of the most obstinate and apparently incurable cases of Jaundice, that the simple remedy of raw Eggs will often effect a cure. Two Eggs are to be taken at once in the morning, in pure Water, and afterward one Egg every four hours.

Dr. Johnson, of London, announces in the *Medical Journal*, that he has succeeded in curing several very severe cases of Jaundice by pills made of inspissated juice of Ox-gall, given in doses of 5 grains, gradually increased to 10 grains, three times a day. This remedy can generally be prepared at any drug-store, or at an apothecary shop.

Females are sometimes affected with Jaundice in the middle months of pregnancy, in consequence of the womb pressing some of the viscera against the gall-ducts. It frequently disappears in the latter months, from the womb changing its bearing and rising higher. At all events, it need not create any uneasiness, as it vanishes after delivery. Medicine is of little use in such cases. Mild laxatives, and lying on the left side, are the only means that need be resorted to.

Many persons, particularly residents of the Southern States and warm climates, are great sufferers from a redundancy of bile destroying the digestive organs and affecting the liver. Such persons should depend upon prevention more than cure, and make use only of a diet that will prevent the accumulation of bile—for example, Pepper Sauce, Mustard, stewed Fruit of various kinds, and sound hard Cider. Much exercise should be taken to excite a healthy action of the digestive organs. It will be absolutely necessary to abstain from all kinds of greasy Meat, Sweet Articles, Pastry, rancid Butter, and Coffee, as these articles increase bilious affections. Costiveness must invariably be avoided. When a person finds himself laboring under a bilious complaint, he may take an emetic, and afterward a dose of Phosphate of Soda.

Scirrhous enlargement of the viscera is frequently the consequence of the abuse of spirituous liquors, and drunkenness may be enumerated as the cause of this disease in thousands of instances.

It is remarkable that, in many constitutions, mostly in women, Jaundice is often produced by jealousy and anger, and, in men, by mental emotions, such as avarice, or love of money, mental depression, and over-taxing the mind in business. These causes produce obstructions of the bile in the natural channel, and cause derangement of the *liver* and the *stomach*, affecting the mind and the whole nervous system. Persons subject to this disease should be very particular in avoiding all mental depression or uneasiness.

Often times new born babies become jaundiced, it sometimes proving rapidly fatal. Usually, however, the discoloration disappears in a week or two, though it may persist for several weeks, or even months; if the child remains well, it finally disappears.

Cancer of the Liver.

Besides Jaundice, persons suffering with Cancer have a rapidly enlarging mass on the right side, progressive loss of flesh and strength, some pain, loss of appetite, and disturbances of the stomach.

Fortunately the condition is quite rare, for it is incurable. The patient should be made comfortable by any means. Death usually intervenes in from three to fifteen months.

Acute Yellow Atrophy is so rare that it scarcely needs mentioning, and this is very fortunate, for it is incurable.

On the Quantity of Food.

No very definite or satisfactory rule can be prescribed, as to the exact quantity of food necessary for the system. It is generally admitted by intelligent men, that we eat too much —nearly twice as much as Nature, for all practical purposes, requires. Philosophers, physiologists, chemists, pathologists and dieteticians, all agree in this. Not, of course, that every individual eats too much; but that the people of this country, as a people, are given to excessive and unnecessary eating.

The proper quantity of food must necessarily vary according to the age, occupation, habits, and health of a person, and also the climate or temperature in which he lives. Children and young persons require an extra amount of food to furnish material for the growth of the body. The more rapid the growth of the child, the greater the demand for food.

Persons of active habits, and such as labor hard, or exercise a great deal, need more food than those of inactive or sedentary habits. Increased action of the body increases in a proportionate degree the wearing out of the organism, and facilitates the removal of the waste material through the different outlets, especially through the lungs and the skin. This increase in the waste of the body requires, of course, an additional amount of food out of which new material is to be made to supply the loss. This law holds good, however, only where labor or bodily exertion is not carried so far as to produce muscular and nervous exhaustion, and consequent debility; for in such case the stomach and whole digestive apparatus would suffer also, and would require that less food be taken, for the time being, or greater debility and perhaps serious disease would be the result.

A sudden change from active, laborious habits, to such as are inactive and confining, requires that the usual amount of food should be diminished. Let an active, laboring man take

a trip on one of our fine steamboats requiring several days, and ten chances to one he will soon feel the effects of disregarding this important law of our nature, in the form of Dyspepsia, Sour Stomach, Headache, and a general derangement of the system. He will be sensibly impressed with the fact that he has either eaten too much, or has not had exercise enough.

A certain amount of food is needed for fuel; in other words, a certain amount of carbon, which is obtained from our food, is needed for a sort of combustion by its union with oxygen, for the purpose of producing bodily heat, and of maintaining a proper temperature of the system. In warm weather, and even when the body is warmly clothed, a less amount of food for this purpose will be needed. In the arctic regions, the inhabitants live almost exclusively on animal food; while under the tropics some nations subsist entirely on vegetable diet, and do not seem to wish or require anything more stimulating.

The quantity of food must also be regulated according to the health of the individual, and consequent condition of the digestive organs. No more should be taken than can be well digested; for unless the food is properly digested and changed, as has been described, it does not invigorate the system, but actually does harm. Large quantities of food at any time oppress the stomach, and produce languor of both body and mind, and of course can but be still more detrimental when the system is not in perfect health.

Some writers lay it down as a rule to be observed in regard to quantity, other things being equal, that we should eat no more than is barely sufficient to satisfy the appetite. This, however, is not a safe rule. We are not always able to distinguish readily between *appetite* and mere *taste*, and hence are liable to eat too much. It is far better to say, never eat till the appetite is satisfied — always quit hungry.

Eating Between Meals.

One of the most common sins against the Laws of Health is eating between our regular meals. At present it is customary in many places and with persons, of all classes, to eat so often that they seldom, if ever, have a good appetite; and what appetite they may have at first, is soon spoiled by their overindulgence in eating. Not content with three meals a day, they must take a lunch in the forenoon, and another in the afternoon, so that the stomach has no rest during the whole day, and by the time supper arrives, it is so much fatigued and jaded that this meal — which is usually a heavy one — will hardly be disposed of during the whole night. The reward so richly earned is sure to follow. Our sleep is disturbed and unrefreshing; the night is passed in restless anxiety or distressing dreams, and we wake next morning with a bad taste in the mouth, dryness of the throat, dull headache, loss of appetite, and an unwillingness to rise. Such a course of living, if persisted in, will unquestionably bring about a bad state of things, resulting in confirmed Dyspepsia, and a general loss of health. The stomach requires a proper degree of rest. It has a muscular coat, which, like all muscular bodies, needs rest after exercise, and must have it — or we will pay the penalty. Of all the organs of the body, there is probably none so much abused as the stomach.

If you value good health and long life, avoid all eating between your regular meals — every "appearance of evil" of this kind — whether it be lunches, oyster suppers, apples, oranges, candies, or what not, either in large or in small quantities; for even the smallest portion — a crust of bread or a mouthful of apple — will call into exercise the whole digestive system.

Regularity in Eating.

Another very important rule in regard to eating is regularity. We should make it a point to take our meals at regular hours; and rather than vary from this it is better to miss a meal occasionally. It may be stated as a general law — with here and there an exception, perhaps, as there are exceptions to all general laws — that those persons who are most regular in their hours of eating, other things being equal, are the most healthy, and in old age are the most cheerful, sprightly and youthful in their feelings.

We are, to a great extent, creatures of habit, and may accustom ourselves to almost any hours for eating, and hence may as well be regular as irregular. The habit of irregular eating often grows up with us from childhood. Unfortunately for human health and happiness, the young are too often trained up, in regard to this matter, in a way they should not go, and when they become old they dislike to part from it. Too often in childhood is the foundation laid for ruined health and a miserable existence, by the fond but unwise indulgence of parents. And many a child, too, has been carried away by summer and autumnal diseases, that might have escaped, had it been less indulged, or been properly trained in its habits of eating. Many a child has been *fed to death* by its mother. Locke, the philosopher, has said, that "when a child asks for food at any other time than at his regular meals, plain bread should be given him — no pastry, no delicacies, but simply plain bread. For if the child is really hungry, plain bread will readily go down; if not hungry, let him go without till he is so." This is good advice. But it is still better to give him nothing at all between his meal times. These, of course, should be more frequent than for larger persons; but they should be at regular stated periods. I know it is hard to train up a child in the way he should go, and harder still to train ourselves to proper dietetic habits, but the importance of doing so, whether we eat two, three, or more times a day, is at least equal to the difficulties we may encounter, and is certainly worthy of our best and most considerate efforts.

Eating Too Fast.

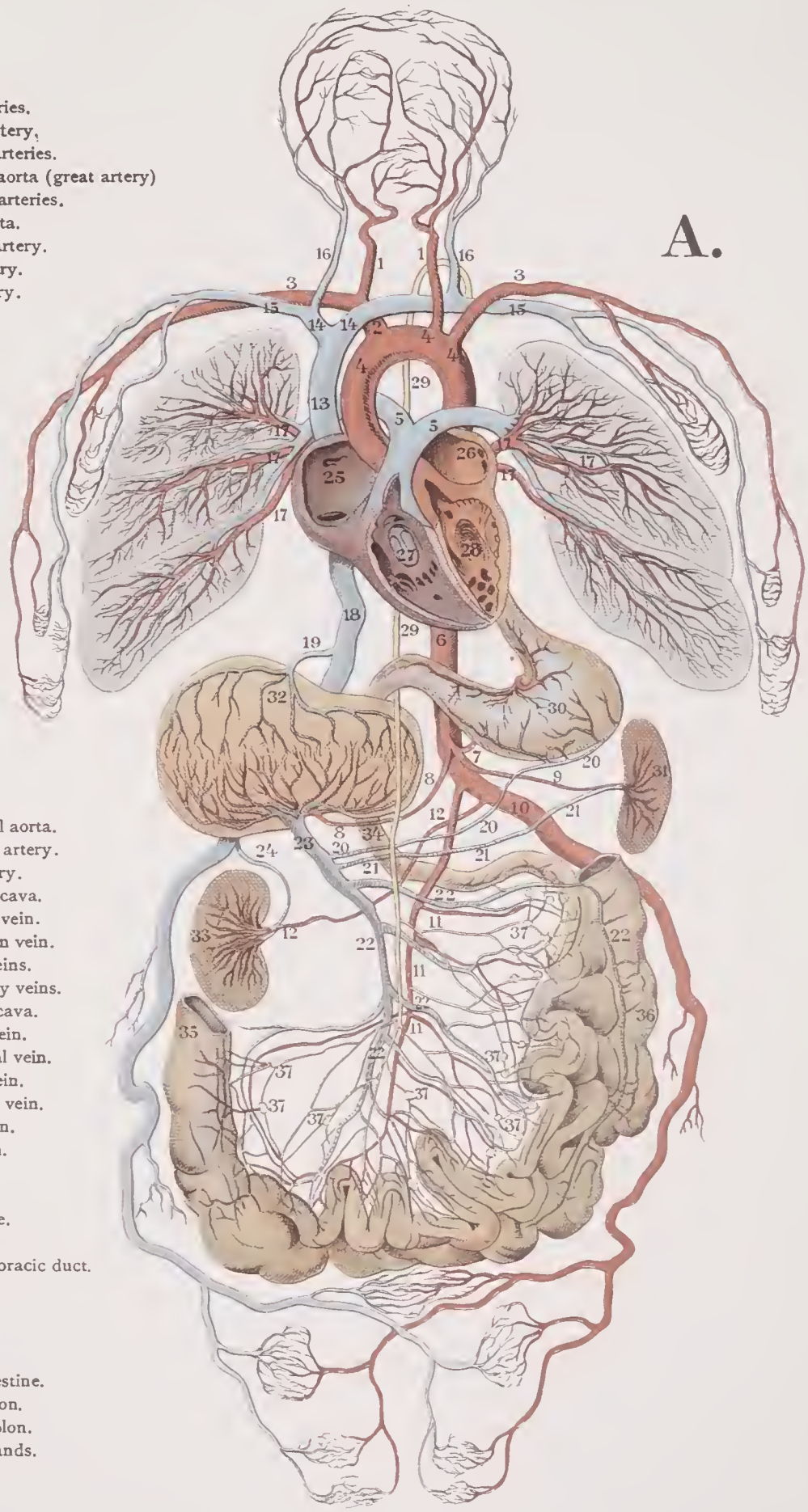
Another very common violation of the Laws of Health is in eating too fast. This is almost as bad as eating too much, for it amounts to nearly the same thing. Every one knows that if we eat fast, we can not properly masticate our food; and if there be one law of our nature which is more rigid in its demands than any other, and the violation of which is sure to be followed, sooner or later, by severe punishment, it is that which requires that our food be well masticated before it is swallowed.

As I have said in describing the process of digestion, the food, after it enters the stomach, has to be changed into a

THE CIRCULATION OF THE BLOOD.

A—The circulation of the blood diagramatically illustrated.

1. The carotid arteries.
2. The unnamed artery.
3. The subclavian arteries.
4. The arch of the aorta (great artery)
5. The pulmonary arteries.
6. The thoracic aorta.
7. The abdominal artery.
8. The hepatic artery.
9. The splenic artery.



10. The abdominal aorta.
11. The mesentric artery.
12. The renal artery.
13. Superior vena cava.
14. The unnamed vein.
15. The subclavian vein.
16. The jugular veins.
17. The pulmonary veins.
18. Inferior vena cava.
19. The hepatic vein.
20. The abdominal vein.
21. The splenic vein.
22. The mesentric vein.
23. The portal vein.
24. The renal vein.
25. Right auricle.
26. Left auricle.
27. Right ventricle.
28. Left ventricle.
29. The lacteal thoracic duct.
30. The stomach.
31. The spleen.
32. The liver.
33. The kidney.
34. The small intestine.
35. Ascending colon.
36. Descending colon.
37. Abdominal glands.

soft, pulpy mass, called chyme, which is done by the solvent properties of the gastric juice, and the incessant muscular action of the stomach. This change must be complete; there must be no lumps, or large chunks, or even small ones — but all must be reduced to a perfect semi-fluid mass, before it can pass into the duodenum for chylification. Do you not see how much labor you can save your stomach by chewing your food well, or how much you may cause it by neglecting to do so? The stomach, as I have several times said, needs rest after its labor; but if it must be tugging away upon a large chunk of beef-steak, or several of them, and a cold potato, and perhaps a large slice of pickle, from the moment you have swallowed your dinner until supper time, do you not see that it will get no time to rest? And tug away it certainly will, until the last chunk you have swallowed is reduced to chyme, or it has given out in utter exhaustion, or has made itself sick by bringing on inflammation. It must be plain, therefore, that the habit of swallowing our food half masticated, or less than half, as is done by those who eat fast, is a very bad one.

Another serious objection to fast eating is, that it does not become properly mixed or moistened with the saliva — indeed, scarcely at all. The saliva does not commence to flow, or even to secrete, until we commence chewing the food, and it continues to flow only while we continue to chew. But if the food is gulped down without chewing, there will be little or no saliva go down with it; yet the saliva, to some extent certainly, is essential to proper and healthy digestion. It will not answer so well to moisten and wash down the food with water, or other drinks. That will only make the matter worse, for it will retard digestion by preventing the flow of the gastric juice, or by diluting it if it does flow. There is no way so good as Nature's own way. Our teeth have been given us to grind our food, and the salivary glands to moisten it, and we should make use of them. Instead of five or six minutes, we should never occupy less than thirty, in eating a full meal, where we can at all command the time; and it is better, especially at dinner, to go over, rather than under thirty minutes. But whether you eat fast or slow, little or much, the one all-important thing is to masticate your food well, before you send it into your stomach. By so doing you will derive more benefit from it, will not be so likely to eat too much, and will enjoy vastly better health.

What to Eat, Drink, and Avoid.

The following is a list of articles of diet, with the time required for their digestion. Those marked * should be avoided, or eaten very sparingly by the invalid, for it does not follow that that which is the most readily soluble is the most suitable to a morbidly sensitive stomach:

ARTICLES	HOW DRESSED	TIME IN DIGESTING
		H. M.
Rice	Boiled	1 0
Sago	Ditto	1 45
Tapioca	Ditto	2 0
Barley	Ditto	2 0
Milk	Ditto	2 0
*Ditto	Raw	2 0
*Tripe	Boiled	1 0
Venison Steak	Broiled	1 35
Turkey.	Roasted or Boiled	2 30
*Goose	Roasted	2 30
*Pig, Sucking	Ditto	2 30
Lamb	Ditto	2 30
Chicken	Ditto	2 45
*Eggs	Hard Boiled	3 30
Ditto	Soft.	3 0
*Ditto	Fried	3 30
*Custard	Baked	2 45
*Salmon	Boiled	1 30
Oysters	Raw	2 55
*Ditto	Stewed	2 30
Beef	Roast	3 30
Beef Steak	Broiled	3 0
*Pork Steak	Ditto	3 15
*Ditto, Fat and Lean	Roasted	5 15
*Ditto, recently salted	Boiled	4 30
Mutton	Roasted	3 15
Ditto	Broiled or Boiled	3 0
*Veal	Broiled	4 0
*Ditto Cutlets	Fried	4 30
Fowls	Boiled	4 0
*Ducks	Roasted	4 0
*Butter	Melted	3 30
*Cheese, Old, Strong	Raw	3 30
*Soup, Beef, Vegetables and Bread	Boiled	4 0
*Soup, Bean	Ditto	3 0
Ditto, Barley	Ditto	1 30
Ditto, Mutton	Ditto	3 30
Chicken Soup	Ditto	3 0
*Hashed Meat, and Vegetables	Warmed	2 30
*Sausages, Fresh	Boiled	3 20
*Heart, Animal	Roasted	4 0
*Beans	Boiled	2 30
Bread	Baked	3 30
Dumpling, Apple	Boiled	3 0
Apples	Raw	2 50
*Parsnips	Boiled	2 30
*Carrots	Ditto	3 15
*Turnips	Ditto	3 30
Potatoes	Ditto	3 30
*Cabbage	Ditto	4 30

THE CIRCULATORY ORGANS AND THE BLOOD.

Absorption.

Under the head of "Physiology of the Digestive Organs" was described the elaborate process of the solution of the food. When this process has been completed, absorption takes place by the blood-vessels upon the walls of the stomach and small intestines, and by a special system of little vessels called lacteals, which open upon the intestinal walls. The solution of albuminous substances and the emulsion of fats must be perfect, or they will not be taken up. Whether they are taken up by the blood-vessels or lacteals, the product is emptied into the large veins. With the exception of that carried by the *thoracic duct*, and one or two other lacteal trunks, the product of digestion, *chyle* by name, is carried, with venous blood, directly to the liver, where it is distributed to the liver cells in minute capillaries, and is here probably further modified, elaborated and refined, and also gains the substance *glycogen*, a liver sugar, and is then carried to the heart in the current of venous blood, and from the heart is sent to the lungs, there to be purified by the oxygen of the inspired air, and again returned to the heart, fit to be used in nourishing all the delicate tissues and organs, and in turn to be oxidized or burned and carried out of the body.

The quantity of blood in the body of an adult is estimated to be about twenty-five to thirty pounds. Its temperature, in a state of health, is about 100 degrees, Fahrenheit. In some diseases, as Scarlet, and other Fevers, it rises five to ten degrees above this; while in some others, as the Cholera, it falls twenty to thirty degrees below it.

The blood is the most important fluid in the body, for it is not only the sole material from which every part of the body is made, but it furnishes the various secretions, as bile, pancreatic juice, saliva, etc., and is the source of animal heat, diffusing warmth throughout the system, and maintaining the temperature of the body at a uniform standard, amid the various changes of heat and cold.

Extraordinary as it may seem, it is only a little over two hundred and thirty years since the circulation of the blood was discovered. This discovery, as the reader is probably aware, was made by William Harvey, an eminent English physician. So strong is the force of prejudice, and so difficult is it to discard preconceived opinions, that instead of receiving the meed of praise from his professional brethren for this brilliant and important discovery, he was violently persecuted by them—so much, even, that it is said he was obliged to retire to an obscure corner of London, and finally lost nearly the whole of his practice. In his history of England, Hume remarks, that no physician in Europe, who was over forty years of age at the time, ever adopted Harvey's doctrine of the circulation. Yet, where is the physician now, or person with any pretensions to science, who doubts it? No doctrine in Physiology is better established or more generally understood, than that of the circulation of the blood.

In the lungs the blood undergoes its great change. It here becomes what may be termed *oxygenized* and *decarbonized;* that is, charged with oxygen, and freed from its carbon, and thereby changed from a dark purple to a bright red color, and rendered fit for re-circulation, and all the purposes of nutrition. This change is effected by the action of the atmospheric air, taken into the lungs in breathing. The pulmonary arteries divide and subdivide into innumerable branches, which distribute themselves to all parts of the lungs, and finally lose themselves in the minute *capillaries.* These little vessels surround the air-cells of the lungs, forming a kind of network around them; so that when air is taken into the lungs, and those cells are filled with it, a chemical action takes place between the blood and the air. The cells and the capillaries are so very thin, that oxygen escapes through them from the air, and unites with the iron (called hæmoglobin) of the red corpuscles forming oxyhæmoglobin; while at the same time the carbon which the blood has taken up in its round through the body, and which gives to it its dark color, is either burnt up by the oxygen, or escapes through the air-cells and passes out along with the breath when ejected from the lungs. Thus the blood becomes purified and ready for use again. It is now of a bright red color.

From the capillaries of the air-cells the blood now passes into the minute extremities of the veins, which unite with them the same as the arteries, and thence into the two *pulmonary veins* which convey it direct to the *left auricle* of the heart, as we have seen.

The aorta sends off branches to the head, neck, viscera, and upper and lower extremities, which divide and subdivide into innumerable smaller branches, which ramify upon the bones, muscles, skin, and every part of the body, until they are finally lost in the little capillary vessels, the same as the extremities of the pulmonary arteries. Every tissue of the body is full of these capillaries, which form the connecting link between the arteries and the veins. It is while the blood is passing through these, that its nutritive properties are taken up and assimilated to the different parts of the body, by a still smaller set of vessels, which open into these, called the *nutritive capillaries.* In this way the blood is made to nourish, sustain, and replenish the system. In this way the growth of the body is effected, and all the new particles obtained to supply the continual waste that is going on in the various tissues.

Having parted with its nutritive properties, and also lost much of its oxygen, the blood is ready to be sent back to the heart, and thence to the lungs, to be again purified and renewed. It has again become quite dark, from the loss of its oxygen, and the presence of carbon. From the capillaries, therefore, it passes into the extremities of the veins, and thence is collected from all parts into larger veins, all of which terminate at last in the two large trunks, the ascending and descending vena cava, from which it is poured into the right auricle of the heart, and is ready to proceed on the rounds we have just described. This is THE CIRCULATION OF THE BLOOD.

The ventricles of the heart contract, or the pulse beats, about seventy times every minute, in an adult; in children much oftener, and in old age less than that. At every stroke of the heart it is estimated that it forces two ounces of blood into the aorta; and if it contracts at the rate of seventy times a minute, it will require only about three minutes at most for all the blood in the body to pass through the heart, and, consequently, to go the rounds of the circulation.

The influence which returns the blood to the heart, through the veins, is the same force acting through the capillaries; there is also more or less of a sucking action on the part of the heart which draws the blood from the two big veins.

As the blood is the medium through which every part of the body receives its nutriment, and as this nutriment is extracted from the blood while it is passing through the minute vessels at the extremities of the arteries, it is evident that in order to have health and strength of the body, there should be a full and free distribution of this fluid to all the parts. To secure this, a proper degree of daily exercise is necessary. The skin should be kept clean, and sufficiently warm, so that the capillaries next the surface do not become closed or congested by chill or cold, or the blood may be concentrated upon internal parts, and debility or disease be the result. Next to having a supply of good, rich, and healthy blood, it is important that its circulation be equal; that is, properly and equally distributed to all parts. In case of unequal circulation, the extremities cold, particularly the feet—skin pale or sallow, with other symptoms usual in such cases—rely on ablutions of the body, warm and cold baths, friction upon the surface, and plenty of out-door exercise, to restore the equilibrium, and bring back the health.

THE HEART AND BLOOD-VESSELS.

The heart is the central organ of the circulatory system. It is situated almost in the centre of the chest, between the right and left lungs. Its base is above and to the right, and its apex downward and to the left. It may be felt beating a little below and toward the median line from the left nipple. It is in size about as large as the closed fist of the person to whom it belongs. It is a hollow muscle containing four cavities, two of which are upon the right and two upon the left side of the organ; the heart thus being a double, or, indeed, two distinct organs, a right and a left heart, which, though bound together, are entirely distinct from each other, each having its own particular work to perform. The two cavities of the right side of the heart communicate with each other, as do also the two cavities on the left side. The openings between the cavities are guarded by valves, which permit the blood to flow only in one direction.

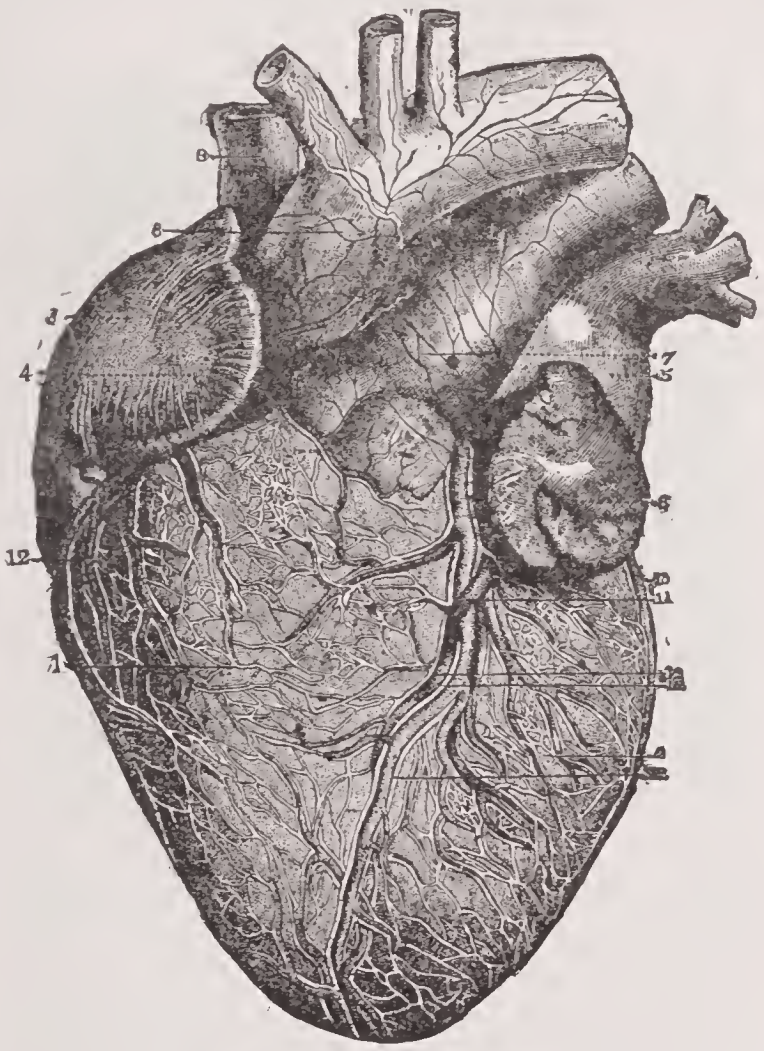


Fig. 4. The Human Heart.

Connected with each of the four chambers of the heart are large blood-vessels. The large veins (Fig. 5), the *vena cava ascendens* (1), and the *vena cava descendens* (2), bring the blood from all parts of the body to the right heart, and pour it into the upper chamber (3), which, from its fancied resemblance to the ear of a dog, is called the *auricle*. This upper cavity of the right side of the heart into which the *venæ cavæ* empty, is known as the *right auricle*. It has very thin walls and serves only as a receptacle for the venous blood until it can be received into the cavity below, which is called the *right ventricle*. As soon as the right auricle is filled, its walls contract, and the valves which guard the opening (5, 5, Fig. 6) are pushed open as shown in the cut, and the blood flows into and fills the cavity (6) of the right ventricle. The right ventricle thus being filled, its walls immediately contract, the movement of the blood closes the valves (5, 5) called the *tricuspid* valves, which guard *auricular ventricular* opening (4), thus preventing (as shown in Fig. 7), the regurgitation of the blood back into the auricle. At the same time it pushes open the valves

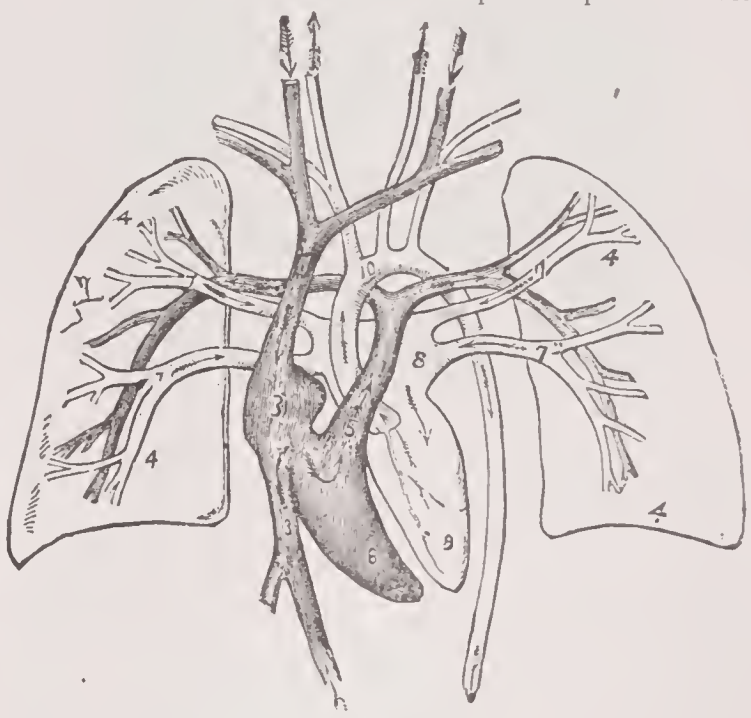


Fig. 5.

1, 2, Venæ cavæ, ascendens and descendens; 3, right auricle; 4, 4, 4, 4, lungs; 5, pulmonary artery; 6, right ventricle; 7, 7, 7, 7, pulmonary veins; 8, left auricle; 9, left ventricle; 10, aorta.

(9, 9) called the *pulmonary* valves, which guard the entrance (7) into the *pulmonary artery*, so that all the blood in the right ventricle (6) is forced into the pulmonary artery (8), which leads to the lungs (4, 4), as shown by the black vessel (5) in Fig. 5, where it divides into a minute capillary network upon the walls of the sixty million air-cells of the lungs. In these capillaries the pulmonary veins begin by little rootlets which flow together, forming minute veins, and these unite to form larger veins, these again to form still larger, until the four (7, 7, Fig. 5) large pulmonary veins—two from each lung—are formed. These bring back the purified blood from the lungs and empty it into the upper cavity (8, Fig. 5, or 14, Fig. 8), of the left side of the heart. From this cavity, by contraction of the auricular walls, the blood flows downward through the auriculo-ventricular opening (15), guarded by the *mitral* valves, into the left *ventricle* (16, Fig. 8), in the same manner as on the right side. As soon as the left ventricle is filled with blood, its strong muscular walls contract. The movement of the blood closes the mitral valves (15, Fig. 8), which prevents the blood from flowing back into the left auricle, and pushes open the *semilunar* valves (*g*, Fig. 9) which guard the entrance into the *aorta*, so that all the blood in the ventricle is sent into the aorta, and thence all over the body, with such force that all the larger arteries swell and throb as the

blood rushes through them. This throb of the arteries is called the *pulse.* Physicians make use of this knowledge to ascertain, in disease, how the heart is doing its work.

Fig. 6. Diagram of Right Side of the Heart.

1, 2, Venæ cavæ, ascendens and descendens; 3, cavity of right auricle; 4, auriculo-ventricular opening; 5, 5, tricuspid valves; 6, cavity of right ventricle; 7, opening leading to pulmonary artery; 8, pulmonary artery; 9, pulmonary valves.

The *aorta* (10, Fig. 5; 18, Fig. 8) branches and subdivides into a great number of large arteries leading to the head, arms, trunk, lower extremities and internal organs. These arteries again branch and subdivide a great many times, until they are reduced to only $\frac{1}{2000}$ of an inch in diameter. They are much smaller than the finest hair, and can be seen only by a magnifying-glass. They

Fig. 7. Diagram of Right Side of Heart, with Tricuspid Valves Closed and Pulmonary Valves Open.

lie so closely together that the point of a needle cannot be thrust into any part of the body without wounding a greater or less number of them. The circulation of the blood in the capillaries may be beautifully seen by placing the web of the foot of a living frog under a microscope magnifying about 400 diameters, when all the little capillaries, with the blood-corpuscles rapidly coursing through them, may be seen, as in Fig. 11. If the frog is not allowed to breathe for a moment the circulation in the capillaries stops, to begin again when respiration is resumed. In these capillaries the system veins begin by little rootlets which flow together into minute vessels, these into small veins, these into larger, and these again into still larger, until all are collected into the two great trunks, the venæ cavæ ascendens and descendens, which, as we have seen, empty the impure blood collected from the body into the right auricle of the heart.

The heart is enclosed by a serous membrane, the *pericardium*, which forms a kind of a double bag. The inner layer of the membrane is closely attached to the heart, the outer layer being free. Between the layers is a space, containing an ounce or two of fluid, which is secreted by the membrane to lubricate its surfaces, so that the movements of the heart will not cause friction and consequent inflammation.

The heart is lined by a delicate membrane, the *endocardium*, folds of which form the valves at the openings leading from the auricles into the ventricles, and from the ventricles into the arteries.

Fig. 8. Diagram of Right and Left Sides of Heart.

1, 2, 3, 4, 5, 6, 7, 8, same as Fig. 5; 10, pulmonary artery leading to the right lung; 11, branch of pulmonary artery to the left lung; 12, pulmonary veins from left lung; 13, pulmonary veins from the right lung; 14, cavity of left auricle; 15, left auriculo-ventricular opening; 16, cavity of left ventricle; 17, opening into aorta; 18, aorta.

The muscular walls of the auricles (Figs. 8, 9 and 10) are very thin. As they have little work to do, it is not necessary that they should be strong. The walls of the right ventricle (Fig. 10) are much thicker than the auricular walls, for the reason that it has to force the blood through the capillaries of the lungs, while the auricle has to force the blood into the ventricle only. But the walls of the left ventricle (*h h*, Fig. 9) are much thicker than those of the right, for the reason that it has many times its amount of work to perform. The right ventricle has to send the blood only to the lung, while the left has to send it over the entire system—from the crown of the head to the tips of the fingers and toes, and to all the organs, the brain, liver, stomach, muscles and bones.

Diseases of the Circulatory System.

The heart, in health, is a most wonderful and beautiful mechanism. It performs its work quietly and regularly, day and night, sleeping and waking, year after year, never stopping for a quarter of a second. But, like all parts of the body, it is subject to disease and injury, and, when out of repair, may cause the most distressing symptoms, and, not unfrequently, sudden death.

Fig. 9. Showing Right Side of Heart.

a, *b*, Columnæ carneæ; *c*, cavity of right auricle; *d*, *d*, openings of pulmonary veins into left auricle; *g*, semilunar or aortic valves; *f*, aorta; *h*, *h*, muscular walls of right ventricle.

The diseases of the heart are many. The enveloping membrane, the *pericardium*, may become inflamed, when the disease is known as *pericarditis*, signifying "an inflammation around the heart." Or the lining membrane may become inflamed, which is called *endocarditis* (*endo*, within; *cardium*, the heart, and *itis*, inflammation), "inflammation within the heart." In consequence of pericarditis, the fluid around the heart may be greatly increased, so as to interfere with its movements. This is dropsy of the heart. Or the smooth surfaces of the *pericardium* or enveloping membrane may become agglutinated together, so that at every contraction the heart must lift the whole weight of the diaphragm. Or, from endocarditis, the openings between the cavities may be almost closed up, or the valves shortened or deformed so as not to close perfectly, and hence permit the blood to regurgitate, like the leaky valves of an old pump, which permits most of the water to flow back into the well, instead of raising it to the spout, no matter how hard one may work at the handle. A heart with the openings greatly contracted by disease may be likened to a pump with a spout too small. It is easy to understand how, if the openings of the heart are contracted, as they sometimes are, to the size of a goose-quill, or if the valves leak badly, permitting the blood to regurgitate, the work of the heart is greatly increased. If a schoolmaster should become a blacksmith, by work at the forge he would soon increase the muscles of his arms to double their former size. So, when by damaged valves or contracted orifices the heart is called upon to do more work, the first effect is to increase the thickness of its muscular walls. By this cause the heart sometimes becomes three or four times its normal size.

This condition is called *hypertrophy*. But there is a limit to muscular development, and after a time the walls begin to weaken and to dilate. They are no longer strong enough to force all the blood out of the cavity when it contracts upon it. More and more blood remains in the ventricle after contraction, until the day comes when, perhaps, in a moment of excitement, the ventricle becomes filled with blood, and, the muscle of the heart not being strong enough to force it out, there is a sudden paralysis of the heart from exhaustion of the heart muscle, and death immediately ensues, the patient suddenly falling down dead. Or the blood may be dammed back in the veins, because it cannot get through the heart. In this way death may take place from congestion of the lungs. When the lungs are congested, there is a great difficulty in breathing. This is a common symptom of heart disease. The blood may be dammed from the heart back into the veins of the trunk and lower extremities. When this is the case, the feet and legs swell, from the watery portions of the blood escaping outside of the vessels into the tissues. Sometimes the swelling is very great. There may be dropsy of the abdomen in consequence, or the liver and kidneys may be congested, and their functions impaired.

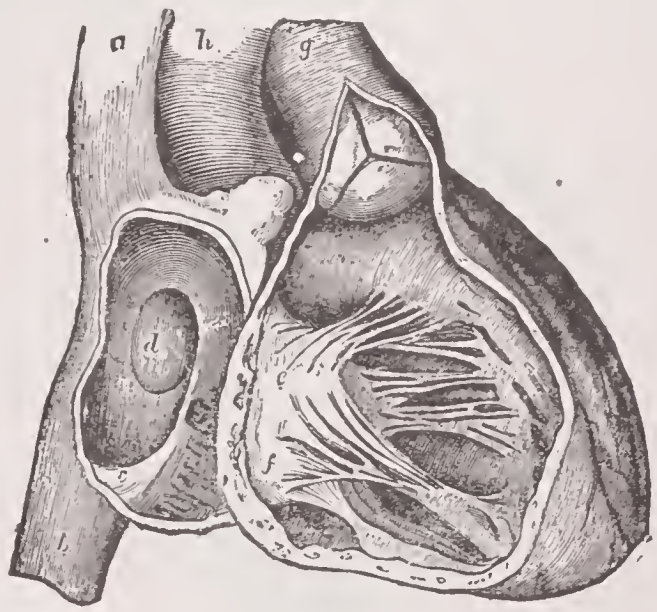


Fig. 10. Showing Right Side of Heart.

a, *b*, Venæ cavæ; *d*, left auricle; *e*, *f*, tricuspid valves; *g*, pulmonary artery; *k*, aorta.

Sometimes fat is deposited in the muscular fibre of the heart in place of the true muscular substance. This condition is known as *fatty degeneration*. It always greatly weakens the power of the heart, and its walls dilate. Sometimes the heart is paralyzed from this cause, and, occasionally, when one part is more degenerated than another, the walls of the heart may be ruptured by its own contraction upon a quantity of blood. Death in either case, of course, immediately takes place.

Palpitation of the heart is not a disease proper of the heart. It depends upon a derangement of the nervous system, just as a trembling hand or jerking eyelid is due to a fault of the nerves and not to any disease of the hand or of the eyelid. There is nothing dangerous in palpitation of the heart.

Neuralgia of the heart is a disease of the nervous system, and not of the heart.

Most lesions of the valves of the heart are caused by inflammation of the lining membrane, *endocarditis*, during an attack of *inflammatory rheumatism*. If the patient does not die during the time of the acute inflammation, he is likely to suffer from heart symptoms after a few years, by which time the valves become so deformed or the orifices so contracted as to interfere with the function of the heart, and the patient becomes aware, for the first time, of his condition. Valvular disease may have other causes than rheumatism.

Diagnosis.—A skilled physician is able, by *percussing* or tapping the chest wall, and taking note of the sounds thus produced, to say positively whether the heart is enlarged or not ; and, by listening to the beating of the heart, he can tell certainly whether there is any leakage at the valves, and say with confidence which pair of valves are at fault, or whether there is or is not a contraction at any of the orifices. Where the valves leak, or the orifices are obstructed, there are certain hissing or blowing sounds, called *murmurs*, which, heard over different parts of the chest, and at different times with reference to the normal sounds of the heart, enable the educated and skilled physician to determine the character of the lesion, or to say that no disease at all of the heart exists.

Fig. 11.

Circulation of the Blood in the Foot of the Frog.

Treatment. — If one suspects, for any reason, a grave disease of the heart, he should go to some skilled physician in whom he has full confidence, and be examined. He will probably learn, as is generally the case, that there is no *organic* disease of the heart at all, and that the symptoms which occasioned the alarm, such as palpitation, are referable to a disordered state of the stomach or of the nervous system. The patient should not undertake to treat himself, if really suffering from valvular lesions of the heart, so that treatment had best be left to the physician whose advice is sought in the case. *Digitalis* is, perhaps, the most valuable remedy which exists for strengthening the heart's action. The body should be well nourished, the food of good quality and variety, and the meals taken regularly. The bowels should be kept regular, and no very severe exercise should be taken.

Remedies.— In Disease of the Heart, *instant* stimulation is demanded. The first convenient stimulant at hand must be used, till other remedies can be procured. A glass of Spirits and Water, as hot and strong as it can be swallowed, may be given. A quarter of a grain of Morphine should be injected under the skin, as soon as possible. It may be necessary to resort to the inhalations of Chloroform to give relief, but the use of this drug should not be too long postponed. Apply to the Breast a strong Mustard Poultice, and one between the Shoulders, and also Hot Applications to the Feet. A person who is subject to this disease, or has once suffered an attack of Angina Pectoris, should never be without perles of Amyl Nitrite. These are little glass globules, containing just a sufficient quantity of this drug to give relief, when broken upon a handkerchief and inhaled. In the treatment of this disease, it is highly important that relief should be produced as early as possible; the cultivation of a quiet, even temper of mind—the avoidance of all sudden and violent exertions of the strength—a vegetable diet—cold water for drink—early rising and moderate exercise, are the necessary conditions both of relief and of cure. Wind in the Stomach and Bowels frequently accompanies Angina Pectoris, and when this is the case, Peppermint, Camphor, Paregoric, the Essence of Cinnamon, or of Anise Seed, should be given.

Arterio-Sclerosis.

This is a disease of the arteries caused by excessive use of Alcohol and by Syphilis. The same disease, also, often accompanies old age. Lime salts are gradually deposited in the diseased arteries, so that they become hard and inelastic. When much lime is deposited, the arteries become more like solid pipes, than soft rubber tubes, which they naturally resemble. In the wrist such a hardened artery feels like a whip-cord.

When the disease is not far advanced, it does not often produce serious symptoms in itself, though it often leads to attacks of Angina Pectoris, Apoplexy, Bright's Disease, and many others.

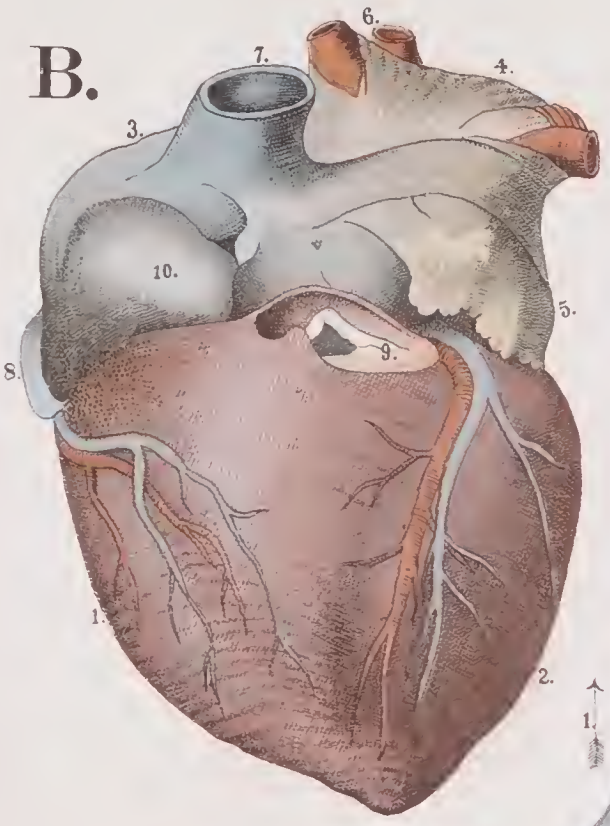
To avoid this disease, avoid excessive use of Alcohol, excessive venery and syphilis, and keep young as long as possible.

The treatment, when the disease is once established, consists in the application of general hygienic measures, and taking a hundredth of a grain of Nitro-glycerine, internally, three times a day, over extended periods of time. If preferred, a drop of Amyl Nitrite may be inhaled instead of the Nitro-glycerine.

Aneurism.

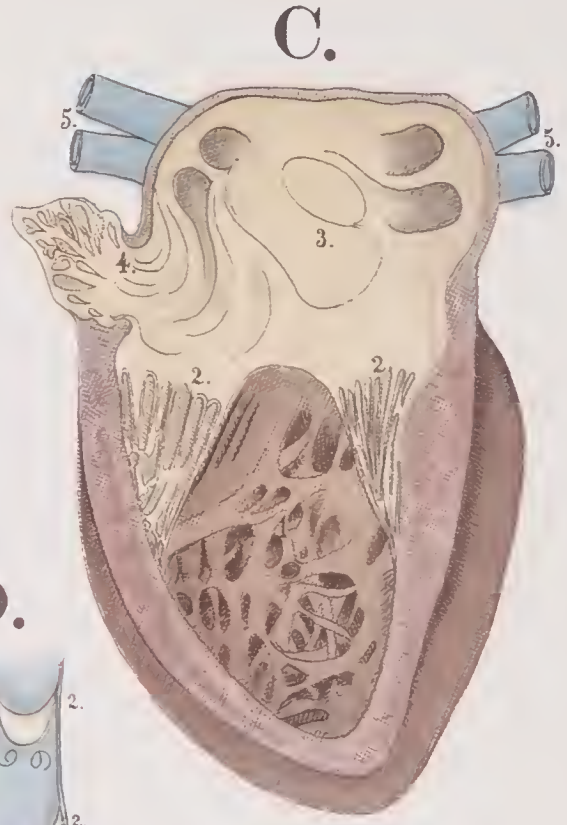
ANEURISM is a disease of the blood-vessels, in which the walls gradually "give way" at a local point. The vessels become dilated, forming a tumor or mass, which usually pul-

THE CIRCULATION OF THE BLOOD.



B—External muscles of the heart, front view.

1. The pectinate (ridge-shaped) muscles of the right ventricle.
2. The pectinate (ridge-shaped) muscles of the left ventricle.
3. The pectinate (ridge-shaped) muscles of the right auricle.
4. The pectinate (ridge-shaped) muscles of the left auricle.
5. Left auricular appendage.
6. Pulmonary veins.
7. Superior vena cava.
8. Inferior vena cava.
9. Pulmonary artery (with semilunar valve)
10. Right auricular appendage.

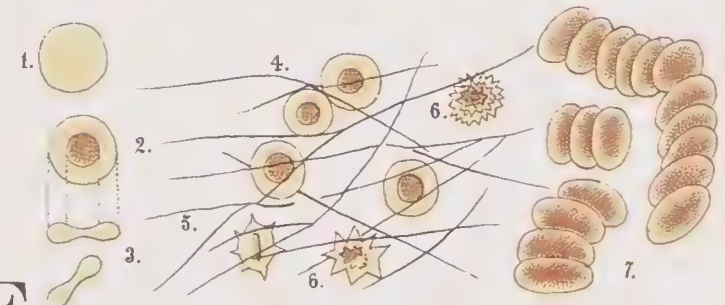


C—Longitudinal section through the heart.

1. Left ventricle exposed, showing internal papillary muscles
2. The bicuspal or mitral valve.
3. Left auricle exposed.
4. Left auricular appendage from within.
5. Orifices of the pulmonary veins.

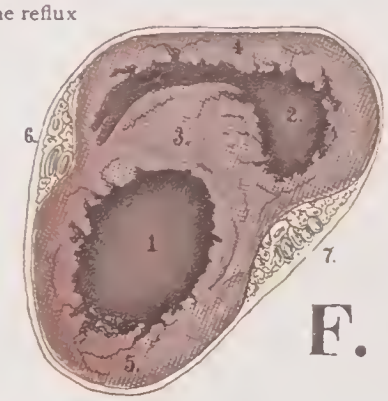
D—Vein from within.

1. Direction of the blood.
2. Semilunar valves, preventing the reflux of the blood.



E—Blood corpuscles, magnified.

1. Blood corpuscles completely circular, when treated with water.
2. Blood corpuscles, seen on the surface.
3. Blood corpuscles, seen edgeways.
4–7. Coagulated blood.
4. Blood corpuscles of general outline.
5. Fibrin, forming fibrous layers during the process of coagulation.
6. Dried-up blood corpuscles.
7. Blood discs, arranged like rouleaus of coins.

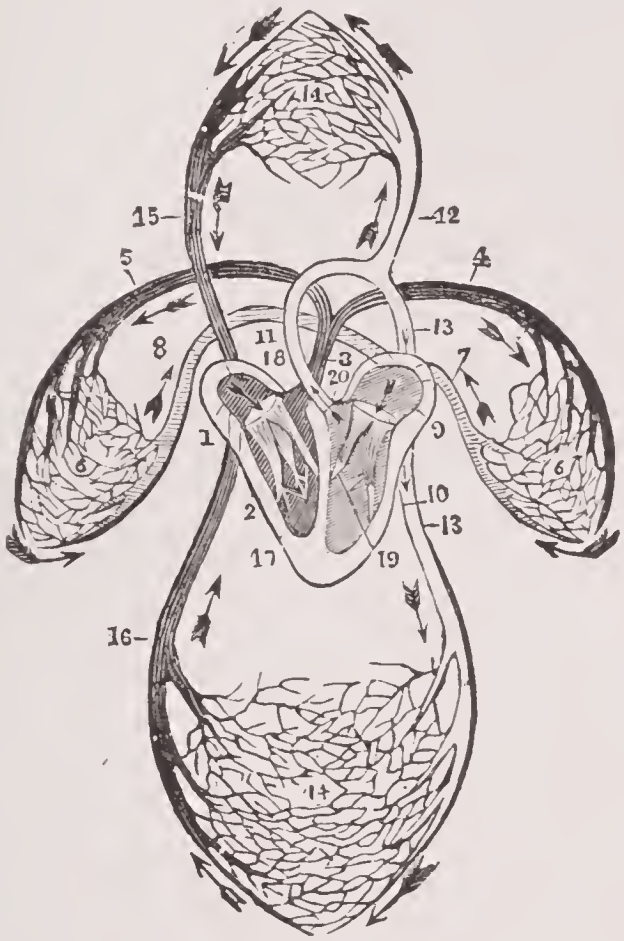


F—Transverse Section through the heart.

1. Left ventricle.
2. Right ventricle.
3. Septum.
4. Outer wall of right ventricle.
5. Outer wall of left ventricle.
6. Coronary vessels and fatty matter of the anterior ventricular groove.
7. Coronary vessels and fatty matter of the posterior ventricular groove.

sates. Sometimes these Aneurisms, by their constant rubbing, wear away adjacent parts, often eroding parts of the breast-bone or spinal column. Usually they terminate, sooner or later, by rupturing, causing death by hemorrhage. The bleeding may be entirely concealed, that is, inside.

If discovered when they are still small, the progress, by proper care, may be stayed. The treatment consists in long continued inactivity or rest, even to confinement in bed. In some cases operative treatment is curative.



AN IDEAL VIEW OF THE CIRCULATION IN THE LUNGS AND SYSTEM.

1, Right auricle; 2, right ventricle; 3, pulmonary artery; 4, 5, left and right branches, going to the lungs; 6, 6, the capillaries of the lungs; 7, 8, pulmonary veins, returning blood to left auricle of the heart; 9, left auricle; 19, left ventricle; 11, 20, aorta; 12, 13, 13, branches of aorta, ascending and descending; 14, 14, the capillaries, into which the arteries terminate, and from which the veins rise; 15, 16, descending and ascending vena cava. ☞ The arrows show the course of the blood.

Varicose Veins.

The superficial veins, especially of the leg, often become swollen, enlarged, and tortuous; they are also painful, and sometimes cause the entire foot and leg to swell. Ulcers may form. This is a general picture of what is termed Varicose Veins.

The causes are absence or poor development of the valves which are normally in the veins; occupations requiring the standing position; tight garters, and certain injuries, may also tend to produce the disease.

The Treatment consists in rest, with the feet and legs elevated; wearing well-fitting elastic stockings or rubber bandages, and in massage. Stockings and bandages should be adjusted before getting out of bed in the morning.

Diseases of the Lymphatics.

The *Lymphatics* extend over every part of the body, in more or less distinct channels, with here and there small nodes or glands, which enlarge if they become inflamed. There are certain parts of the body where these nodes are grouped closely together in chains; the common places for these chains on the surface, are in the groins, the arm-pits, and at the back and sides of the neck. If a finger is hurt though very slightly, some poison may get into it; this poison multiplies and is taken up by the lymphatics. The inflammation is manifested by red streaks passing up the arm, here and there a node is involved and becomes large and tender; if the inflammation ascends to the arm-pit and is severe, the lymph nodes in this region may become as large as a pigeon's egg, and may suppurate, *i. e.*, matter may form in them. The treatment in such a case must be very active. The arm should be bathed in a solution of Bichloride of Mercury, of a strength of one part in two thousand of water. The bath should last an hour or longer at a time, and the solution should be hot. It may become necessary to open the enlarged lymph glands.

The glands enlarge in some general diseases, such as Syphilis, Tuberculosis, Cancer, and some less common diseases.

Elephantiasis.

This is a disease in which there is obstruction to the flow of the lymph. It produces swelling and overgrowth of the part beyond the point of obstruction. In the lower extremity, the condition produces such a change that there is a fancied resemblance to an elephant's leg, hence the name. The condition may occur in the tongue, extremities, or genital organs.

Many causes may arise to produce this strange condition, among others, a small parasite — a worm — called *filiaria sanguinis horninis*, is a strange one, and fortunately uncommon; Syphilis, Erysipelas, injuries and tumors, may be causative agents.

The Treatment must be directed toward removal of the cause, if possible. Rest, elevation, and bandaging of the part, are the fundamental principles.

THE BLOOD.

The blood is a compound fluid. In man, and all the higher order of animals, it is of a red color; in some of the lower forms of life it is colorless. The quantity in man is about one-eighth that of the weight of the body. The vessels of a man weighing one hundred and forty pounds would contain nearly eighteen pounds of blood. The office of the blood is not alone to carry nutriment to the tissues to assist in their repair, but is also to carry out of the body the products of waste—the ashes, so to speak, of the oxidized tissues which have been burned up or consumed in the production of force and animal heat. If a small part of a drop of blood be examined under a microscope, it will no longer present the appearance of a simple red fluid, but little circular bodies with a yellowish-red

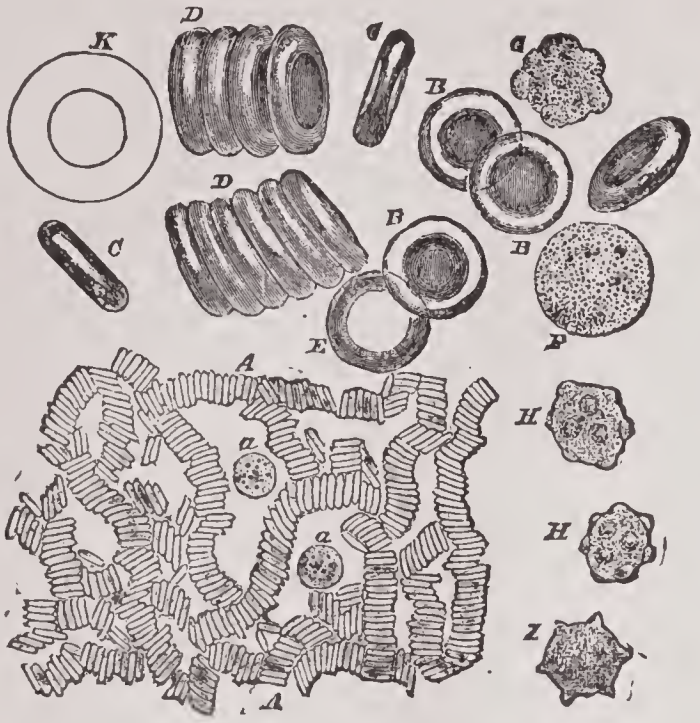


Fig. 12.

Red and White Blood-Corpuscles Highly Magnified.

tinge will be seen, and, if magnified two hundred and fifty times, will present the appearance shown in the lower part (*A*, *A*) of Fig. 12. These are the red corpuscles. They are little flattened circular bodies about $\frac{1}{3200}$ of an inch in diameter, and not more than one-quarter as thick. It would take 120,000,000,000 of them to make a cubic inch. The flat surfaces are somewhat concave, so that the centre of the corpuscle is its thinnest part. If examined with a lens magnifying 1,000 times, the corpuscles will present the appearance of *B*, *C*, *D* in the figure. After standing a few minutes the flat surfaces of the corpuscles are inclined to stick together, and so arrange themselves in the form of a roll of coin (*D*, *D*). If treated with a drop of vinegar they become clear (*K*). If instead of vinegar a drop of water is added, they swell up (*E*), and become globular. If exposed to the air for a time, they become shrivelled (*H*, *H*) and irregular. In the lower part of Fig. 12 are to be seen two bodies (*a*, *a*) which do not look like the other corpuscles. They are larger in size, globular in shape, present a granular appearance, and are of a white color. They are known as the *white corpuscles*. Only one white corpuscle exists to four hundred of the red. The coloring matter of the blood is in the red corpuscles. When they are removed a clear fluid remains.

If a quantity of blood be drawn into a bowl from the veins of an animal, it will be, at first, quite fluid, but in a few moments will become thick like a mass of jelly. This mass is called a clot, and the process *coagulation*. If allowed to stand for a day or two the clot will continue to contract, and will be found at the end of that time in the bottom of the bowl, covered with a clear liquid called the *serum*.

If, as soon as the blood is drawn from the vein, it be whipped with a bunch of twigs, a white stringy substance, like the *gluten* obtained by washing flour, is found to cover the twigs, binding them together. This substance is called *fibrin*. Blood, subjected to this whipping, does not form a clot, for the reason that the coagulating substance, fibrin, has been removed upon the twigs. If this whipped or *defibrinated* blood be now permitted to stand, the red corpuscles settle to the bottom of the bowl, while the clear serum remains on top. These three constituents of the blood, *fibrin*, *serum* and *corpuscles*, are rendered plain to the sight, but they are made up of many other substances, such as *albumen*, *fat*, *sugar*, *soda*, *salt*, *iron*, *lime*, *magnesia*, *water*, *carbonic acid gas*, *oxygen*, etc., etc.

The serum and the fibrin are not separated in the living blood, but together form the *plasma*. The office of the plasma is to nourish and rebuild the tissues and to carry the products of waste and combustion to those organs—such as the liver, kidneys and skin—whose function it is to separate them from the blood and carry them out of the body. The particular office of the corpuscles is to carry oxygen from the lungs to the tissues and carbonic acid gas from the tissues to the lungs, there to be exchanged for oxygen.

Diseases of the Blood.

The plasma of the blood is replenished in its nutritive constituents by the food taken at frequent intervals. Water is necessary to render the blood sufficiently fluid, and to hold the other constituents in solution. The presence of certain chemical substances is also essential. Lime, iron, and certain other minerals, must also find a place. Besides these conditions, certain constituents manufactured in the body itself, as liver sugar and the corpuscles in normal quantity, are necessary to health. Water is more essential than food, and oxygen more than water. One deprived of food dies from impoverishment of the blood; if deprived of water, death takes place much sooner; but if deprived of oxygen, death ensues within five to eight minutes. About a ton and a half in the shape of food and drink is added to the blood of an ordinary man during the year. As there is the same amount of waste, a ton and a half of material, therefore, must be carried out of the body through the blood during the same time. Some of the products of oxidation, as *urea* and *carbonic acid gas*, are very poisonous to the nervous system. Certain organs, as the kidneys, skin and lungs, are designed especially to remove these poisons from the current of the blood, and carry them out of the body. If, through disease of these organs, they fail to perform their functions, the blood becomes highly charged with the poison, and, unless speedily relieved, death is the result. If the lungs fail to eliminate the carbonic acid, death results within a few minutes. If the kidneys fail to remove the urea, death must follow in a short time. The same is true if the skin fails in its office.

From the above it may readily be seen that the disorders of the blood are many. There may be too much blood, when the condition is called *plethora;* or too little, when it is called *anæmia;* or it may contain too much water, or too little; or too many red corpuscles, or too few; or the plasma may be deficient in tissue-building constituents; or the blood may be poisoned by the retention of carbonic acid and urea; or it may contain living germs.

Treatment.—A considerable quantity and wide variety of food should be taken regularly. A sufficient amount of water

and fluids should also be taken. Frequent baths and a reasonable amount of exercise are advised. The sleeping-room should be well ventilated, and plenty of fresh air supplied. Where the blood disease is due to disease of some particular organ, the latter requires primary attention.

Anæmia.

A diminution in the total amount of blood, or in the number of corpuscles, or in the amount of albumen, constitutes the disease called Anæmia. It is apparent that there are a number of forms of this disease.

Among the causes, loss of blood by accident is a common one. It is also caused by various diseases, as Tuberculosis, Bright's Disease, Cancer, or by poisons, such as lead, arsenic, and mercury. Some forms of the disease as Chlorosis or Green Sickness of young girls does not seem to have any cause beyond improper diet and excessive work, or lack of exercise and fresh air. In this form of Anæmia there are often menstrual disorders, but they are caused by this Anæmia, rather than the cause of the Anæmia, as was long supposed.

The blood amounts to about one-thirteenth of the body's weight, and a person may recover after the loss of half of this amount. A person weighing 130 pounds might lose, by some serious accident, five pounds of blood, and yet recover.

If much blood is suddenly lost, the treatment, after the flow is checked, consists in injecting into a vein, or under the skin, or into the rectum, a salt solution, consisting of a teaspoonful of common Salt to a pint of water, which has previously been boiled, to sterilize it, and allowed to cool to the body temperature (98.4°). The amount of this solution injected should equal the amount of blood lost.

In CHLOROSIS the peculiar greenish-yellow color of the skin is very suggestive. Flesh may be normal in amount or excessive; there is seldom loss of flesh. The appetite is capricious, often there is a craving for sour food. There is palpitation of the heart upon the slightest exertion, usually accompanied by shortness of breath. Constipation is present in a majority of cases.

In some forms of Anæmia the patient loses in weight, gradually the color leaves the skin, then the lips, and other mucous membranes; finally, the skin becomes of a marble-white color. In this form of Anæmia no cause has been found, and there is no remedy. It usually terminates fatally, though lasting over various periods of time. This, fortunately, rare disease, is termed *Pernicious Anæmia*.

The treatment of Anæmia consists in keeping the bowels well opened by, if necessary, a dose of Salts each morning. In Chlorosis Iron is almost a sure cure, Bland's Pill is the best form; it contains 2 grains of Sulphate of Iron. Such a pill should be given three times a day, increasing the number so that three, three times a day, are being taken by the fourth week.

Iron, fresh air, nutritious food, and exercise are necessary to the successful treatment of all forms of Anæmia.

Usually to make a definite diagnosis, in suspected cases of Anæmia, it is necessary to make a microscopical examination of the blood. This must necessarily be done by an experienced specialist.

LEUKÆMIA.— Leukæmia is a disease of the blood in which there is a great increase in the number of white blood corpuscles.

The patient perhaps first notices a progressive enlargement of the abdomen, he may have bleeding from the nose. Shortness of breath is usually present; sometimes there is Anæmia. The disease usually proves fatal in two or three years, though it may pass through a much more rapid course. Recovery seldom occurs. The spleen, which lies just under the ribs, on the right side of the abdominal cavity, usually becomes much enlarged. There is often tenderness over the bones of the extremities. The pulse is rapid, and there is usually more or less fever. Hemorrhages are common, especially from the nose, bowels, and stomach. Deafness or blindness or both may occur sooner or later. In the male, priapism is a strange though common symptom. A positive diagnosis can only be made by a microscopical examination.

As the disease is almost invariably fatal, the treatment is limited to making the patient as comfortable as possible. Fresh air, good diet, and prevention of mental worry, are important general indications. Fowler's Solution of Arsenic, in drop doses, three times a day, gradually increased, sometimes produces favorable results. If there is any suggestion of Malaria, Quinine should be freely used.

THE RESPIRATORY ORGANS.

It is essentially necessary to the life of all animals that the nutrient fluid should be carried to all parts of the system, and since the functional activity of the nervous and muscular tissues, and all tissues, is dependent upon their oxidation, it is also necessary that oxygen should be carried to and brought directly in contact with every fibre and cell in the whole body. This implies the introduction of air. It is necessary in every animal, moreover, to keep up the temperature or body heat to a specific point. This is also accomplished by oxidation or burning either the disintegrating material which is passing to waste, or the combustible substances, such as sugars and fats, found in the blood.

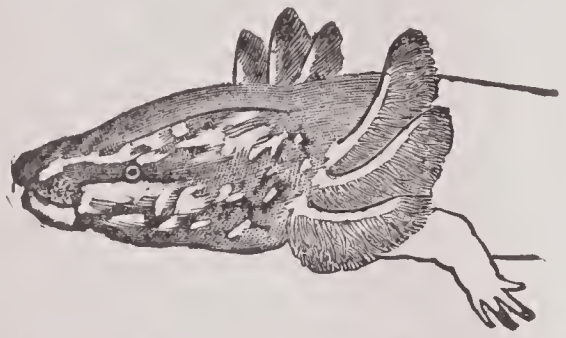


Fig. 13. Head and Gills of the Menobranchus.

As we saw in the early part of this article, all organic material, at its death and combustion, gives rise to two products, *carbonic acid* and *water*, and we have seen by experiment that these are the products alike of the burning candle and the oxidizing tissues of a living man. These products of combustion of the tissues are poured into the current of the blood. But the conditions of life are such that *carbonic acid gas* acts as a poison in the system, and means must therefore be provided for its removal. The introduction of life-giving oxygen into the system and the removal of the poisonous carbonic acid are accomplished by the same mechanism, the breathing apparatus.

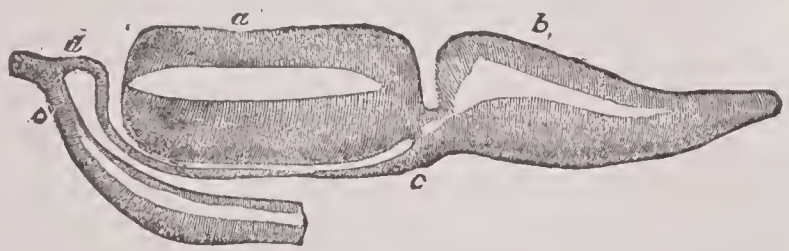


Fig. 14. Swimming-Bladder of the Fish.
a, *b*, Air chambers; *d*, *c*, wind-pipe; *o*, œsophagus.

THE LUNGS.

The *breathing apparatus*, or mechanism by which oxygen is introduced into, and carbonic acid is removed from the blood, in all forms of life, consists of a thin membrane so arranged as to permit the blood to flow upon one side of it, while the other side of the membrane (which must be moist) is in contact with the air. The oxygen gas of the air, having a greater *affinity* or attraction for the blood corpuscles than the carbonic acid gas, passes, therefore, through the thin membrane into the blood and displaces the carbonic acid gas, which passes out through the membrane into the air. The membrane, or breathing apparatus, in all cases, is the *skin*, or some extension, reduplication or modification of it, as the *mucous membrane*.

In the lower forms of aquatic life, and in certain worms, which are always moist, the skin serves the full purpose of lungs in purifying the blood, and no special organs of respiration are required. The moist skin of the frog is so delicate as to serve this purpose. We may remove its lungs, and it will continue to live and *breathe*, so to speak; the heart will continue to beat, and the blood to circulate and be purified so long as the skin is kept wet. But if allowed to dry, so that the exchange of gases can no longer take place through the skin, the animal soon dies "from the want of breath."

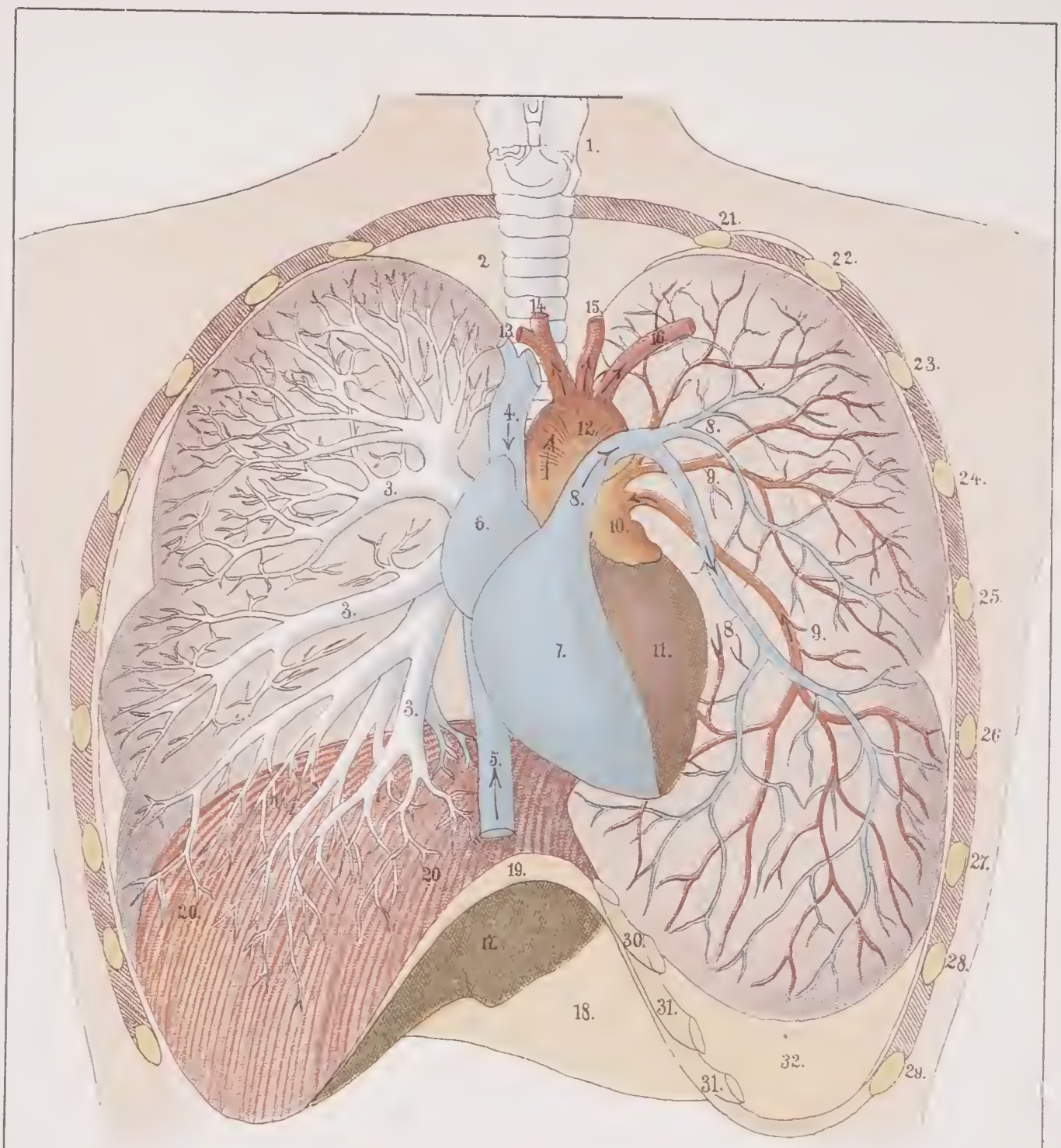
In fishes, the gills, which are covered by a delicate membrane, take the place of the lungs. There is a rich plexus of blood-vessels on one side of this membrane, while the other side is bathed in water. Oxygen is held in solution in the water, and is appropriated by the blood, while carbonic acid is exhaled through the membrane. Humboldt placed fishes in water which contained 20 per cent of air in solution, this consisting of 29.8 parts of oxygen, 66.2 parts nitrogen and 4.0 carbonic acid. After the fishes had remained in it a due time, analysis showed but 2.3 parts oxygen, while the carbonic acid had increased to 33.8 parts, showing the ordinary results of respiration.

Fig. 15.
Lungs of Reptile.

In the menobranchus the gills (Fig. 13) are external feathery tufts on the sides of the neck. Each filament consists of a fold of mucous membrane connected with that of the pharynx, and contains a net-work of capillary blood-vessels. Respiration takes place as described in the above paragraph.

But the first approach to the true lung is seen in the swimming-bladder of fishes. In the carp there is, in its double-chambered swimming-bladder (Fig. 14), an approach to the double lungs of the higher order of animals. It is connected by means of a wind-pipe, *d*, *c*, with the œsophagus, so that the fish is enabled at will to increase or diminish the amount of air in the chambers. While this is a rudimentary lung, its real use is to vary the specific gravity of the fish, by compression or rarification of the included air. As explained above, the gills in fishes fill the office of the true lung.

ORGANS OF RESPIRATION.



A — Ramification of the bronchial tubes and blood-vessels of the lungs (Diagram. Anterior chest wall removed).

1. The larynx.
2. The windpipe.
3. The bronchial tubes and their ramifications in the right lung.
4. Upper vena cava.
5. Lower vena cava.
6. Right auricle of the heart.
7. Right ventricle of the heart.
8. Pulmonary arteries of left lung.
9. Pulmonary veins of left lung.
10. Left auricular appendage.
11. Left ventricle of the heart.
12. The aorta.
13. Right subclavian artery.
14. Right carotid artery.
15. Left carotid artery.
16. Left subclavian artery.
17. The liver.
18. The stomach.
19. The peritoneum.
20. The diaphragm.
21–27. True ribs.
28, 29. Two false ribs.
30. Cartilages of the true ribs.
31 Cartilages of the false ribs.
32. Part of the pleura.

The lungs of the reptile present a sack-like form (Fig. 15). The two lungs are not equal in size, one, *A*, being fully developed, while the other, *B*, remains in a more or less rudimentary state. There is a pulmonary artery, *c c*, which brings the impure blood to the lungs, where it is broken up into minute capillaries and distributed over the walls of the membranous bag, where the blood is purified and sent through the pulmonary vein, *d d*, back to the heart. The air is taken into the sack through the trachea, *a*, by a kind of swallowing process, and is forced out again by contraction of the abdominal muscles.

Fig. 16. Lungs of the Frog.

The progress from the simple sack, as shown in the swimming-bladder of the fish and the lungs of the reptile, to the million-chambered respiratory organs of the higher animals, is well illustrated in the lungs of a frog (Fig. 16), which has a number of imperfect membranous partitions dividing up the sack into many chambers, with the effect to greatly increase the respiratory surface. If the surface of the membrane forming the walls of the sack amounted to two square inches, the effect of the fifty or sixty partitions would be to increase the surface of the respiratory membrane to perhaps fifteen square inches, so that the lung with the partitions is capable of purifying seven times more blood per minute than the simple sack without the partitions.

In man the trachea, or wind-pipe, divides into two bronchial tubes, one of which enters each lung, and then branches like a tree. The terminal tubes are only about $\frac{1}{60}$ of an inch in diameter. Upon the sides of these minute tubes the air-cells open; sometimes single ones and sometimes many cells communicate with one another (Fig. 17). Such a tubelet, with the air-cells thus clustered upon it, is a miniature representation of the lungs of the frog. The air cells vary in size from $\frac{1}{70}$ to $\frac{1}{500}$ of an inch in diameter. It is said that each terminal bronchus has 20,000 air-cells clustered upon it, and that the total number in both lungs is more than 600,000,000, the walls of which, if united and spread out in one continuous sheet, would present a surface of 1,500 square feet. The cell walls are formed of an exceedingly delicate membrane, covered by the richest plexus of capillary blood-vessels in the economy, which lie so thickly together that the spaces between them are less than their own diameters. Figure 18 represents five air-cells, with the capillary blood vessels distributed upon their walls. These capillaries are only $\frac{1}{3000}$ of an inch in diameter, requiring 200 of them to equal the size of a cambric needle. As the cells are close together and the partition walls of incomprehensible thinness, the little capillaries passing between them are brought in communication with the air on both sides. The blood corpuscles are obliged to pass through the little vessels in single file, and so, with air on both sides, they rapidly and completely exchange their poisonous carbonic acid gas for pure life-giving oxygen, and change their color from blue to crimson. Then, by the contraction of the abdominal muscles, the chest walls, and the elastic walls of the air-cells themselves, the impure air is forced out of the body, and by a new inspiration the lungs are refilled with pure air. This in turn loses its oxygen to the blood, becomes impregnated with carbonic acid, and is expired, and the lungs again refilled with pure air.

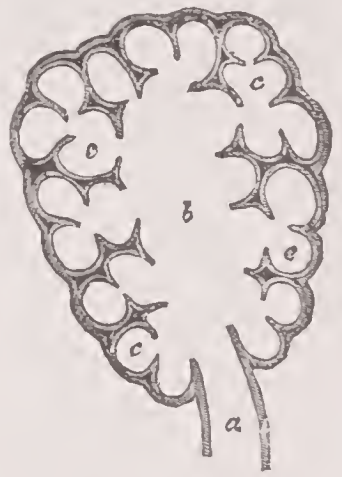


Fig. 17. An Ultimate Bronchial Tube with Clustering Air-Cells.

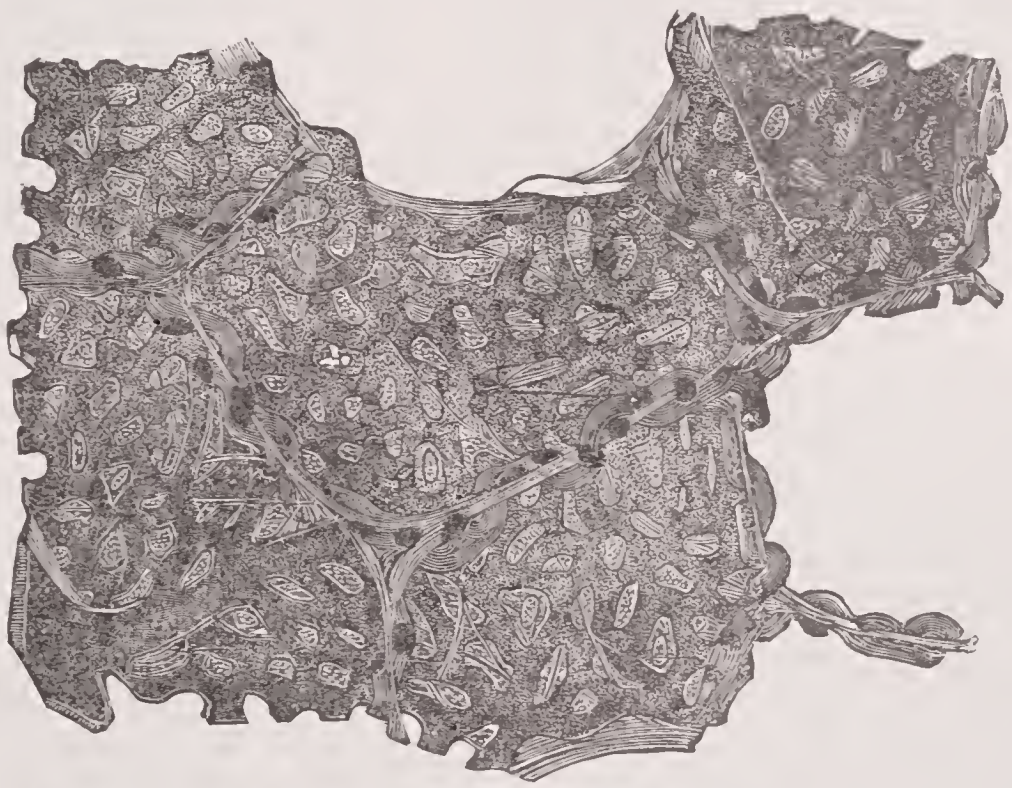


Fig. 18. Showing a Portion of Five Air-Cells, with the Capillaries Upon Cell Walls (Greatly Magnified).

The Mechanism of Respiration.

The minute anatomy of the pulmonary lobule and the physiology of the respiratory membrane having been explained, it remains only to recite the gross anatomy of the respiratory organs, and the mechanism by which the lungs are filled and emptied of air.

The nose may be very properly considered the first of the respiratory organs. By its *turbinated* bones and the numerous cells connected with its cavity, a considerable surface is produced, all of which is lined by the nasal mucous membrane; over this surface the air passes, and is warmed and cleansed from dust before passing into the lungs. At the entrance of the nostril are a number of stiff hairs, which act as a barrier to dust. Within the nose resides the sense of smell, which informs us of the quality of air we are breathing. The cavities of the nose communicate with the throat by two

openings. (See Fig. 1.) Except during the act of swallowing, the *epiglotis*, or lid which covers the opening into the larynx, stands wide open, as shown in the cut, while the gullet below the larynx remains closed, so that there is a continuous tube from the nostrils, into the lungs.

THE LARYNX is a kind of a triangular box placed at the top of the *trachea*, or wind-pipe, and is made up of rigid and unyielding rings of *cartilage* or gristle. The larger end of the larynx is placed upward, and across the superior opening are stretched four ligamentous bands covered by a most delicate mucous membrane. These bands are the *vocal cords*. The two upper cords are called the *false*, while the two lower bands are called the *true vocal cords*. To the vibration of these latter the voice is due. In front they are attached to a fixed point, the *thyroid cartilages*, which project forward on the neck, especially in men, and are called "*Adam's apple.*" Behind they are attached to movable pieces of cartilage, which are controlled by little muscles, and can be so moved as to separate the cords from each other, as seen in inspiration (*A*, Fig. 19, or Fig. 22), allowing the air a free entrance into the trachea. In expiration the cords fall together, leaving only a narrow slit (*B*), through which the air passes out. When an attempt is made to produce a sound there is a great change in the conformity of the larynx; the vocal cords are approximated more closely together and put upon the stretch. The air from the lungs is then forced through the narrow slit, causing the free edges to vibrate, at the same time forcing them slightly apart in the centre, leaving a narrow oval slit, *C*, as shown in Fig. 19.

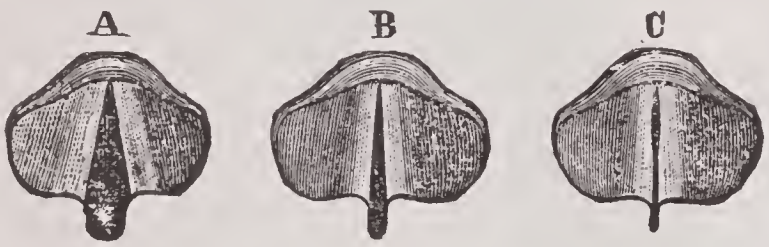


Fig. 19. The Vocal Cords.

A, as seen in inspiration; *B*, as seen in expiration; *C*, as seen while uttering a high-pitched sound.

Below the larynx is the trachea, a long air-tube, composed of rings of cartilage bound together by connective tissue and lined with mucous membrane. The trachea divides into two tubes called the *bronchia*, one of which leads to each lung, and there subdivides and branches like a tree into the ultimate bronchial tubules which open into the air-cells.

The lungs are contained in the cavity of the *chest* (*A*, Fig. 20). This cavity is separated from the cavity of the abdomen (*C*) by an arched muscle (*B*) called the *diaphragm*.

The lungs are placed one upon each side of the heart (Fig. 21). Each lung is enclosed in a double membranous sack called the *pleura*, one fold of which is closely attached to the substance of the lung, while the outside layer lines the chest wall. Between the two layers is a cavity which contains a little fluid called *serum*, which is secreted by the membrane, and serves to lubricate its surfaces, so that they glide smoothly over each other with every movement of the lungs. The right lung is divided into *three* (6, 7, 8) and the left into *two* (1, 2) lobes.

Movements of Respiration.

When the diaphragm contracts, it approaches a straight line across the body; at the same time the costal muscles elevate the ribs, which are also, because of their direction, carried outward. This increases the size of the cavity of the chest. The descent of the diaphragm increases the length of the chest-cavity, while the movement of the ribs increases its breadth. This causes a vacuum in the chest-cavity, and the outside air rushes in through the trachea and dilates the air-cells until the cavity is filled. This is known as *inspiration*. The diaphragm and costal muscles now relax, the ribs return to their place, thus narrowing the chest, while the abdominal muscles contract, forcing the stomach and liver upward against the diaphragm, which rises into its

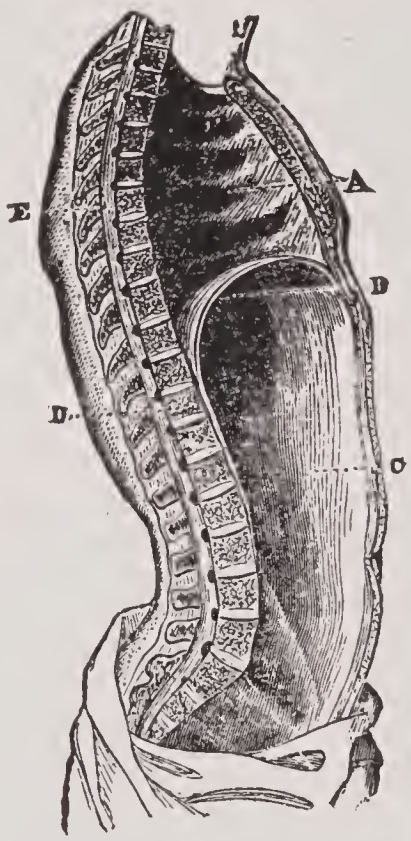


Fig. 20.

A, cavity of chest; *B*, diaphragm; *C*, cavity of abdomen.

arched position, decreasing the length of the chest-cavity. These movements, together with the elasticity of the air-cells, force the contained air out through the trachea, emptying the lungs. This act is called *expiration*, which is followed by and alternates with the act of *inspiration*, and comprises the phenomenon of respiration.

In describing the anatomy of the lungs and the circulation of the blood enough, perhaps, has been said to give you a tolerably correct idea of the process of respiration, and of the important relation it bears to nutrition, on account of its influence upon the blood. Some special remarks upon the subject, however, may not be amiss, as it is one of the essential processes of the living economy, without which we could not live, any more than we could live without the blood itself. Everybody knows that we can not live without breathing—that if from any cause whatever our breath is cut short, we die immediately.

Respiration, or breathing, is for two important purposes:

First, and mainly, for the purpose of purifying the blood; and second, for the purpose of producing animal heat. The purification of the blood is indispensable, so indispensable indeed, that it would soon cause death if it were to remain unchanged. The venous blood is full of poison, which it has acquired in its circulation through the body; and this poison can only be removed by bringing it into contact with the atmospheric air, which is done in the lungs by the process of breathing. This poison is carbonic acid, and results from the union of carbon with oxygen, two agents which have a remarkable affinity for each other when found in the body. Carbon, as I have before remarked, is obtained from our food; it is of the same nature as charcoal, and in itself is quite as harmless as charcoal; but when it unites with oxygen, or, as is really the case, when it is burned up by that vital gas, the result or residuum — what we may call the *ashes* — is carbonic acid, a suffocating, deadly poison. This carbonic acid is the same thing that is sometimes found at the bottom of wells, and in mines, in the form of a gas, usually called "choke-damp," and which will kill a person or animal immediately, if breathed or inhaled into the lungs. It is also the same as that given off by burning charcoal, which has often caused the death of persons by suffocation, who have left it to escape into their bed-rooms.

The blood is sent to the lungs for the purpose of getting rid of this poison. It there escapes through the air-cells, and is expired, or thrown off with the breath. This is the reason why people are suffocated, or their health greatly injured, by breathing the same air over again too many times. It becomes more and more charged with this poisonous gas every time it is breathed, and if continued long enough, will produce death as effectually and certainly as the choke-damp of wells. In badly ventilated rooms, and in buildings containing large public assemblies, people are often poisoned in this way, and if not killed outright, have headaches, nervous depression, and faintings, which often lay the foundation of more serious diseases.

Changes of the Blood and Air.

The manner in which the blood is purified will be better understood by observing the changes which it and the air undergo, when they come in contact with each other. About one-fifth part of the atmospheric air is *oxygen* — the balance *nitrogen*. On examining the air, however — the breath — as it comes from the lungs, it will be found that the greater part of the oxygen has disappeared, and that another gas — carbonic acid — has taken its place. This new gas, as has been said, is formed by the union of the oxygen from the air with the carbon in the blood. The venous blood, which is heavily charged with carbon, and which gives it its dark color, is conveyed to the lungs through the pulmonary arteries, and passes from them into the capillaries, which surround the air-cells, forming, as has been said, a fine *net-work*. It is here that the blood is brought in contact with the air — or so near it that it amounts, in effect, to the same thing. The air is in the cells, the blood on the outside of them in the minute capillaries, the walls of which are so thin and porous that the oxygen escapes from the air, unites with the blood, burns up its carbon, sets free the carbonic acid, which results from the combustion, and which escapes through the cells, takes the place of the oxygen in the air, and is ejected with it from the lungs. Thus the blood becomes changed — oxygenized, as it is sometimes termed — and at the same time the air or breath becomes changed also. The one is made pure, the other impure. And this process goes on constantly; every time we inspire, or take in a fresh supply of air, a fresh supply of venous blood is forced into the capillaries, around the air-cells; the previous lot, being purified, is sent off into the veins of the lungs, and conveyed by them to the heart, for general distribution.

One important effect of this change upon the blood is, that it is turned from a dark purple to a bright red color. This is caused partly by the destruction of the carbon and carbonic acid in the blood, as has been described, and partly by the union of oxygen with the iron in the blood. Of the fact that there is a certain portion of iron in the blood, there can be no doubt. It has been abundantly proved by chemical analysis. The red globules of the blood contain the iron, in the form of hæmoglobin, and this readily unites with oxygen, to form oxyhæmoglobin; this latter product as readily gives up its oxygen as the hæmoglobin took it up.

Importance of Free Ventilation.

It is estimated that an ordinary-sized person requires about 40,000 cubic inches of oxygen gas every twenty-four hours, to be used up in breathing, in the manner just stated. About four-fifths of this, or perhaps a little more, is consumed in burning up the carbon in the blood, and is turned into carbonic acid; the balance is used in giving to the blood its color and proper stimulus. From this simple fact, and bearing in mind also that only about one-fifth part of the air is oxygen, any person can form a tolerably correct idea as to the amount of fresh air needed in a given time in public halls and places containing a large number of people. And with the other simple fact before them, that about one-fifth of the air or breath that escapes from our lungs — if it was pure when it entered — is carbonic acid gas, and contains little or no oxygen, they can form some idea of the importance and necessity of free ventilation. It is seldom, however, that this matter is properly attended to. But above all things, is it important that our sleeping-rooms should be well ventilated. Too much attention can hardly be paid to this matter; yet I am sorry to say very little is given to it, as a general thing.

DISEASES OF THE RESPIRATORY ORGANS.

Diseases under this head may be divided into those affecting the mucous membrane lining the air-passages, those affecting the serous membrane covering the lungs, and those affecting the substance of the lung itself.

Cold—Catarrh—Bronchitis.

CORYZA, or *cold in the head*, is an acute inflammation of the lining membrane of the nose. The eyes, in this disease, are also frequently inflamed and red, and the tears flow over the face. The symptoms begin with an itching or tingling sensation

in the nose, which is followed by sneezing. A slight fever accompanies these symptoms, and not unfrequently there is more or less headache.

Treatment.—Twenty or twenty-five drops of laudanum should be taken at bed-time, the first evening after the symptoms are noticed. Not unfrequently this will effect a cure. If not, another dose may be taken the following evening, and this repeated the next. If the cold is severe the laudanum should be taken night and morning until relieved. It is also well to take four grains of quinine night and morning. Instead of laudanum, one-sixth of a grain of morphine, or a full dose of Dover's powder, will serve the purpose equally well. Treated in the beginning, nothing is surer than a perfect cure in from twenty-four to forty-eight hours, but if not effectually treated, it is apt to extend to the larynx and become a severe bronchitis, or eventuate in a chronic, low-grade inflammation of the nasal membrane, called *catarrh.*

Catarrh.

CATARRH is a name that properly applies to all inflammations of any part of the mucous membrane, such as catarrh of the stomach or of the bladder, but by common usage, unless qualified by another word, has come to mean a chronic inflammation of the nasal mucous membrane. It is a very troublesome disease, and is often very difficult to treat. Patients are frequently seen who have suffered from the disease for years. The inflammation is apt to extend through the eustachian tube to the ears, and sometimes with not only the effect to impair the hearing, but to quite destroy it. The odor is, in bad cases, most penetrating, rendering the patient very offensive to his associates.

Treatment.—In the beginning the most effective treatment is that recommended for *coryza.* Later, tonics should be given. Quinine in two-grain doses, three times a day; laudanum in small doses and iodide of potassium in five-grain doses three times a day. In the beginning powders and solutions snuffed up the nose usually do harm, and it is a question whether they ever do good in any stage. The most effective treatment for a chronic case is, perhaps, a change of climate. The writer has known some excellent cures to result from a residence in Northern Wisconsin, or in the region of Lake Superior.

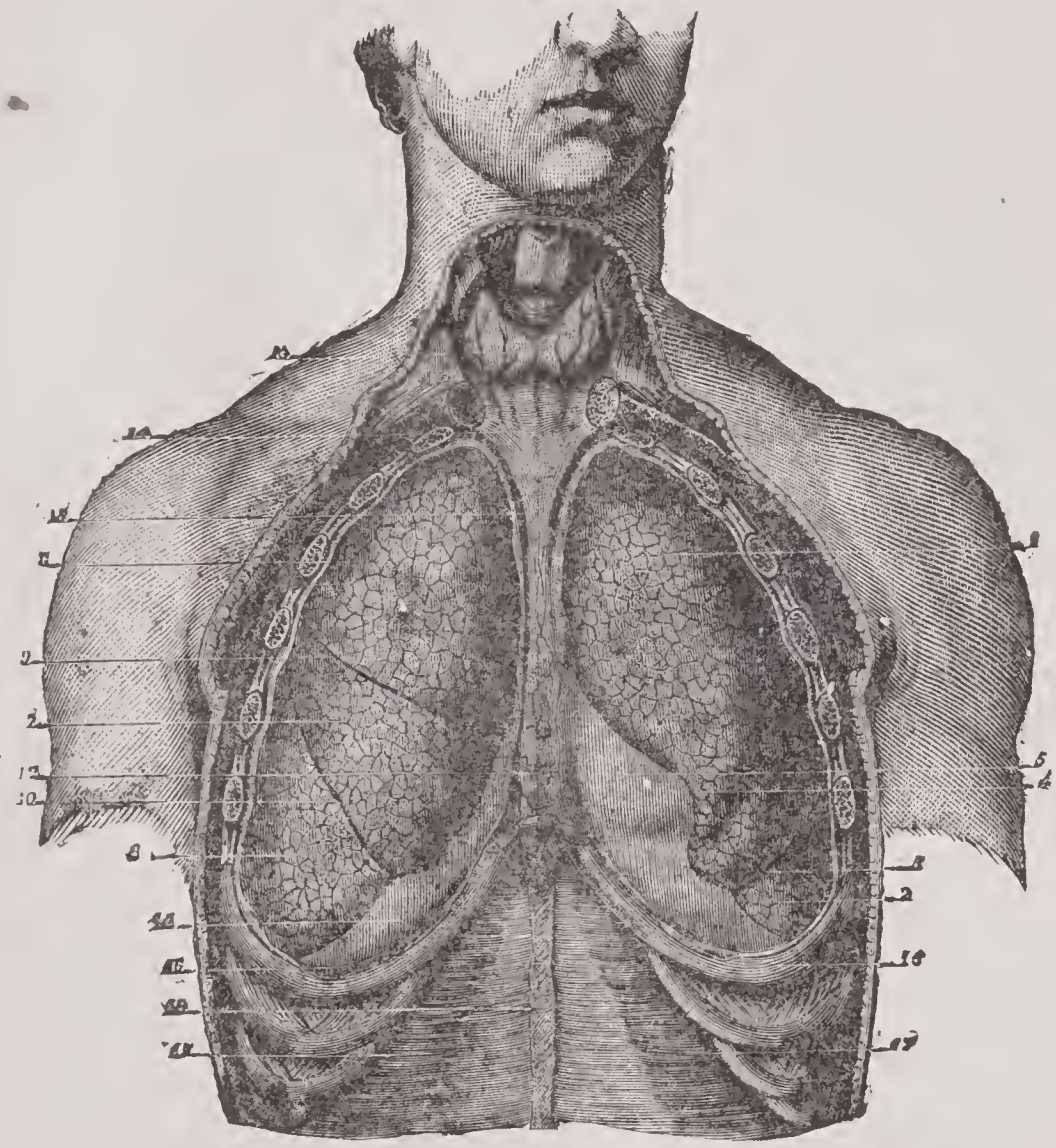


Fig. 21. Showing the Lungs in Situ.

1, 2, Upper and lower lobe of left lung; 6, 7, 8, upper, middle and lower lobe of right lung; 5, space occupied by the heart.

Acute Laryngitis.

ACUTE LARYNGITIS is an inflammation of the mucous membrane lining the larynx. It is attended with a cough and hoarseness, and frequently with much difficulty of breathing. The hoarseness is due to inflammation and swelling of the vocal cords. Medicinal treatment should be the same as that recommended for *coryza.* At night the throat may be bound with a bandage wrung out of cold water. Quinine should be taken in four-grain doses three times a day.

Disease of Vocal Cords.

It not unfrequently happens that speech, or the power of phonation, is lost in consequence of disease or injury of vocal cords, or of ulceration or swelling of the surrounding parts. Within the last few years a little instrument, called a *laryngoscope*, has been invented, by which a view of the larynx and vocal cords may be obtained. It consists of a little round mirror, about the size of a copper cent, fastened at an angle upon a small stem or handle. This is introduced into the mouth, as shown in Fig. 22, the tongue having been drawn forward. Then, by the aid of a bright light, placed beside the patient, and reflected from a mirror worn upon the forehead of the physician, the rays are thrown upon the little mirror in the mouth of the patient, from which it is again reflected down to and illuminates the larynx, the image of which is reflected back into the little mirror in the mouth of the patient. In Fig. 22 the image of the larynx and vocal cords is shown as seen by the physician. By this means a physician skilled in the use of the instrument is able to examine an ulcer of the larynx as critically as he might a burn on the hand.

In case of loss of the voice, not clearly due to an acute *cold*, or in case of hoarsenesss of long standing, such an examination should be sought directly, lest the voice may become permanently impaired or destroyed. Sometimes one or both of the vocal cords may be paralyzed. As the symptoms may be due to different causes, it is best not to undertake self-treatment, but go at once to a skilful physician.

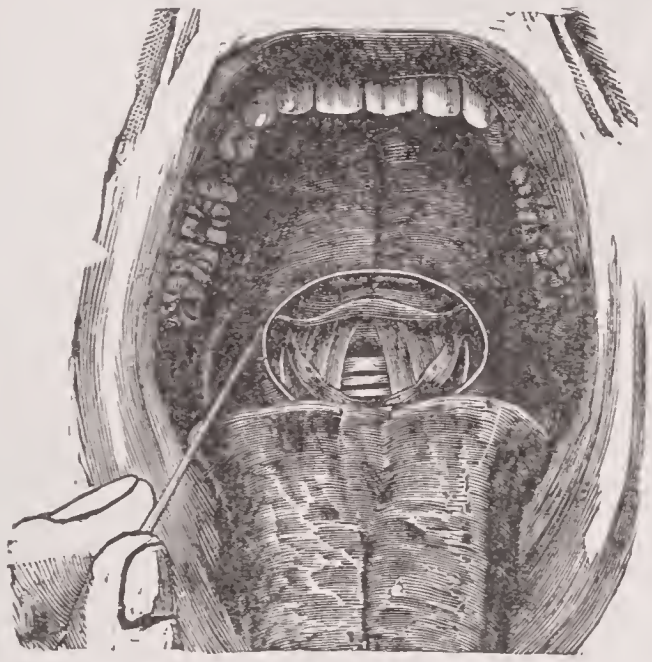


Fig. 22. Showing the Manner of Using the Laryngoscope, with the Image of the Larynx, Epiglotis and Vocal Cords in the Mirror.

Pleurisy.

PLEURISY is an inflammation of the *pleura*, or membrane which lines the cavity of the chest.

Causes.— Sudden cold coming in contact with the skin or surface of the body; drinking cold water when the body is heated by exercise, and in a profuse perspiration; sleeping out of doors, or in damp places; a check of perspiration from exposure to a draft of cold air, or anything that suddenly obstructs perspiration, may produce Pleurisy. It may also be caused by violent exercise, or by heavy lifting. It often occurs as a complication of other diseases.

Symptoms.— Pleurisy, like most other forms of Inflammation and Fever, usually commences with a chill, or chilly sensations, followed by heat, thirst, and other febrile symptoms. After a few hours the patient is seized with a sharp, acute pain in one side, usually in the region of the short ribs, which gradually extends toward the shoulder-blade, and toward the forepart of the breast; the pain increases, and sometimes becomes very violent. It may or may not be attended with coughing and expectoration. The matter that is coughed up is generally more or less mixed with blood. The pulse is strong and vibrating, feeling like a tense cord. The breathing movements intensify the pain.

Treatment.— A dose of Salts should be administered at once. Leeches applied over the painful area are of value and may relieve the pain. It may be necessary to resort to Morphine, however, for the pain. As the breathing movements aggravate the condition and increase the pain, the side may be fixed, as it were put in a splint, by means of broad strips of Surgeons' Adhesive Plaster. Rest in bed, and a liquid diet are essential. Later, if there is much fluid, it may be necessary to tap; at any rate it may be well to give Salts every other day, and take as little water as possible. Keep the skin active.

Bronchitis — Acute Form.

This is an inflammation of the lining membrane of the bronchial tubes, or air-passages. Persons who are in the habit of speaking much, or singing, are very liable to it, especially in cold weather, or in changeable climates. It may be either acute or chronic.

Symptoms.— Acute Bronchitis usually commences with a cold, slight cough, chilliness, oppression and tightness of the chest, and some fever. As the disease advances, these symptoms increase, the breathing becomes more difficult, with a sort of wheezing, and sometimes hoarseness. At first the cough is dry, but after awhile there is a copious secretion of tough, white mucus thrown up, which sometimes changes to a yellowish or greenish color. There is usually severe pain in the head; the tongue is covered with a white, mucous coat; frequent pulse, and dry skin.

Treatment.— In the very Acute Bronchitis of children, if the breathing is difficult an emetic of a tablespoonful of Wine of Ipecac should be given and repeated if necessary.

The patient should have a hot Mustard foot-bath and a hot Lemonade and should then go to bed. An adult may take 10 grains of Dover's Powder. It should be administered cautiously to children.

The cough may be controlled with five grain doses of Dover's Powder every two or three hours.

A Mustard Plaster may be applied.

CHRONIC FORM.— Bronchitis often becomes chronic, as a sequel to the acute form, or as the result of neglecting a cold. It is attended with a troublesome cough, expectoration of a whitish, frothy matter, loss of appetite, a quick pulse, high-colored and scanty urine, and other symptoms more or less similar to the acute form.

Treatment.— A mild emetic, same as for the acute form, given in broken doses. Repeat once a week.

Mild cathartics, sufficient to keep the bowels in a lax condition, are also proper.

Let the patient bathe his feet frequently in warm water, at least every night. Also inhale the warm vapor of herbs, as Hoarhound, Tansy, Catnip, Dog Fennel, and the like.

A quarter of a grain of Codeine may be taken each night before retiring, or 10 grains of Dover's Powder instead.

The skin should be kept active. The diet should be light but nutritious, and some good tonic taken, as the Elixir of Iron, Quinine, and Strychnine. Avoid exposure.

Pneumonia — Inflammation of the Lungs.

When the substance of the Lungs, or the mucous membrane which lines the air-cells and passages of the Lungs, is the seat of the inflammation, it is called *Pneumonia;* when the membrane which covers or envelops the Lungs (the pleura pulmonalis) is inflamed, it is called *Peripneumonia.*

Symptoms.— Inflammation of the Lungs commences with a dull pain in the chest, or in one side of it, if but one lung is affected, with difficulty of breathing — especially if the patient lies upon the side affected — with cough, dryness and heat of the skin, and more or less thirst. At first the pulse is full, hard, strong, and very frequent; but as the disease advances, it sometimes grows weak and soft, but continues very frequent. The cough is usually moist, and the matter spit up is a white, tough, and frothy substance, sometimes streaked with blood. The tongue is coated at first with a white fur.

As the disease proceeds, the face is apt to become of a dark purple; the vessels of the neck become turgid and distended with blood; the breathing becomes quick, short, and very difficult, threatening suffocation. When death takes place, it is generally from an effusion of blood into the cellular substance of the Lungs, thus preventing circulation through these organs, and also occasioning suffocation. It may also prove fatal by terminating in suppuration and gangrene. When suppuration has taken place, it may be known by frequent slight shiverings, an abatement or absence of pain, and a sense of fullness in the part. The patient can also lie on the affected side without causing much inconvenience. There is always fever; sometimes the temperature becomes very high. The fever usually suddenly drops on the seventh, ninth, or eleventh day. This is termed the crisis, that is, the critical period, which if the patient lives through, he generally recovers.

Treatment.— The patient should be kept in bed. The bowels should be moved with Salts. The diet should be liquid, but nutritious — milk and meat broths. Ten grains of Dover's Powder may be given at night to procure sleep. Morphine should be given for the pain. A Mustard Plaster or Leeches may be applied to the sore spots. If the fever becomes very high, the skin may be bathed with cool water every three or four hours. In the early stages, in full-blooded people, when the breathing is difficult, it may be well to bleed. Later, when the heart becomes weak, it may be necessary to give stimulants, as Brandy, Strychnine, and Digitalis. Last of all, good nursing is far more important than drugs.

Bleeding from the Lungs — Hæmoptysis.

This complaint is usually called Spitting of Blood. It consists in coughing up small quantities of bright red blood, sometimes quite frothy, and is usually preceded and accompanied by heat and pain in the chest, irritation in the windpipe, and more or less saltish taste in the mouth. Hemorrhage from the Lungs may easily be distinguished from that of the Stomach, as in the latter case the blood is vomited up, usually in large quantities, of a much darker color, and more or less mixed with the contents of the Stomach; whereas, the blood from the Lungs is of a florid color, is thrown up in small quantities, by coughing or hawking, and is more or less mixed with a frothy mucus and bubbles of air.

Causes.— Bleeding from the Lungs is, as a matter of course, owing to a weakness of those organs, or to the tender and delicate character of their structure, allowing of easy rupture of the air-cells and small capillaries. It may be brought on by over-exercise and violent exertion, as running, jumping, wrestling, singing loud, or blowing on wind instruments. Also by Plethora, Hectic Fever, Coughs, and Colds upon the Lungs. It may also be induced by the suppression of some accustomed discharge, particularly that of the Menses. It most usually occurs in persons with narrow chests, high shoulders, and who are otherwise delicately formed, and of a sanguine temperament.

Spitting of Blood is not always to be considered a primary disease; nor is it necessarily connected with Consumption. It is often only a symptom of some other disease, as Pleurisy and Lung Fever.

Occasionally, the blood thrown up is of a dark or blackish color; this, however, only shows that it has remained a longer time in some of the air-passages, before being thrown up. The complaint is not attended with any danger, where it is not connected with Consumption, or where it leaves no cough or other affection of the Lungs. When it occurs in persons of a weak, lax fiber, and delicate constitution, it is more difficult to cure.

Treatment.— One of the best and most common remedies for Spitting of Blood, is Salt. A teaspoonful should be taken, dry, and repeated occasionally. This, in most all mild cases, will be found sufficient, as an internal remedy. External measures should be made use of, as bathing the feet in Warm Water frequently, and applying the Sponge Bath to the whole body — warm or cold — with friction, in order to equalize the circulation, and thus prevent too great a determination of blood to the Lungs, which might cause the difficulty to grow worse.

If the bleeding is very serious, that is, not readily checked, and large quantities of blood are coughed up, the patient should be kept as quiet as possible, and brought under the influence of Morphine immediately.

The head of the bed should be elevated. Cold applications should be made to the chest. Little more can be done, and Consumptives often die as a result of severe Bleeding from the Lungs.

Consumption.

In the short space of a few pages we do not anticipate that justice can be done to a subject of such extent and importance as the one before us. If, by our suggestions, we may be able to point out danger before it is too late; if we shall succeed in warning the unsuspecting, or arousing the careless, something will have been accomplished to ward off the inroads of an enemy more fatal than any among us. In Consumption, as in many other diseases, life can be prolonged, and not unfrequently cured, by averting its causes. When once rooted and settled for any length of time, the sufferings may be alleviated by the watchful care of friends, the efforts of science, and change of climate; but generally, when Consumption is not relieved in its first stages, or, in other words, when it becomes fully and deeply seated in the lungs, as far as my experience has gone, I have found, with some few exceptions, remedies to prove alike fruitless and unavailing.

What a train of melancholy reflections arise in witnessing

the slow but certain decay of the young, the bright, and the beautiful, whose charms delight us for a moment, and then fall a prey to that dreadful scourge, Consumption!

This disease depends for its existence upon Art more than Nature—upon the abuses of civilization rather than upon climate. In highly civilized countries, like England, France, and the United States, Consumption is found in the mansions of the wealthy, and the cellars and hovels of the destitute, and in both it is the result of exhaustion. The luxurious are prematurely worn into Consumption, while the destitute are starved with noxious air and frozen into it. Excessive toil is more debilitating than excessive living. As a proof of it, we may instance a fact which we have often noticed, that old people, who have been comparatively free of disease, frequently die of Consumption. The constitution being worn out, or in other words, the vital powers exhausted, the lungs, being one of the weakest portions of the body, imbibe disease, and death closes the scene.

Let me, therefore, urge you to take *exercise* and *fresh air*. Fresh air, under any circumstances, is of vast importance. It gives energy to the mind and body. What has not fresh air or, change of air, effected? How many has it not snatched from the jaws of death? How many has it not saved from the tedious pilgrimage of sickness, and spared from desolate loneliness? The apparently consumptive, the melancholy hypochondriac, and the waning and harassed dyspeptic, it has restored to former liveliness and joy. The first gush of air revives the expiring breath. Bed-ridden invalids have been known to rise and walk the day following a removal into the country. Apart from local peculiarities and advantages, fresh air, in every instance, is beneficial, as the daily experience of all can substantiate.

The lungs, when moderately distended, contain, at a medium, about twelve pints of air. As one pint is inhaled at an ordinary inspiration, and somewhat less than the same volume is expelled at an ordinary expiration, there remains present in the lungs, at a minimum, eleven pints of air. There is one act of respiration to four pulsations of the heart. In good health, there flows to the human lungs every minute nearly eighteen pints of air (besides the twelve pints constantly in the air vesicles), so that in the space of twenty-four hours upward of fifty-seven hogsheads of air pass through the lungs. Air once breathed is, by passing through the lungs, deprived of the healthful part—the oxygen—and becomes little less than unmixed poison—the nitrogen only remaining.

Therefore, if you wish to avoid Doctors, Physic, Consumption, Dyspepsia, Nervous Diseases, and a thousand other ills that flesh is heir to, live temperately, take regular exercise and pure air; let your dress be suitable to the changes of the weather, and avoid taking *physic* as much as possible, for no sensible doctor takes much medicine himself, but it is his interest to prescribe it. The temperate and regular rarely suffer from this disease, save those on whom it is more or less conferred by their ancestors. The intemperate and irregular suffer from this and a variety of other diseases, which I have before mentioned, in every State of the Union, for we are more inclined to seek the causes of this disease in *habits* than in *climate*. Therefore, the best preventives of Consumption are pure air, and a moderation in everything, physical or intellectual. The Quakers, I have observed, are seldom victims of Consumption, and I ascribe this general exemption to general freedom from excesses of body or mind.

Coughing is an annoying attendant on this distressing disease, and nothing is more irritating and injurious to the organs concerned especially in their diseased condition. We are induced to believe, from experience and observation, that much of the coughing which precedes and attends Consumption is *voluntary*. Consequently it can be overcome to a large degree by a strenuous effort of the will.

It has been the fashion to doubt whether tubercles of the lungs, or, in plainer language, ulcers or sores which are formed in the lungs, can ever be cured. Both the experience and the testimony of many trustworthy witnesses, as well as my own observation, have assured me of the frequent curability of this disease. In a large percentage of all post-mortem examinations where Consumption is at all prevalent, old scars, healed up ulcers, are found in the lungs. The people once having had Consumption, recovered, and died from some other cause. *Consumption in a certain percentage of cases, if recognized and treated early enough, can be cured.*

We close this subject by showing, in a few words, the three principal predisposing causes of Consumption—hereditary formation, lack of out-door exercise, and debilitating diseases, such as Pneumonia and Dyspepsia.

Symptoms.—Consumption often begins with a dry, hoarse cough, which gradually increases and continues for months, with more than a usual degree of heat, pain and oppression of the chest, after moving, or any quick motion of the body. The cough increases or continues, attended with the raisings of purulent matter, sometimes streaked with blood. The flesh of the patient next begins to waste away, and he finally becomes greatly emaciated, dwindling away, often, to a mere skeleton. Rapid loss of weight being very characteristic.

Another very common symptom of Consumption, or rather attendant upon the disease, is Hectic Fever; sometimes but slight at first, but as the disease advances, it often becomes severe and exhausting. This fever is not constant through the whole day or night, but generally comes on in the morning and abates about noon; a little chilly at first, then hot, thirsty, and restless, followed by perspiration or sweat. It returns again in the evening or at night, and goes off with what are known as Night Sweats. Upon each cheek of the Consumptive person there will be, during the fever, a bright red spot, nearly circular; sometimes only on one cheek. Hectic Fever is merely symptomatic, that is, it is but a symptom of some other disease, generally that of Consumption, but may also attend some other wasting diseases; therefore, we cannot hope to cure it without first curing the primary disease of the Lungs. Tonics should be given along with the Cough Medicine, and proper attention paid to the skin; bathing the body with water to which a little common Salt has been added will be good. Internally, the patient should take two or three times a day a little water made sour with Nitric Acid. This will be good for both the Night Sweats and the Fever.

In all diseases of the Lungs, the instrument called a *Stethoscope* should be used. By the use of this instrument, which conveys the sound produced in breathing to the ear, you can most certainly tell the difference between a healthy person and one whose lungs are diseased.

The most positive sign of Consumption is the finding of

the tubercle bacilli in the sputum. The discovery of these removes all doubt.

The tubercle bacilli is the germ which really causes Consumption, and without this germ there would be no Consumption.

This germ, once getting a lodging in a person's lung, grows and multiplies and causes the abscess to form. This germ cannot get a lodging in a normally strong lung; it can only grow in one that is weakened by disease, one that is not sufficiently exercised or is supplied with bad air, or one that is naturally weak because its owner had parents with weak lungs.

One does not inherit Consumption; one simply inherits a lung in which the tubercle bacillus can get a foot-hold and grow.

Consumptives expectorate large numbers of these bacilli each day, and so if the sputum is not burned it drys, the germs become mingled with the dust, and are breathed by others who may develop Consumption, *so that Consumption is catching.*

Remedies.—Above all things, avoid active medicines, or the too frequent use of them. Remember that the best Tonic or Strengthening Medicine is proper diet, frequent exercise in the open air, change of climate, or a sea voyage. Do not put off these things until the system is worn out, and wearied down by exhaustion or weakness. The thorough use of these three remedies is to be attended to in the first stages of this disease. A consumptive family should move from the locality to which they have been accustomed. Louis mentions the case of a family who lost sixteen children from this disease, but a seventeenth, sent from his native country at an early age, escaped. A child, either of whose parents may be consumptive, should, from birth, be nursed by a healthy woman, in a pure air—a dry and elevated situation, if possible. Care should be taken as to its diet, proper clothing, exercise, and the skin carefully attended to from the first, by cold sponging and friction, so as to gradually accustom the system to withstand and be fortified against the various changes of atmosphere. A high, dry locality is the best place for people suffering with lung difficulties. Many such places are to be found in this country, such as Colorado, the mountains of South Carolina, New Mexico, Montana, and other places.

If the disease is far advanced no attempt should be made to take the patient away from home.

The *Boston Medical and Surgical Journal* makes the following remark on Dr. Stone's new remedy for Consumption:

"A gentleman of the neighboring city of Charlestown, whose son was considered in a hopeless state from the diseased condition of the Respiratory Apparatus, was induced to administer Dr. Stone's medicine, the Phosphate of Lime. That procured at the shops appeared to him to be imperfectly prepared, being coarse and otherwise objectionable. A purer article was prepared, especially for the occasion, reduced to an impalpable powder, and 10 grains were administered three times a day, followed by a swallow of Cod-liver Oil. No material change was discoverable in the patient for two weeks. Suddenly, as it were, a fixed pain of long standing in the chest then abated, the sleep became refreshing, the appetite improved, strength returned, and from being moved about the apartment reclining on an invalid chair, he is now daily riding, on an average, ten miles on horseback, facing the wind, and breathing the cold air with impunity. This is a synopsis of a case related by a grateful parent, who would be glad to have others, under similar circumstances, make an effort with the Phosphate combined with the Cod-liver Oil."

Much relief is often experienced from inhalation, or, in plain language, breathing various articles in steam. I have no doubt that a certain remedy will at last be discovered, in the form of a gas or vapor, breathed into the lungs, operating locally or outwardly upon the ulceration or sores. The tubes, or inhaling vessels, which are usually very simple, may be purchased at any of the drug-stores, in any of our cities. The patient breathes through the tube, thereby fully expanding the lungs, at each inspiration. It is to be used two or three times a day, from twenty to thirty minutes at a time. The articles chiefly used by inhalation are vapor or steam from Tar, Resin, or simple hot Water, in which many simple herbs, mixed, will be found beneficial, where the breathing is difficult, with difficulty of expectoration; or in Cough the vapor of boiling water, into which put a few drops of Sulphuric Ether, or ten or a dozen drops of Laudanum, will frequently afford relief.

The *London Medical Journal* published an account of a cure effected through the inhalation of the fumes from melting Resin. In this story we may find a clue to the origin of the use of Creosote for the cure of Consumption. Creosote, sometimes known as Oil of Wood, or some product made from it, as Benzoyl, is the great stand-by, in conjunction with Cod-liver Oil, of many physicians for the treatment of Consumption. Consumptives after taking this for a time acquire an ability to bear very large doses per day; usually they commence taking a drop or two in whisky three times a day; by gradually increasing the number of drops from day to day, they become able to tolerate twenty, thirty, even forty or more drops a day. It may be taken with the Cod-liver Oil.

The *London Medical Gazette* contains an article from the pens of Dr. Hastings and Mr. Robert Stokes, surgeon, descriptive of a remarkable operation for the cure of Consumption, by the perforation of the cavity of the Lungs through the walls of the chest. It consists in making an opening into the ribs between the cavity which forms in the Lungs during the latter stages of Consumption. The immediate effect of the operation (which requires only a few seconds for its performance, and which causes but slight pain) in the case in question, was the dimunition of the frequency of the patient's pulse, which fell in twenty-four hours from 120 to 68; freedom of respiration which had been a very distressing symptom; loss of cough and expectoration, both of which had been very severe. This operation, which has established the possibility of curing this hitherto fatal disease, appears to have been completely successful. The report of the condition of the patient, a month after its performance, was, that he was rapidly regaining his flesh and strength, whilst his respiration had become natural, and his pulse had fallen to 80, and his cough and expectoration had wholly ceased.

COD-LIVER OIL.—This species of oil is now considered a very valuable remedy. There has been so great a call for it, that the oil of every fish caught has been sold for it. The principal diseases for which this is prescribed and taken are Consumption and Tuberculosis generally. We have no doubt that in many cases where there are Consumptive symptoms, relief has been obtained by the use of this medicine. Possibly a free use of any other fish oil might have produced the same effect.

We have seen some accounts of the use of other kinds of fish oil, instead of the Cod Liver, when that particular oil could not be conveniently obtained, which stated that equally as good effects followed its use. Some contend that Cod-liver Oil may be found in Iodine and Bromine, two very powerful remedial agents. It may be so; but if this be the case, the benefit derived from them must be attributed to homœopathic doses, for there is not generally enough of them to act otherwise. One mode of the action of this and other oils is undoubtedly by nourishing the patient. They contain large quantities of Carbon, which become transformed or assimilated in the system of the patient as fat, and thereby improve his appearance. We would not deter any persons from making free use of Cod-liver Oil, if they wished, but at the same time would advise them not to despair, if this species of oil cannot be obtained. Try Porpoise Oil, or any fish oil—it will nourish, if it does not cure.

The taste of Cod-liver Oil is completely disguised by masticating a morsel of dried Orange-peel before and after swallowing the dose, or by the use of a lump of Brown Sugar.

The most effectual remedy in the relief of cough is Opium. In cases where there is tickling, dry, hacking Cough, adults should take twenty to twenty-five drops of Laudanum every night at bed-time. If this does not remove the Cough and regulate the breathing, Codeine in quarter-grain doses will be found most valuable. It is made from Opium.

The question has often been asked, can Consumption be communicated from one person to another? It can when there is close communication of those predisposed to this disease, by constantly breathing, or leaning too much over the person affected. By all means avoid sleeping, if possible, in the same bed.

The belief that Consumption is seldom cured, I know to be superstitious and untrue. There is no more difficulty in the healing of a *tubercle* in the lungs, than of the healing of a tubercle or sore in any other part of the body; provided the lungs and general health are in the right condition. And I have seen hundreds who appeared as mere skeletons, for whom I had not the slightest hope of a cure, entirely restored to health, by using the treatment before mentioned, avoiding all active or strong medicines, using proper food, and frequent exercise in the open air. For I assure you, from a long experience in my profession, that thousands have died from a want of invigorating exercise and pure air; the nervous system and the mind being worn out by incessant calls upon the senses, and a change of climate having been put off from day to day.

I cannot urge too strongly the necessity of pure air, and a change of climate in the early stages of this disease. The poison of bad air, and its injurious effects upon the system, destroy thousands. The health of our women and the constitutions of their children are injured by it.

There is some confusion in the minds of many people between the words Consumption and Tuberculosis. The word Consumption usually is understood to mean Tuberculosis of the Lungs, while Tuberculosis is a disease of any part of the body caused by the germ—the tubercle bacillus.

Asthma.

ASTHMA is an affection of the chest, known by the patient's distressing difficulty, almost amounting to inability, of breathing, or power to inspire sufficient air to fill the lungs. Asthma, although a nervous or spasmodic affection, is very frequently connected with actual changes in the lungs themselves. Asthmatic Fits, or Paroxysms, come on at regular intervals. For several days, or rather nights, successively, the patient is regularly attacked; then a considerable time may elapse before he or she again suffers. Some persons are never entirely free from the complaint; for there is generally some slight oppression of the breathing, liable to be increased or aggravated by slight causes, such as changes in the weather, peculiarity of situation, errors in diet, anxiety, fatigue, mental excitement, etc., many of which induce or bring on a paroxysm of Asthma in the predisposed. The Asthma generally attacks the patient at night after the person has retired to rest; but it sometimes comes on in the daytime. A want of breath is commonly the first notice which the person has of its attack; he is compelled immediately to rise up in bed, when he feels great oppression, tightness across the chest, and a want of air; the breathing becomes laborious, accompanied with a wheezing noise, which can generally be heard over the whole room; and speaking is very difficult. There is often a disposition to cough. Frequently, from want of breath, the lips and face become a purple color. Notwithstanding, however, the frightful appearance of the countenance from the disease, it rarely if ever proves fatal. The patient feels a choking sensation, but toward morning the breathing becomes more free, and the sense of suffocation gradually passes off. Frequently, a little phlegm or mucus is coughed up; this affords relief, and then the exhausted sufferer falls asleep. In most cases of this disease, the pulse is frequent and small, and there is considerable heat and desire for drink; the urine, in the beginning, is pale and increased in quantity, but, on the fit subsiding, becomes high-colored and deposits a sediment; and the face becomes generally pale and shrunk. Confirmed Asthmatics have a distressed cast of countenance, and acquire a peculiar rounding or elevation of the shoulders, perfectly characteristic. Asthma may occur at any period of life, but is more general about middle age. Men are more commonly the subjects of it than women.

This disease, though a very distressing one, is not dangerous in itself, further than as it tends to lay the foundation of other affections of the lungs or of the heart.

Where a person has once, however, been the subject of this disease, he is sure to be more or less tormented with returns of it through life.

Remedies.—The effects of situation and of atmospheric peculiarity upon Asthmatics are the most varied; some who are afflicted with this disease can breathe freely in clear dry air, while others are temporarily relieved by a damp atmosphere, or a warm room. Some individuals, who are never free from Asthma in some situations, lose their attacks as soon as they remove or make a change. These are peculiarities of which all persons who are afflicted with this complaint should take notice.

The habitual Asthmatic, however, soon becomes aware how much his freedom from paroxysms of the disease depends on the state of his general health, and particularly on that of the digestive organs. He can not always avoid atmospherical vicissitudes; but he can, by temperate living, exercise, attention to the bowels, and to the functions of the skin in particular, pass long intervals without an attack. Sponging the chest and shoulders every morning with Cold or Salt Water,

and friction being afterward made with a coarse towel or brush, or a hair glove, is a practice to be highly recommended, provided no other predisposition forbids the use of this remedy.

Asthma is one of those diseases for which much may be done by well-timed and well-directed domestic management, proper care and judgment, attention to the change of the paroxysms, and to the constitution of the patient; likewise to the various remedies adapted to this disease; for what gives immediate relief to one person, totally fails with another.

One of the principal causes of this disease, and one that should be strictly guarded against, is external cold, that unrelenting enemy to the nervous system. As cold proves hostile to all nervous parts, so it is found to be in an especial manner most inimical to the chest.

Treatment.— During an attack, a few inhalations of Chloroform will usually give relief. A few drops — one or two — of Amyl Nitrite, on a cloth held over the face and inhaled, may relieve when Chloroform fails. It may be necessary to give Morphine, and an emetic may be tried. Various cigarettes of Belladonna, Lobelia, and Stramonium are on the market, and are often useful, or the leaves of these drugs may be burned in the room and the smoke inhaled.

To ward off future attacks, 10 grains of Iodide of Potassium may be given three times a day for a while, or preceding an expected attack.

In relation to diet, Asthmatics should be cautious as to their food: sugars and starches should be avoided; let it be simple, light, and nutritious; avoiding stimulants, with the exception of Coffee. Their rooms should always be well-ventilated, and quietude and repose particularly attended to. Avoidance of the sudden changes of the atmosphere should be enjoined. These important rules, if properly attended to, will be found greatly beneficial, in all cases, to Asthmatic patients in general.

Hay Fever.

HAY FEVER is a disease occurring in spring and fall. Usually it is much like an ordinary cold in the head; sometimes there is fever and headache and much depression. Sometimes it is associated with typical asthmatic attacks.

The pollen from flowers — roses, and from hay, and perhaps rag-weed, in association with a nervous element are probably the causes of this disease.

Treatment.— Tonics, especially two or three minims of Fowler's Solution of Arsenic, or five minims of dilute Phosphoric Acid three times a day may be taken. Change of climate, especially to uncultivated mountainous districts, may prevent occurrence of the disease. Local treatment of the nose with Washes and Cocaine often give relief.

THE EXCRETORY ORGANS.

The name *excretory* is applied to those organs whose function it is to remove from the blood the elements of waste — the *ashes*, so to speak, of the oxidized tissues — which have been taken into its current during its passage through the capillaries. Besides the *lungs*, which act as excreting organs in so far as they remove from the blood carbonic acid gas and water, and the *liver*, which also eliminates from the blood certain poisonous excretions, there exist two other organs whose chief or exclusive function it is to purify the blood, by removing from its current the *debris* of the worn-out and oxidizing tissues. These organs are the *kidneys* and the *skin*.

The Kidneys.

The kidneys are two in number, placed in the abdominal cavity one on each side of the spinal column, on a level with the lower ribs. The kidney is shaped much like a lima bean. It is, in the adult, about four inches long, two inches wide, one inch in thickness, and weighs from four to six ounces. It is surrounded by a thick cushion of fat which protects it from injury. The concave margin, which presents a deep notch called the *hilum*, is turned toward the spinal column. At the hilum enter the blood-vessels and nerves and the excretory duct, called the *ureter*, which carries away the urine as fast as it is secreted, and empties it into the *bladder*, a membranous reservoir for holding it, until such convenient time as it may be voided.

On making a vertical section through the kidney (Fig. 23) from its convex to its concave border, it appears to be made up of two substances, an outside or *cortical* substance, and an inside or *medullary* substance. The cortical substance forms the greater part of the gland and occupies its surface. It is soft and dark-colored and contains numerous small red bodies, called *Malpighian bodies*, scattered throughout its substance. The medullary substance is of a pale red color and consists of thousands of little tubes arranged in pyramids (1 1, 2 2, 4 4, Fig. 23), called the *pyramids of Malpighi*. The little tubes, or *urinary tubules*, of which the pyramids are made up, are connected, one with each of the *Malpighian bodies*, from which they are gathered together in pyramids, and empty, by common ducts (5, 5, 5, 5), into a cavity (7) shown in the cut, and known as the *pelvis of the kidney*, from which the *ureter* (8) conducts the urine away to the bladder. Figure 24 shows the Malpighian bodies (1, 5, 6) greatly magnified; 3 is a branch of the renal artery, from which little branches (4, 4, 4) enter the little bodies and break into minute looped capillaries (5), which again unite, forming a vein (7, 7, 7), which passes out of the little body, branches and subdivides (8, 9), and finally again breaks up into capillaries (10) to nourish the substance of the kidney. From the Malpighian bodies extend the little tubes (2, 2, 2), which finally unite to form the pyramids.

It is in the Malpighian bodies and in the little urinary tubules that the urine is separated from the blood. The capsules of these little bodies, Mr. Huxley says, may be likened to a funnel, and the membranous walls of the little capillaries to very delicate filtering-paper, into which the blood is poured. A substance called *urea*, the ashes of the oxidized muscular tissue, and certain saline substances, among which are common salt and the phosphates and sulphates of potash, soda, lime and magnesia in solution, are filtered out of the blood, carried away by the little tubules (2, 2, 2) to the *pelvis* of the kidney, from which it flows through the *ureter* into the bladder, and

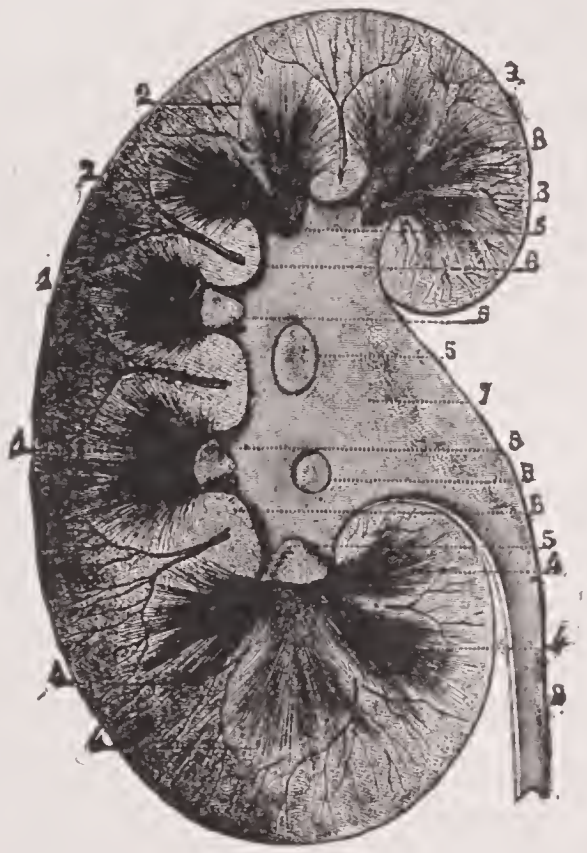


Fig. 23. A Longitudinal Section of the Kidney.

1, 2, 4, Pyramids of Malpighi; 7, cavity of the pelvis; 5, 5, mouths of the urinary tubules; 8, the ureter.

thence out of the body. Thus the function of the kidney is to purify the blood, by removing those poisonous elements of waste which cannot be removed by the other excretory organs.

DISEASES OF THE KIDNEYS.

The kidney is liable to disease, inflammation and degeneration, the same as other parts of the body. Anything which interferes with the proper secretion and elimination of urea by the kidney may properly be considered a disease. Sometimes irritation of the nerves of the kidney is sufficient to stop the secretion of urine for a considerable time. Mental emotions may diminish or increase the secretion. It has long been observed that the urine of an hysterical patient is excessive in amount and of a very pale color. During a fever the urine is small in amount and of a very high color. This is due to the great evaporation which takes place from the skin in consequence of the high temperature. Almost all the diseases to which the kidney is liable have been classed together and called *Bright's disease.*

Bright's Disease.

BRIGHT'S DISEASE, or, as it is sometimes called, NEPHRITIS may be either acute or chronic.

ACUTE BRIGHT'S DISEASE.—The kidneys become inflamed and enlarged and the passage of the urine is obstructed by a collection of epithelian cells. The obstruction to the outflow of the urine and the interference with the functions of the kidneys give rise to the most serious results. The disease is vastly more common among males than among females. The acute stage is most often produced by cold or dampness, or by scarlet fever and other diseases; such as, cholera, yellow fever, erysipelas, diphtheria, etc. Alcoholic intemperance will very often produce it. Other predisposing causes are gout, constitutional syphilis, and affections of the bladder and urethra.

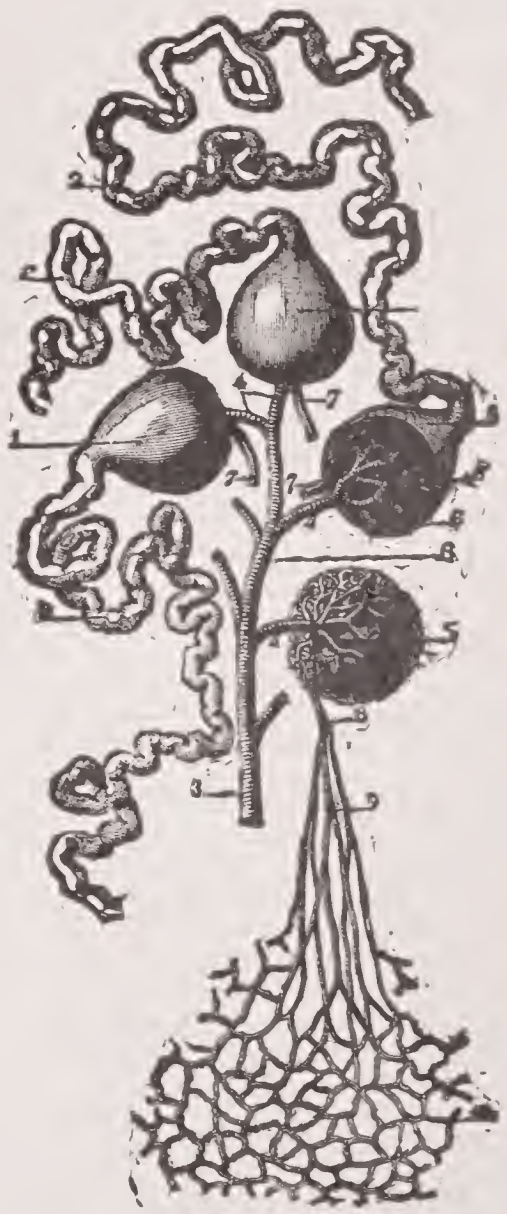


Fig. 24.

1, 6, 5, Malpighian bodies; 2, 2, 2, urinary tubules; 3, renal artery; 4, 4, 4, branches of renal artery; 5, 5, plexus of looped capillaries; 7, 8, 9, veins and venus plexus.

Symptoms.—Chilliness followed by fever; nausea, and pain in the back and limbs; after a few days a dropsical condition appears first in the face then spreads over the entire body. The urine is scanty and at times entirely suppressed;

smoky in appearance, very albuminous, and deposits a heavy sediment which contains, under the microscope, blood corpuscles and epithelian casts.

An acute attack generally terminates in recovery after two or three weeks, or death, or lapse into the chronic state.

Treatment.— Keep the patient in bed in a warm room; use sweat baths, give thorough rubbing, and promote perspiration by placing hot-water bottles in the bed; administer gentle laxatives. The loins may be cupped or leeches may be applied. If there is fear of collapse give strychnine sulphate, 1-20 grain. A dose of citrate of potash, 20 grains, with 10 drops of tincture of digitalis, and ½ teaspoonful sweet spirits of nitre is generally followed by good results. From 10 to 20 grains of diuretin given three times a day may be found beneficial for adults, only about one-fifth that much can be given to children.

Chronic Bright's Disease or Chronic Nephritis.— This may be chronic from the beginning or may follow the acute disease.

Symptoms.— Urine contains albumen, tube-casts, and renal epithelian cells; a puffy dropsical condition especially noticeable about the face and ankles; skin dry, breath short; anæmia; uremia or blood poisoning resulting from the retention of the urea — a poison which ought to be and is, under healthy conditions, removed by the kidneys. There is no difficulty in ascertaining the presence of the disease by microscopic examination of the urine.

Treatment.— Is largely hygienic. Nourishing diet is of the utmost importance and in severe cases milk is given as an absolute diet. An avoidance of excesses and intemperance of all kinds is indispensable. A quiet life in a warm climate with gentle exercise is recommended; bowels should be kept open, clothing should be warm. Hot air or vapor baths should help to do in part the inefficient work of the diseased kidneys. Iron and cod-liver oil are the best medicines. The ammonia ferric alum is claimed to check the waste of albumen through the kidneys. In case of serious dropsical condition give 1-6 or 1-4 grain elaterium every four hours until it acts. As a last resort for the relief of the dropsy is the use of the lancet or needle in the swollen legs and feet. If violent symptoms of uremia appear, active cathartics must be administered at once and if convulsions come on, full doses of elaterium or a drop of croton oil should be given immediately. Chloroform inhaled restrains the violence of the paroxysm.

THE SKIN.

The skin is a hard, firm, elastic membrane which covers the body and serves to protect the soft parts from injury. It is also an *excretory organ*, exhaling, as it does, a large portion of the fluids given off from the body, besides being the chief means of maintaining the animal heat at an equable point. The skin is composed of two layers. The deeper one is called the *derma* or *true skin*, and the outer layer the *epidermis* (Greek; *epi*, upon, and *derma*, skin). The *derma* is composed of strong elastic and inelastic fibres interlaced with each other; between the fibres in some parts is found much *adipose*, or fat tissue. In its substance are found also the sweat glands, sebaceous glands, hair follicles, lymphatics and nerves. The *epidermis* has no fibres, but is composed of several layers of cells placed one upon another. In the deepest of these is the pigment or coloring matter upon which depends the complexion. The hair and nails are appendages of the skin, and are but a modified form of the epidermic cells.

At the root of each hair is a little gland, sometimes two or more, called a *sebaceous* gland, which secretes an oily substance which lubricates the hair and surface of the skin. Coiled up in the deepest part of the true skin, or beneath it, are little tubes, which pass up through the entire thickness of the skin and open on the surface. They are called *sudoriparous* or sweat glands.

The Source of Perspiration.— The perspiration, or what we call sweat is secreted from the blood, by the little glands which I have just mentioned. While the blood is passing through the capillaries of the skin, these glands secrete from it, or absorb its excess of watery fluid, and along with it a large amount of useless and extraneous matter.

Perspiration is distinguished into two kinds — *sensible* and *insensible;* a distinction, however, without any difference, except in quantity. It is said to be insensible when it passes off from the body in the form of an invisible vapor; and sensible when it collects on the surface in drops, in the form of sweat. In the one case it is so gradual, and is so rapidly evaporated, that it does not accumulate upon the skin so as to be perceived, and hence is said to be insensible; while in the other, either from exercise, the heat of the surrounding temperature, or the action of some agent taken into the system, the perspirable matter is thrown upon the surface faster than it can be evaporated, so that it becomes more or less perceptible, and is therefore said to be sensible. The process is all the same, however, in both cases, the difference being only in degree.

The Uses of Perspiration.— Most prominent among the uses of perspiration may be regarded that of removing from the system worn-out and useless matter and poisonous gases. It has been shown that through the medium of respiration the blood is oxygenized and purged of its excess of carbon and carbonic acid; but it is probably relieved of a still greater amount of impurities and injurious substances through that of perspiration. It has been ascertained that the average number of pores in the skin to the square inch is about 2,800, and the number of square inches of surface on a man of ordinary size is 2,500, which would give the whole number of pores of the skin 7,000,000. We need not be surprised therefore, at the fact stated by Sanctorious and other eminent writers on the subject that from one-half to five-eighths of all that we eat and drink passes off through these pores in the form of perspiration. All physiologists agree that from twenty to forty ounces of matter — thirty ounces being the average — pass off through the skin of a healthy adult every twenty-four hours. A large proportion of this perspirable matter is made up of the decayed and waste particles of the body, which have been thrown into the circulation by the absorbents, and thence extracted by the sudorific glands. As has been stated elsewhere, the constant wearing out of the material of the various tissues of the body furnishes a large amount of waste matter, all, or nearly all, of which is eliminated from the blood and the system in this way.

I have already explained in the proper place the course which everything that enters the stomach takes in its passage through the system. Fluids are absorbed and pass directly into the blood. Solids undergo digestion, and then pass into the duodenum and intestines, whence all that can

be reduced to a semi-fluid state, in the form of chyle, is conveyed into the blood through the lacteals and thoracic duct. When poisonous substances are taken into the stomach, therefore, if not ejected by vomiting, induced either by the poison itself or by something taken for the purpose, or removed by artificial means, they will enter the blood, and with it the general system, in the same way; that is, through the absorbents or the chyle ducts. Solid and liquid poisons usually enter the system in this way, through the mouth and stomach, while poisonous vapors, miasmata, and gaseous substances enter through the lungs and pass directly into the blood by absorption, as has been previously explained. It is reasonable to suppose that more or less poison is taken into the system through one or both of these mediums every day. There is probably not a day or a night but we inhale more or less impurities in the air we breathe. In cities, towns, and in many districts of the country, especially in warm weather, there are always more or less animal and vegetable effluvia, and poisonous gases afloat in the atmosphere. And it cannot be doubted that we often take into our stomachs irritating and poisonous substances along with our food, to say nothing of our medicines. All such injurious agents, after they have once entered the circulation, can be removed from the system only through the grand emunctories of the blood, the perspiratory organs. By this most admirable provision of Nature, the fluids are cleansed, and extraneous matter is eliminated from the body, but for which, debility, disease, and a general derangement of the living machinery would speedily ensue.

Another use of the perspiratory process is to regulate and modify the temperature of the body. As has been shown, animal heat is generated in the system by a sort of combustion resulting from the union of oxygen and carbon. As this combustion, in the coldest of weather, is sufficient to maintain the heat of the system at about 98.4 degrees, it is evident that if there were not some wise provision for its escape in case of excess, we should be too warm in summer; indeed, we should be too warm at all times, and would soon be consumed with burning fever. A large amount of heat escapes from the body by evaporation, passing out through the pores of the skin along with the perspiration; indeed, this is its natural outlet, and its escape is the more rapid in proportion to its excess, if the perspiratory organs be in a healthy condition.

We may still add, as another use of perspiration, and one, too, of no small consequence — that of moistening the surface of the body. The skin, as well as every other part of the body, requires a certain amount of moisture for the purpose of lubrication, to keep it soft, pliable, and in a healthy condition, and also to protect it against the action of the atmosphere and other external agents, and against the too ready absorption of poisonous substances.

Importance of Perspiration.— The perspiratory process is one of immense importance in the living machine, and can scarcely be overestimated. There is probably no other single function of the body which holds so great an influence over the health and integrity of the system. If you have read what has been said of its uses, and will but reflect a moment upon the probable consequences that would result in case it should be suspended, you cannot help but see that it is of the greatest importance. So apparent is this that it seems almost unnecessary for me to say anything further on the subject.

You know something of Fever. Perhaps you have felt its scorching influence. Did you ever notice, or think of, the condition which exists in Fever? The skin is hot and dry. The whole system seems filled to excess with heat. The heart beats violently, and the blood rushes through the arteries with unwonted rapidity and violence. *There is no perspiration!* Did you ever think of that? The prominent condition in Fever is *suspended perspiration.* Suspended perspiration is not the remote cause — not the exciting, first cause of the disease. It may not be even the second, nor the third cause — for there are often several causes which combine to produce Fever; but it is the actual, real condition which exists in all cases of general Fever. In treating a case of Fever, one of the first objects of the physician is to produce a free perspiration. In such cases, relaxant and sudorific, or "sweating medicines," are given. And very often a good emetic of Lobelia and Ipecac will afford immediate relief, because it relaxes the pores of the skin and excites the sudorific glands, thus inducing perspiration, by which means the confined heat of the body is allowed to escape, and along with it more or less of the accumulated vitiating matter which acts as an exciting cause of the disease. Cleansing the body well with a weak Alkali, made by adding a little Saleratus, or common Lye, to warm Water, is often beneficial; because it removes from the surface the oily matter which is thrown out by the sebaceous glands, and which is apt to become tough and hard in case of Fever, and obstruct the external openings of the pores. But one of the best means of relief in cases of Fever is the Hydropathic treatment, or Wet Sheet. The cold water absorbs the heat from the surface, relaxes the skin, opens the pores, excites the cutaneous glands, and induces perspiration, more quickly, safely, and better, probably, than any other means known. A few good "packings" in the cold Wet Sheet, of an hour to an hour and a half each, will often break up the worst case of ordinary Fever, and simply, too, upon the ground of restoring a healthy action to the perspiratory organs. The tub bath is often used in cases of Fever, the temperature of the bath varying from 60° to 90°, the duration of the bath say from five to fifteen minutes, being repeated every two to four hours.

In Fever, I have said, the skin is hot and dry, and there is no perspiration. Let us now look, for a moment, into the cause of all this trouble and derangement. One of the principal uses of perspiration is to eliminate from the body its worn-out and morbid matter and poisonous substances. Now, let there be a check of perspiration, from any cause whatever, and what will be the consequence? If it is but slight, we may have unpleasant feelings — Headache, perhaps a Cough, or it may be the Toothache, or Rheumatism, with a dry skin, and more or less Feverish symptoms. The obstruction, however, not being very great, Nature may overcome it in a day or two, and restore things to their normal condition. But let the obstruction be complete, and continue for some time, and then see what follows. In the first place, all the fetid and waste matter is retained in the system, and is distributed by the blood through every part of the body. And this offensive matter is all the while increasing in quantity. Soon it begins to act as an irritant and poison. The fluids become vitiated; the muscular fibers irritated; then a sort of general inflammation sets in. Add to this the accumulating heat of the body, which is also very much confined, and you can easily see how we may soon have a Fever. In such case, the sup-

pression of the perspiratory process may be the primary or main cause of the disease, for the retained waste matter of the system will soon prove a sufficient proximate or exciting cause.

The skin should always, if possible, be kept in a healthy condition; and whenever, therefore, we discover that from any cause whatever its functions have become deranged or suspended, we should lose no time in resorting to the proper means necessary to overcome and remove the obstruction, and bring about a free and healthy action.

BATHING AS A MEANS OF HEALTH.

We have seen, I trust, how important a relation the function of perspiration holds, in the general economy, to the health and well-being of the system. Among the means best calculated to promote a healthy condition of this function, that of frequent bathing may be regarded as holding a pre-eminent rank. Cleanliness of body is one of the necessary conditions of health, because it is essential to a healthy condition of the skin, and, consequently, of the whole perspiratory apparatus. Daily bathing, of some sort or other, is to be recommended at all seasons, but it should be rigidly observed during warm weather. The water to be used for this purpose may be warm, cold, or tepid, according to the time, or as the individual may prefer. But, as a general rule, the morning bath should always be cold, or cool; while the warm or tepid bath is to be preferred at night—except in extreme hot weather, when either may be used.

The Sponge Bath.—In all ordinary cases, the sponge bath may be recommended, on account of its simplicity, and of its being easily obtained at almost all times and places. It consists simply in washing the body all over, by means of a sponge, or cloth, or it may be done with the hands alone, and then wiping dry and rubbing the surface well with a towel. Friction upon the skin is an essential part of the process, and should be used freely and thoroughly, both during the washing and afterward, in drying the surface. It is necessary also that the person immediately after dressing should take free exercise in the open air for a short time, where the circumstances will, in any way, allow of it. None but very great invalids should be allowed to retire to bed immediately after bathing. The exercise may be taken either in the room, or out of doors, when the weather is favorable, as may be most suitable to the condition of the person.

Cold ablutions of this kind are suitable for all persons and constitutions. They may be used by women, children, persons of old age, and those of feeble health and constitutions. They exert a stimulating and strengthening influence upon the system, give tone and energy to the skin and perspiratory organs, promote the secretions and excretions, tend to equalize the circulation of the blood, and to relieve local congestions. Many a feeble constitution has been made comparatively healthy and robust by persevering in their use. They naturally have also a happy and beneficial effect upon the mind and intellect.

In cold weather, the room in which the bathing is performed may be slightly warmed for sickly and debilitated persons, in order to prevent the danger of their taking cold; but for persons in good health, or sufficiently so for them to get through the operation quickly, and take exercise immediately afterward, this should not be done. As a general thing, a cold room is to be preferred to a warm one, in all cases where the person goes immediately from the room into the open air.

The Shower Bath.—When convenient, the shower bath is an admirable thing—to be followed, of course, with proper friction and exercise. The morning is probably the best time to take it. In order to take this bath properly, it is necessary to have a box or apparatus constructed expressly for the purpose. Most of my readers, probably, will know how such an apparatus should be made. It is sufficient to say here that it consists, essentially, of an arrangement by which the water is allowed to fall upon the body in many small streams at the same time, and the greater the surface upon which they fall, the better. Usually these baths are so constructed that the streams fall perpendicularly, and strike upon the head and shoulders only. But sometimes they are so arranged, by means of leaden pipes, coiled around the inside of the box, somewhat like the worm of a still, which are perforated with small holes, through which the water jets out horizontally, that it strikes the body on all sides at the same time that it falls upon the head and shoulders from above. This arrangement, of course, is the more complete; but the usual plan is amply sufficient for ordinary purposes. The box should be large enough to permit the person to stand erect in it, and still allow the water to fall one or two feet upon the head. At the top of the box may be placed a large tin basin or vessel, the bottom of which is perforated with small holes. Into this the water may be poured from a bucket by an assistant, or it may be conducted into it from a reservoir above. The bath consists emphatically of what its name indicates—*a shower;* any way to produce this will answer. Where there are no better means at hand, an assistant may stand upon a chair, or in some elevated position, and pour the water upon the bather from a common watering-pot, which will answer as a very good substitute for a more perfect machine.

The benefit of the shower bath consists mainly in the general shock, and consequent reaction, which it produces upon the nervous system, and the organs of the skin, whereby they are aroused to increased action, the functions of secretion and excretion promoted, and the whole economy more or less benefited. In order to derive the full benefits of the bath, the water must be cold. From a half minute to one or two minutes, according to the size and force of the streams, is long enough to remain under the shower. Children and feeble persons should be accustomed to the cold water of these baths by first using tepid or but slightly cool water, gradually changing to colder, until they are able to stand it at the lowest temperature. The shower bath apparatus may be recommended as an excellent thing in a family. It is not only a great preserver of health, but it is valuable as an auxiliary in the treatment of many diseases.

The Full Bath.—This consists in immersing the whole body in water. For this purpose, a tub, vat, or bathing trough, is necessary, which should be large enough to take in the whole person, and be sufficiently roomy to admit of freedom of motion. The water may be warm, tepid, or cold, according to circumstances. At night, it should be warm or tepid; and the person may remain in the bath half an hour.

If cold water is used, it is necessary to prepare the system for it before entering the bath, by first washing the head and neck with cold water, and then the shoulders and chest.

This, indeed, is proper in all cases of bathing in cold water. It will prevent too great a rush of blood to the head, and to important internal organs, when the water comes in contact with the whole surface of the body.

The length of time that a person should remain in a cold full bath is but short. The sudden contact of cold with the surface drives the blood from the capillaries of the skin into the larger blood-vessels, and if continued too long, it will necessarily concentrate upon internal organs, and may produce injurious consequences. The time may vary, according to the coldness of the water and the condition of the person. From half a minute to one or two minutes, will be long enough. A minute may be regarded as the average time, and if the water is very cold, half a minute will do. During the bath, the person should also exercise his limbs as much as he can, and rub himself with his hand or a bathing brush, or have an assistant to do it for him. As soon as he leaves the bath, he should quickly dry the whole body, and then make use of severe friction with a coarse towel, or brush, to promote a reaction. It is best for him when he can, to perform the rubbing himself, as it gives the whole body exercise. After dressing, the next thing is to exercise in the open air, whenever the circumstances will allow of it.

The cold full bath is beneficial in all cases where an increased reaction is necessary; where the warmth of the body is unequal, and needs to be equalized; where the organs of secretion are to be invigorated; where the circulation of the blood should be determined to the surface for the elimination of morbid matter from the system; and where the skin is in a feeble or unhealthy condition. It is to be avoided, however, in all congestions and inflammations of important internal organs, in all diseases of the chest, in affections of the brain, and where there is a tendency of blood to the head, in persons of plethoric habits, and where a violent excitement or shock would be likely to prove injurious. In all such cases, the warm or tepid bath may be used, not only with safety, but often with great advantage.

But in all cases of cold bathing, let it ever be borne in mind that the first and most important thing is to secure what is called A GOOD REACTION. This condition will be manifested by an increased cheerfulness, and by a gentle glow upon the surface of the body. To secure this, the water must be cold, the operation performed briskly, and the friction more or less vigorous, as the case may require. When the cold water first comes in contact with the skin, it usually causes the blood to retreat from the capillaries toward the center of the body. But this should only be temporary. The blood should return again quickly to the surface, and should bring along with it an increase of circulatory and nervous activity.

Should the cold bath, after all proper efforts, be followed by paleness of the skin, dullness and inactivity of both body and mind, with more or less chilliness, it is not likely to be useful, and should, for the time, be abandoned. In such cases — which are rare — it will be best to use tepid water, then that which is slightly cool, gradually lowering the temperature, until, in the course of a few weeks at most, the constitution may be so improved, that the coldest water can be used, followed by the desired reaction.

A word with regard to the Turkish Bath and then I will close this subject of bathing. It is unnecessary for me to describe these baths; they are useful and even beneficial. The sudden shocks of the Turkish Bath should be avoided by those of a weak constitution or those having a weak heart. With this exception an occasional Turkish Bath is of value.

Diseases of the Skin.

It is beyond the scope of this article to consider the rarer diseases of the skin, or to more than indicate the character and simpler means of treatment of the more common affections.

At one time most of the skin diseases were thought to be constitutional, and that the eruption was caused by attempted elimination of the poison. It is now known that most of the skin diseases are of local origin. A certain class are caused by vegetable parasites; another class by animal parasites; others by the local effects of heat or cold, or by the irritation of mechanical or chemical agents; others are in a measure dependent upon the general health, and others to specific poisons, which include syphilis and the eruptive fevers. The eruptive fevers will be treated under the head of fevers.

Phthiriasis—Lousiness.

There are three distinct forms of *pediculi*, or lice, which infest the human body: the *pediculus corporis*, or body-louse; *pediculus capitis*, or head-louse; and the *pediculus pubis*, or crab-louse. Low and filthy people may be infested with any or all of these forms. Cleanly and respectable people are, therefore, never affected by *phthiriasis*, or the lesions caused by these *pediculi*, for if they come in contact with filthy people infested with either variety, and should by accident get lice upon the body or head, the fact is soon discovered, and the body rid of them before sufficient time has elapsed to produce the characteristic lesions or wounds. The favorite seat of the body-louse is about the hips or shoulders. They are seldom found upon the body when the clothing is removed, but may be found in the seams of the under-garments, where they also lay their eggs. The head-lice, by their bites and by the excoriations caused by scratching, not infrequently cause an eczema of the scalp which sometimes eventuates in abscesses. The crab-louse may cause a considerable eruption over the parts of the body infested by it. It is a small red louse, very difficult to see. It clings very firmly to the roots of the hairs and to the skin by means of crab-like claws. Like the head-louse, it deposits its eggs or nits upon the hairs.

Treatment.—In the case of *phthiriasis* from head lice, the hair of the head should first be thoroughly soaked in common kerosene oil, two or three times a day, and wrapped up in cloth for the first twenty-four hours. This will kill both the lice and their nits. It is never necessary to cut the hair. At the end of twenty-four hours the hair should be thoroughly washed, and the excoriated patches may be treated with a little oxide of zinc ointment. When caused by body lice the treatment is very easy. The clothing is to be removed and thoroughly boiled and carefully ironed, and a thorough bath given the body with soap and warm water. The excoriations readily heal.

The crab louse is more difficult to destroy. By a thorough application of one of the mercurial ointments, however, the object may be accomplished.

Scabies—The Itch.

THE ITCH is quite a different disease from *phthiriasis*, although due to a parasite. It is caused by a minute insect, the *acarus scabiei*, which bores into and underneath the epidermic layer of the skin. A good idea of its appearance under the microscope may be gained from the accompanying cut (Fig. 25). The female causes the eruption and itching by burrowing beneath the epidermis to deposit her eggs. The male is said never to penetrate the skin. The seat of the eruption is most frequent between the fingers, on the inside of the wrist and on the soles of the feet. Itching may be quite severe. It is a contagious disease, and is frequently contracted at school, where some unkept child introduces it. The disgrace attending it is such that it is becoming a rather rare disease.

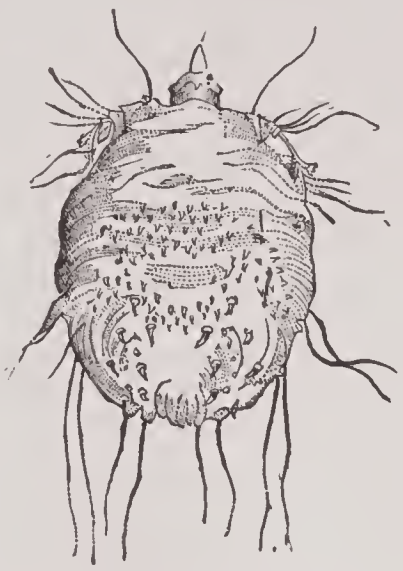


Fig. 25. The Acarus Scabiei, or Itch Insect.

Treatment.—First rub the patient all over with strong soap, and follow this by a hot bath, lasting an hour or more, after which rub him thoroughly with a sulphur ointment. The clothes are to be thoroughly boiled or baked.

Either of the following preparations will be found beneficial:

Take Lard, 2 ounces; Sulphur, 1 ounce; Sal Ammoniac in fine powder, 1 drachm; Oil of Lemon, 10 drops; mix well and use once a day as an ointment, first washing the parts well with strong soapsuds.

Take Lard, 2 ounces; Red Precipitate, 2 drachms; Burgundy Pitch, ½ ounce; melt the Lard and Pitch together; while cooling, stir in the Precipitate and mix well. Apply this in small quantities once or twice a day, first cleansing well with soap and water.

The Itch is purely a local disease of the skin and consequently it is seldom necessary to take any medicine internally.

Tinea Trichophytina—Ringworm.

RINGWORM is caused by a vegetable parasite. It begins by a small red spot, which enlarges with rapidity. As it increases at the border it heals in the centre. The margin is red and raised above the healthy skin. The centre of the patch is scaly and of a dirty yellow color. There may be several patches.

Treatment.—Red precipitate or citrine ointment well rubbed in will usually cure the disease.

Acne—Pimples.

BLOTCHED FACE, medically termed *Acne*, is of two kinds; the common Pimple, called *Acne Vulgaris*, consists of little hard, inflamed pimples, or pustules, which often suppurate and burst. They appear on the face, forehead, and chin, and sometimes even about the neck and breast. The other variety, called *Acne Rosea*, consists of red Blotches, sometimes of a livid color, which are very slow in their progress, and seldom terminating, like the other variety, in pustules and suppuration. This variety is most usually found on the nose, giving to that organ a red, blotched, and sometimes pimpled appearance; it is also frequently located on the cheeks.

The intemperate or habitual use of Spirituous and Stimulating Liquors, and excessive indulgence in Eating, are the most common causes of this variety; but they are not the only causes; it may be, and often is, owing to Chronic Inflammation of the Stomach or Bowels, and may have been caused by Frost-bite, Erysipelas of the Face, and various other causes.

In the treatment of either Pimples or Blotches, the person should observe the following three things: Make free use of Soap and Water, avoid all Stimulating Drinks and Food, and keep the Bowels loose and regular. Then use the following wash: Take Aqua Ammonia, Tincture of Lobelia, and Tincture of Myrrh, each, 1 ounce; apply a little of this two or three times a day to the Pimples and Blotches. If pustules form, open them, let out the matter, and continue to apply the liquid. Or use the following wash: Take milk of Sulphur (Lac Sulphur), 2 drachms; Gum Camphor, 1 drachm; Alcohol and Water, each, 2 ounces; dissolve the Camphor first in the Alcohol, then mix, and wash the parts with a little of this every night on going to bed. The Borax solution recommended for Chafing may also be used occasionally.

Comedo—Black Heads.

This is a disease of the sebaceous glands, in which their excretory ducts become plugged by hardened sebum (secretion of the gland). The top of the plug becomes blackened, hence the common name "black head." If the little elevation is pressed a worm-like material is expressed with the black tip; some people mistakenly believe this to be a flesh worm. It is the contained secretion of the gland, forced through a small opening, much as oil-paint is expelled from a paint-tube.

Comedo usually occurs upon the face, especially the chin, cheeks, nose, and forehead. It is most commonly due to the disorders of digestion, or in people who never use soap upon their faces. Sometimes no cause can be discovered.

The treatment consists in attending to diet and bowels. The black plugs are to be expressed. The following lotion may be used at night: Green Soap and Alcohol, 1 ounce of each mixed with 4 ounces of Rose Water. Cold cream may be applied in the morning.

Eczema—Salt Rheum.

This is an inveterate and very troublesome eruption, or "breaking out," which appears on different parts of the body, but most commonly on the backs of the hands, or on the face. It appears usually in very small vesicles, which break and discharge a thin, corrosive, and irritating fluid, attended with severe itching. Sometimes scabs form upon the affected parts, which, after a time, dry up and scale off, or disappear, to be succeeded by others. The affection is too common and too well known to need any further description. It may be proper to state, however, that there are several kinds of Eczema, as the Dry Eczema, which is the most common and simplest form of the disease; the Pustulous variety, which appears at first in the form of separate pustules, which grad-

ually run together and form clusters; the Miliary Eczema, which appears indiscriminately over the body, but most usually on the breast, or about the groins and scrotum; and the Eating, or Corroding Eczema, which appears usually in the form of small and painful ulcerations, which run together and collect into larger spots, accompanied with more or less inflammation, and discharge large quantities of thin, watery matter. The treatment in each variety, however, should be about the same, except that for the mild and dry form, nothing but external applications will be required; while in the others it may also be necessary to make use of some alterative or constitutional treatment. There is absolutely no danger from curing an Eczema, or for that matter any other skin disease, just as soon as possible. Eczema is the commonest of all skin diseases.

Treatment.— The treatment of Eczema is divided into the treatment of the acute and chronic forms. The acute form requires mild, soothing, and non-irritating treatment; while the chronic form requires irritating, stimulating treatment to stir it up and make it acute, and then treat as an acute Eczema.

Do not use any soap, and as little water as is consistent with cleanliness, on an acute Eczema. Diet should be light and unstimulating; the bowels in all cases should be made to move regularly once a day. Soothing ointments or lotions should be used, as Boric Acid ointment, or Zinc Oxide ointment, or the Lead and Opium wash. For chronic Eczema two parts of Green Soap to one part of Alcohol thoroughly rubbed in and then washed off will be found useful; afterwards apply ointment of Zinc Oxide. Two drops of Fowler's Solution of Arsenic may be given after meals.

Shingles — Herpes Zoster.

Herpes is a disease of the skin lying directly over the course of a nerve, and as it sometimes encircles the body like a belt is called *Herpes Zoster*. In this complaint, the patient's attention is usually first attracted by the sensation of heat, tingling or itching in some parts of the body, where, on examination, he finds several red patches of an irregular form, at a little distance from each other, upon each of which numerous small pimples or elevations appear in clusters. These are little vesicles, and in the course of twenty-four hours they enlarge to the size of a white mustard seed, and appear transparent and filled with a whitish fluid. The clusters or patches are of various diameters, from one to three or four inches, and are surrounded by a narrow red rim or margin, similar to Eczema or Ringworm. During the next few days, other clusters appear in succession; and what is peculiar and distinguishing in this disease, these patches, as they appear, always extend in a certain and regular direction from the first one — generally around the body toward the spine at one end, and toward the lower end of the sternum or breast-bone at the other, seldom going more than *half* round the body, however. Sometimes they ascend across one of the shoulders. The eruption is sometimes very distressing, owing to the intense itching; otherwise the disease seldom occasions much disturbance. Though sometimes, especially in the commencement, there is a loss of appetite, languor, chilly sensations, headache, sickness at the stomach, and more or less fever, for a few days. The eruption usually continues from fourteen to twenty days, when the little vesicles break, exude their contents, followed by scabs or exfoliations, which gradually dry up and fall off, when the skin slowly regains its natural appearance. The complaint affects persons of all ages. Sometimes painful Ulcers form where the vesicles break, therefore this accident should be prevented if possible.

Treatment.— Laxatives or mild purgatives, diaphoretic or sweating medicines, cleansing the surface with warm Alkaline Baths, and alteratives, constitute the proper treatment in this complaint. To prevent rupturing of the vesicles, they should be painted over with flexible Collodion. In adults, five to ten grains of Morphine may be added to each ounce of Collodion; plain Collodion should be used for children. The disease is self-limited and will get well without any treatment. Sponge the body at night with warm Saleratus Water, or warm Water.

Urticaria — Hives.

Hives, properly speaking, as generally understood by the people, is a peculiar eruption or cutaneous disease; a disease showing itself on the skin. It makes its appearance very suddenly, generally in large red blotches, or patches, most commonly on the back and sides of the body, on the arms and thighs; sometimes spreading nearly over the whole body. These blotches raise up in thick whelks, irregular in shape, from the size of a ten cent piece to several inches in extent, often running together, of a florid or purplish red color, and attended with intense itching, a stinging, or burning sensation, very much like that produced from the sting of nettles — hence the name of Nettle Rash. It usually appears suddenly, without any premonitory symptoms, and after tormenting the patient an hour or two, often disappears as suddenly as it came, though it frequently continues all night, and disappears in the morning, to return again at night. The tongue is sometimes affected, swelling up so as to interfere with talking and swallowing; the lips also swell. It is almost exclusively confined to children, or to young persons between the ages of five and fifteen years.

It is a disease of the blood-vessels or the vaso-motor system in which the blood-vessels become dilated. There are numerous causes, but probably disorders of the digestive system are most important. Whatever will produce a derangement of the circulation of the blood, may also produce this peculiar and tormenting complaint.

Treatment.— The bowels should be moved — an excellent specific for this purpose is Cream of Tartar and Sulphur, three parts of the former to one of the latter, mixed with Molasses until it is quite thick, giving a teaspoonful of the mixture two or three times a day, for several days. If this is not sufficiently active, any other mild Physic, such as Senna, or Salts, should be given.

Attend also to the skin. Give the patient a Warm Bath every evening, or a Sponge Bath, by washing the whole body in warm Saleratus Water. When the condition seems to result from Gastric Indigestion an Emetic should be given (Mustard in hot water), and the bowels thoroughly moved. The diet should be restricted to light digestible articles. Pork, pie, shell-fish, and all rich food should be avoided.

Psoriasis.

Psoriasis is a chronic inflammatory disease of the skin, characterized by scaling patches of the skin: if these pearly white scales are scraped off there remains a red base or spot.

The Treatment consists in attending to the general health, such as correcting Dyspepsia, relieving Anæmia, or combating a Gouty state; in other words, curing any diseased condition which may be present. Fowler's Solution of Arsenic, in two to four drop doses, is useful. The local treatment consists in a hot Alkaline Bath, after which the scales are scraped off and the following applied with a camel's hair brush: Of Chrysarobin and Salicylic Acid, 40 grains each, to an ounce of Traumaticine. This treatment may be repeated every fourth day. Do not get the mixture on clothing or hair; it destroys the former and bleaches the latter.

THE MUSCULAR SYSTEM.

In the preceding pages we have seen how new matter, in the form of food from the animal, vegetable and mineral kingdoms, is being constantly introduced into the body to supply the waste which is constantly taking place there.

To discover and appropriate these articles of food, to provide clothing necessary to sustain the temperature of the body, and to secure shelter, it is necessary that man be provided with power of *locomotion*, as well as *power of movement of one part of the body upon another*, as the arms upon the trunk and the fingers upon the hands.

This power of motion and locomotion is resident in certain organs, the *lean meat* of the body, called *muscles*. Muscles are of two kinds, voluntary and involuntary. The voluntary muscles are those which contract in response to the will, such as the muscles of the face, arms and legs. The involuntary muscles are those whose contraction does not depend upon our wishes, such as the heart, which goes on contracting month after month, and year after year, sleeping or waking, never stopping while we live. It is estimated that during a life of eighty years it propels half a million tons of blood! Every muscle is a bundle of tens of thousands of *fibres*. These fibres are from $\frac{1}{500}$ to $\frac{1}{1500}$ of an inch in thickness, and are made up of hundreds of fibrillæ only $\frac{1}{25000}$ of an inch in diameter. The substance of these fibrillæ presents a peculiar striated appearance, due to the fact that they are made up of elongated bead-like nuclei.

Every fibre has the power, under certain conditions, of shortening its length, while it at the same time increases its thickness.

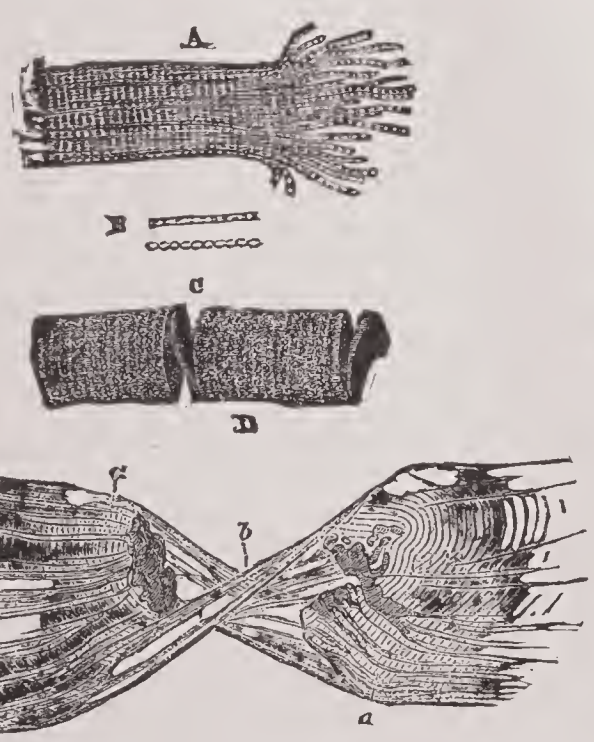


Fig. 26.

A, a muscular fibre breaking up into its fibrillæ; *C*, a muscular fibre breaking up into disks; *D*, a muscular fibre with contractile substance torn, and the sarcolemma still intact.

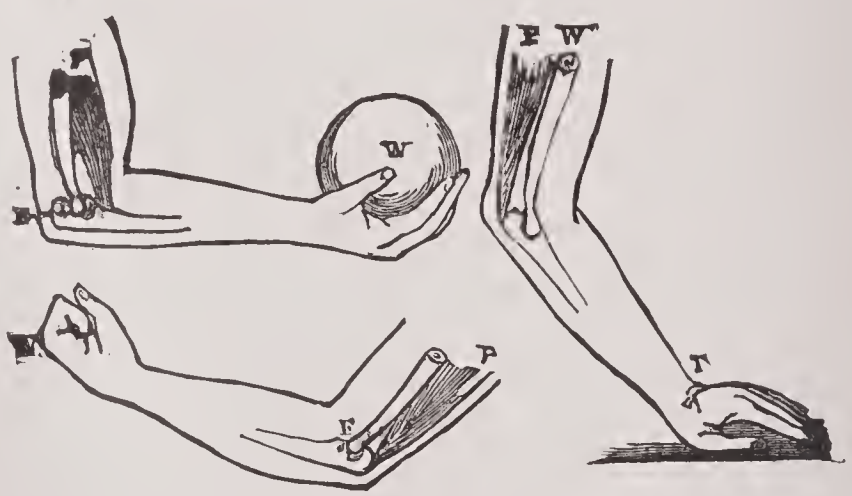


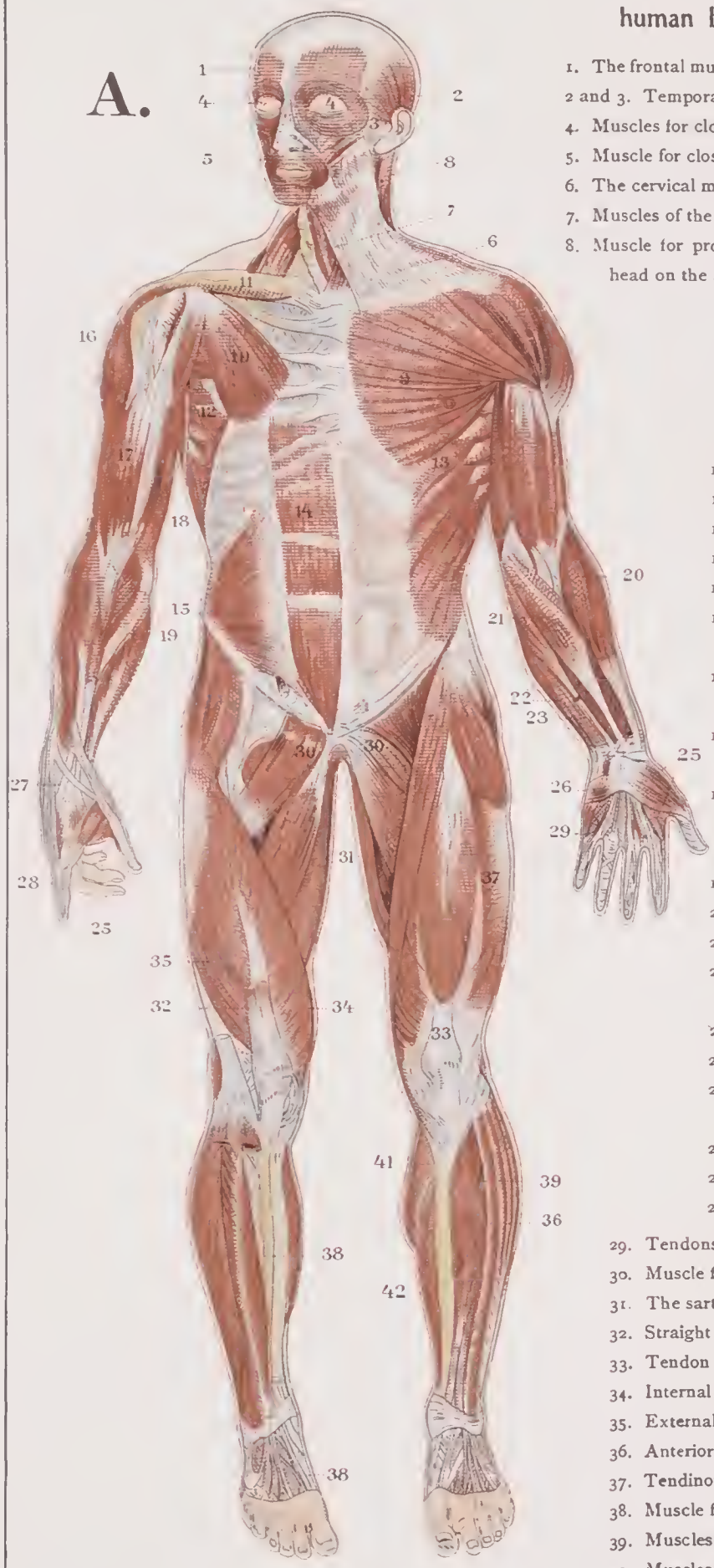
Fig. 27. Muscles of the Arm.

P, the power; *F*, the fulcrum; *W*, the weight.

This power is called *muscular contractity*, and when, in virtue of this power, a muscular fibre *contracts*, it tends to bring its ends together with whatever may be fastened to them.

The great majority of the muscles are attached to *levers*, which are the bones of the body. Figure 27 will illustrate the different kinds of levers described in mechanics, and sufficiently explain the movements of the different levers of the body upon each other.

MUSCLES.



A — Figure showing the muscles of the human body.

1. The frontal muscle (for moving the skin of the forehead.)
2 and 3. Temporal muscles for elevating the lower jaw.
4. Muscles for closing the eye-lids.
5. Muscle for closing the mouth.
6. The cervical muscle.
7. Muscles of the larynx and the hyoid bone.
8. Muscle for producing the nodding movements of the head on the atlas.
9. The great thoracic muscle.
10. The small thoracic muscle.
11. The collar-bone.
12. Muscle for widening the cavity of the chest.
13. External oblique abdominal muscle.
14. Straight abdominal muscle.
15. Internal oblique abdominal muscle (for retaining the abdominal cavity).
16. The deltoid muscle (for elevating the arm).
17. The biceps muscle with long and short head for bending the forearm.
18. The triceps muscle for extending the forearm. The inner head of this muscle is visible.
19. Round muscle for rotation inwards.
20. Long muscle for rotation outwards.
21. Internal muscle of the radius.
22. Muscle for bending the wrist, descending from the elbow-joint.
23. Muscle for bending the fingers.
24. The ligament of the wrist-joint.
25. Adductor muscle for drawing the thumb back to the index.
26. Tegumentary folds of the palm.
27. Extensor muscle of the wrist.
28. Tendons of muscles for extending the index.
29. Tendons of muscles for extending the other fingers.
30. Muscle for adducting the thighs.
31. The sartorius muscle.
32. Straight crural muscle.
33. Tendon of the knee-pan.
34. Internal great crural muscle.
35. External great crural muscle.
36. Anterior tibial muscle.
37. Tendinous parts of the crural muscles.
38. Muscle for extending the great toe.
39. Muscles for extending the other toes.
40. Muscles for lifting the foot and for pushing it forwards.
41. The calf-muscle.
42. The soleus muscle.

THE BONES.

To give form and symmetry to the body, as well as to afford attachment and leverage to the muscles, by which locomotion is made possible, an essentially different tissue from any yet considered is necessary. This tissue must be hard, strong and unyielding, and so disposed as to form a frame-work for the support of the soft parts.

Such a frame-work we find in the skeleton, which is made up of bones of various sizes and shapes, and known as *long*, *short*, *flat* and *irregular* bones, and so disposed as to perfectly fulfil the offices for which they are intended. Some of the bones are designed principally for the protection of soft and delicate parts. Such are the bones of the cranium, which are immovably dovetailed together so as to form a strong box for the enclosure and protection of the brain.

Some not only afford protection to delicate organs and aid in preserving form and symmetry, but at the same time afford attachment for muscles, and thus aid in movements essential to life. Thus the ribs afford protection to the heart and lungs, maintain the form and symmetry of the chest, and afford attachment for the respiratory muscles.

The *long* bones are found in the limbs, where they form a system of levers, which, in the lower extremities, have to sustain the weight of the trunk, and, besides, confer the power of locomotion. In the upper extremities (Fig. 27) they are essential to those movements necessary in all manual labor.

The *short* and *irregular* bones are found where great strength and solidity are required. They are shaped also for the attachment of numerous muscles and for protection of certain delicate organs.

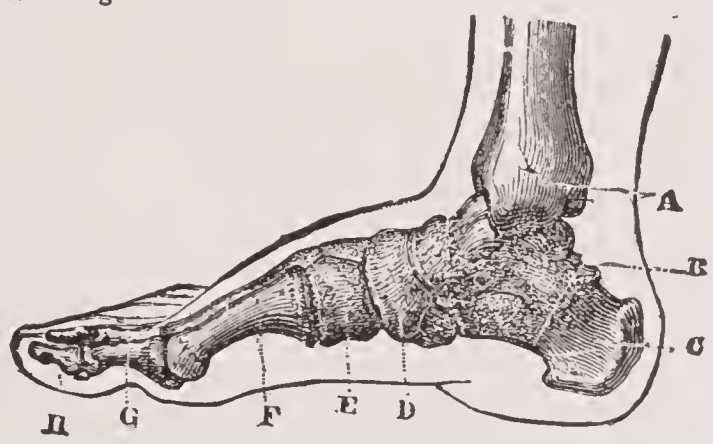


Fig. 28. A Perfectly Shaped Foot.

Bone tissue is the hardest structure of the animal body, and at the same time possesses a certain degree of toughness and elasticity. Every bone, be it *long* or *short*, is composed of what is called *fundamental substance.* It is a peculiar *organic* animal substance, called *ostine*, in combination with various inorganic salts, of which the phosphate and carbonate of lime largely predominate. To the organic substance are due its toughness and elasticity, while to the inorganic salts must be credited its hardness and solidity.

If a bone be soaked in dilute hydrochloric acid for a time, its mineral constituents will be removed and the organic substance will remain in the shape of the original bone. This is no longer hard and unyielding, but is soft, pliable and elastic; and, if a long bone, it may be tied in a knot, as shown in Fig. 29.

Fig. 29. A Bone with the Inorganic Salts Removed, Tied in a Knot.

If, on the other hand, the bone be burned for a short time in an open fire, the organic substance is consumed, and the mineral constituents remain, in which case the bone remains hard and in its original shape, but has lost its elasticity. It is now very brittle and easily broken.

The point of union between two bones is called a joint. Here the surfaces are coated with smooth cartilage and covered with a delicate membrane which secretes a peculiar fluid for lubricating the articular surfaces.

DISEASES OF THE BONES.

In children and young people the organic substance of the bones preponderates. The bones are, therefore, elastic and very difficult to break, but are soft, and easily bent and deformed. Bow-legs may be caused by requiring a child to sustain the weight of its body upon its legs too early.

In old people the inorganic constituents of the bones preponderate, and therefore their bones are very brittle and easily broken. With them, great care against falling should be observed.

Rickets.

There is a disease of early childhood known as *rickets*, in which the mineral constituents of the bones are not deposited in normal quantity, and, as a result, the bones become very soft; and, by action of the muscles, they are bent into all sorts of deformed shapes. Thus result bow-legs, knock-knees, pigeon-breasts and deformities of spine and pelvis. Enlargement of the joints takes place; the head grows too fast and the face too slow.

The disease is usually caused by poor food and damp, unhealthy apartments. The little patient seldom dies, but generally becomes more or less deformed.

Treatment.—Correct diet, plenty of good, pure milk, sufficient animal food, and an abundance of fresh air. Give the

child cold sponge baths of short duration, and rub briskly with a towel. The child must be kept off its feet and required to sleep on a mattress. The limbs may require splints.

Deformities from Clothing.

Silly young girls—and most young girls are silly in matters of dress—deform their bodies for life by wearing corsets laced so as to compress the lungs and heart, and force downward the abdominal organs into unnatural positions, when, by the compression of the blood vessels, the organs of the abdomen and pelvis become congested, and conditions are developed from which they can never recover. The great regret is that so many of them remain silly, and that even mothers may be found as silly as the girls. Corsets which are used to destroy the vital organs of our girls are capable of doing vastly more harm than the little iron shoes which are used to destroy the feet of Chinese ladies, because of the greater importance of the organs involved. A young American girl would have no difficulty in seeing that the compressed and deformed baby foot of a Chinese lady is not handsome, but it is really too bad that she cannot be made to see that her permanently deformed body, with her ribs all crushed in upon her vital organs, is not beautiful.

Deformed Feet.

But *deformed feet* are not alone found in China. American young men and young women will often wear shoes one or two sizes too short and with narrow toes, which pile the toes of the foot one on the top of another until the most terrible permanent deformities exist, and which, with corns and enlarged joints, cause the ugly shapes which we see in men and women. Besides the deformity and the excessive pain, the young lady or gentleman is unable to walk or dance, except in a hopping, most awkward way. The motive for this species of self-imposed torture is to be handsome and admired, but they defeat their purpose in making for themselves ugly, deformed feet, and substitute an awkward and stumbling gait for a grace and beauty of movement possible only with a well-shaped and unbound foot.

THE NERVOUS SYSTEM.

The parts and functions of the body which we have thus far considered stand in subordination to the wonderful system now to be examined. "It may truly be said," are the words of Draper, "that the position of any animal in the scale of life is directly dependent on the degree of development of its nervous system. Through this it is brought into relation with the external world, deriving sensations or impressions therefrom. Through this, also, all voluntary muscular contractions or movements take place."

Whatever the grade of intelligence may be, the degree of development or expansion of the nervous system is in close correspondence thereto, from the lowest conditions in which it is first making its appearance, in forms of animal life which are scarcely distinguishable from vegetable forms, up to its highest elaboration in the cerebro-spinal system of man.

The nervous system may be considered as of two portions, the *cerebro-spinal* system and the *sympathetic system*. The cerebro-spinal system consists of the brain, the spinal cord, and the nerves which proceed from them, together with their ganglia. The sympathetic system consists of a series of nervous ganglia placed on the posterior wall of the thoracic and abdominal cavities upon each side of the vertebral column, and of nervous threads or filaments which connect these together, and supply the walls of the blood-vessels and the internal organs. Comparatively little is known about the functions of the sympathetic system, except in so far as it may regulate the size of the blood-vessels; and, indeed, this action appears to depend upon the filaments received from the spinal nerves.

In both divisions are found two kinds of structure—fibrous and cellular. The latter are found in masses of greater or less size and of various shapes, and are called *ganglia*. The former, consisting of fibre, serve to connect the ganglia together and to put them in communication with the integument, the muscles and all parts of the body. The function of the ganglia or nerve centres is for the reception of impressions and for the origination of motions. The cortex of the brain is the greatest of these ganglia in extent and in function. In this wonderful ganglion originates voluntary motion; here also are received, through the special senses, the impressions of external objects and circumstances, and from it originate the processes of intellection.

It would be beyond the scope and purposes of this article to recite the more minute anatomy of the nervous system, for to be of service to the reader it would necessitate space for explanation and illustration beyond the compass of the entire article. It will be sufficient to indicate the position and character of the larger organs which go to make it up.

The brain is that part of the nervous system contained within the cavity of the skull (Fig. 30). It consists of the *cerebrum*, *cerebellum*, *pons varolii* and *medulla oblongata*. Besides the protection afforded this delicate organ by the strong bony walls of the skull, the brain is enveloped by three distinct membranes. The outer one, called the *dura mater*, is thick and strong, and lines the bones of the skull. It dips down between the different parts of the brain, forming strong partitions, so that one part shall not press upon and injure another. Next beneath are two layers of a thin membrane called the *arachnoid*, or *spider's web*. This is a serous membrane, with functions like that covering the heart and lungs; it is covered with epithelium, and secretes a fluid, small in amount, which lubricates and serves in a measure, perhaps, as a kind of cushion to protect the brain from jars received by the body. Beneath this is a very delicate membrane, composed principally of minute blood-vessels. It is closely adherent to the substance

of the brain, dipping down into all the *sulci*, and even finding its way through the posterior fissures into the *ventricles* or cavities occupying the centre of the brain. Its use is to nourish the brain.

The *cerebrum* (*C C*) represents the principal mass of the brain. It is divided by a deep fissure, from before backward, into two lateral halves, called the *right* and *left* hemispheres. The two hemispheres are connected together at the bottom of the fissure by a large bundle of white fibres, called the *corpus callosum*. In the centre of each hemisphere is a large cavity called the right and left *lateral ventricles*. The surface of the cerebrum is composed of cellular gray matter and presents a convoluted appearance, as shown in Figure 30. This gray cellular matter of the surface of the cerebrum is the anatomical substratum of the intellect. In that part of the surface of the hemisphere mid-way between the forehead and the back part of the head originates voluntary motion. One special function of the part just back of this seems to be the reception of impressions of external objects, brought hither by the nerves of special sense. The forward part of the hemispheres appears to be wholly for the purposes of intellection. By reference to Figure 30 the reader will observe a sharp point of bone in contact with the brain just back of and a little above the eye. From it extending upward and backward is a deep fissure, the *fissure* of *Sylvius*. Toward the front part of this fissure, and just above it, is a small convolution of gray substance called the *third frontal convolution*. The back portion of this convolution on the left side of the brain is the anatomical substratum of the faculty of *speech*. When this part is destroyed all language is lost. Language, moreover, is never lost except by disease of this part.

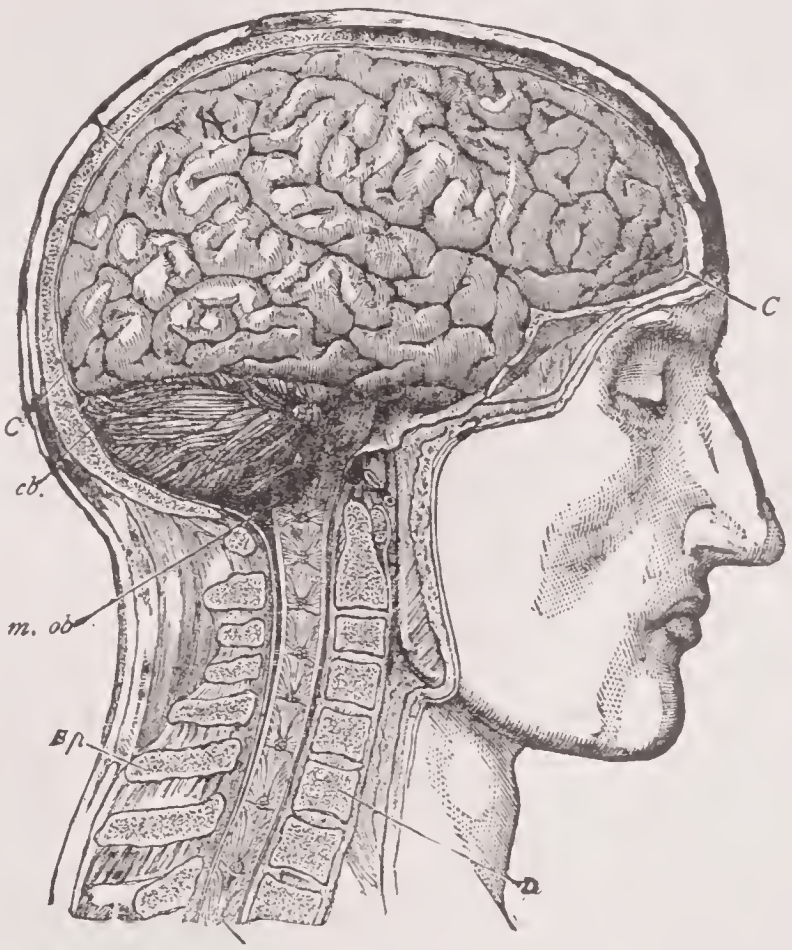


Fig. 30. The Human Brain.
C, C, cerebrum; *cb.*, cerebellum; *m. ob.*, medulla oblongata.

The interior of the hemispheres is composed of white matter which consists of fibres connecting together different parts of the brain, and of fibres passing down into the spinal cord. The fibres are probably connected with the cells on the surface of the hemispheres, and after being gathered into a bundle pass down to other ganglia, there to be put in communication with the skin, muscles and viscera of the body. There are certain collections of gray matter at the base of the hemispheres, called the *basal* ganglia. Fibres from these ganglia unite with the fibres from the convolutions in two triangular-shaped bundles, the *crura cerebri*, one from each hemisphere, and pass downward through the *pons varolii* into the *medulla oblongata* (*m. ob.*), as the oblong body at the top of the spinal cord is called.

The *cerebellum* or little brain (*cb.*) is situated beneath the posterior lobes of the cerebrum. It measures about three and a half by two and a half inches, and is about two inches thick in its thickest place. It weighs about five ounces, being only about one-eighth as large as the cerebrum. It is composed of gray and white matter, and, like the cerebrum, is divided into two lobes. Its functions are not well understood, but are, at least, related to the co-ordination of movements.

The *pons varolii* is a bond of union or *bridge* between the *cerebrum* above, the *cerebellum* behind, and the *medulla oblongata* below—being made up of fibres from these bodies and passing in different directions from one to another.

The *medulla oblongata* is the upper enlarged part of the spinal cord. It lies within the cranial cavity, and is connected with other parts of the brain by bundles of fibres passing upward through the *pons varolii*. It is composed of gray and white matter, but, unlike the *cerebrum*, the white matter occupies the surface, while the masses of gray matter are in the interior. From the medulla are given off all of the cranial nerves except two pairs, the *olfactory*, or nerves of smell, and the *optic*, or nerves of sight. These two pairs take their apparent origin at the base of the cerebrum.

The *spinal cord* is the continuation of the nervous matter from the medulla down through the spinal canal. Were it not for the gray matter in its interior, which is a real ganglionic centre, it might be considered a great nerve trunk from which all the other nerves are but branches. The spinal cord, like the cerebrum, is divided into two lateral halves by a deep fissure in front and behind. The two halves are connected together in the centre, throughout the length of the cord. The surface of the cord, like the medulla oblongata, is composed of white matter. In the interior of each half is a crescentric-shaped collection of gray matter which extends throughout the length of the cord. The forward horn of the gray crescent is broader than the posterior horn, and contains some very large nerve-cells. These horns are called the *anterior* and *posterior cornua*. The centre of the crescent to which they belong is connected with the gray crescent of the opposite side by a band of gray matter. The white matter of the cord is made up of fibres which connect the gray matter of the brain with the gray matter

of the cord and with the ganglia on the roots of the spinal nerves.

There are thirty-one pairs of nerves given off from the cord, one pair passing out at each vertebral arch enclosing the spinal canal.

Each nerve arises from the cord by two roots, the *anterior* and *posterior* roots, which then unite to form a single trunk or spinal nerve.

If the trunk of a spinal nerve be irritated as by pinching, two things happen: in the first place, all the muscles to which its filaments are distributed contract; in the second place, acute pain is felt, and the pain is referred to that part of the skin to which the fibres of the nerve are distributed.

If the anterior root of the nerve be irritated in the same way, all of the muscles to which the nerve is distributed will contract, but no pain will be felt.

So, if the posterior root of the nerve be irritated in the same way, and the anterior root be left untouched, acute pain will be felt and referred to the whole area of the skin to which the nerve is distributed, but none of the muscles contract.

It is, therefore, clear that all the power for causing muscular contraction which a spinal nerve possesses is centered in the fibres which comprise its anterior roots, while all the power of giving rise to sensation resides in its posterior roots. The anterior roots, therefore, are commonly called *motor*, and the posterior roots are called *sensory*.

If the anterior roots of a spinal nerve be divided in a living animal, it is unable to move or contract the muscles to which the nerve is distributed, but every part of the skin remains sensitive to touch. But if the anterior root be left uninjured and the posterior root be divided, the animal will be able to move or contract all the muscles, but is unable to feel anything over any part of the skin to which the filaments are distributed.

By these experiments, then, it is clear that the anterior roots are composed of fibres which convey impulses *from* the ganglionic centres in the brain or cord *to* the muscles, causing the muscles to contract. It is also plain that the posterior roots are composed of fibres which carry impressions *from* the surface where they originate *to* the centres in the brain and cord.

Those nerves which carry impulses *from* the central organ *to* the periphery are called *efferent* nerves, while those which convey impressions *from* the outside *to* the central organ are called *afferent* nerves.

If similar experiments be performed upon the spinal cord, it will be found to act in many respects similar. If the cord be divided in the back, the animal will be unable to move the hind legs, and this part of the body will be insensible to pain, while all the parts forward of the cut will retain all the powers of motion and sensation.

If, by an accident, a man should suffer a similar injury, all of the parts below the wound would be paralyzed. The patient would be unable by his own will-power to move his legs; neither would he have any sensation in the parts. If he should be blindfolded, and the soles of his feet be tickled with a feather, he may jerk up his legs in the most violent manner, still he will not only know nothing of the tickling, but will have no knowledge of the jerking of his legs, for the reason that all impressions made upon his lower extremities are cut off from his brain, which is the anatomical basis of his mind. He can make no intentional or voluntary movement of his legs for the same reason; his brain is cut off from the muscles of his legs at the point where the cord is cut in two. The movement in response to the tickling of the feather is very easily explained. The impression from the sole of the foot passes up by the sensory fibres to the gray matter of the cord, which, acting as a centre, originates there an impulse or stimulus, which, passing out over the motor filaments to the muscles, causes them to contract, thus giving the violent jerk to the legs.

The above is but an illustration showing that many of our common movements, such as walking, or any habitual and oft-repeated movement, may be executed without requiring the attention of the mind; some of the basal ganglia of the brain acting as a centre, and originating the motor impulses.

If not the whole cord, but only the anterior part, be injured, a paralysis of motion below the injury results, while sensation will remain perfect. If the posterior part be injured, on the other hand, sensation is lost while motion is unaffected.

If one lateral half of the spinal cord be divided, say on the right side of the body, the patient will immediately lose all power in the right leg, but sensation in the right leg will be perfect. He will, however, lose all feeling in the left leg, while the power of motion in this leg remains good. Hence, it must be true that the sensory fibres cross over from the side where they enter to the opposite side of the cord to pass up to the brain, while the motor impulses sent down from the brain must pass down on the same side of the cord by which they pass out to the muscles.

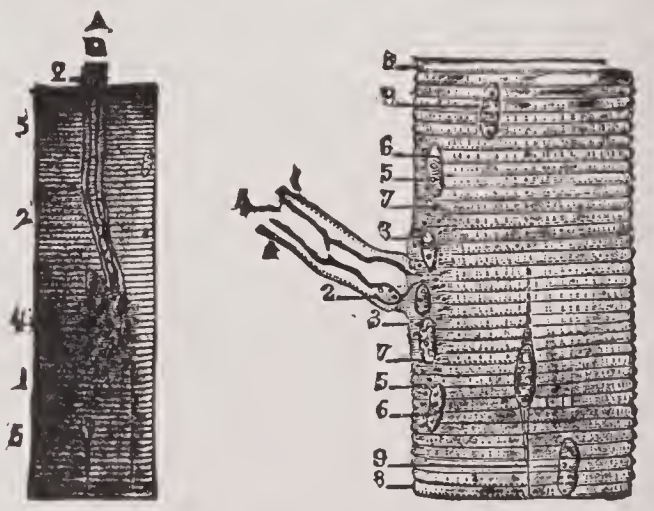


Fig. 31. Mode of Termination of Motor Nerves.

A, primitive fasciculus of a muscle of the human subject; 2, nerve tube; 3, medullary substance of nerve tube; 4, terminal plate situated beneath the sarcolemma.

If this be true, it follows that a longitudinal division down the centre of the cord throughout its entire length would destroy sensation on both sides of the body, without interfering at all with motion.

If, however, the longitudinal incision be carried up through the lower part of the medulla, paralysis of motion on both sides immediately results, for at this point all of the motor fibres from the right side of the brain cross over to the left side of the cord, while those from the left side of the brain cross over to the right side of the cord.

NERVE ENDINGS.—The motor fibres of the spinal nerves originate in the *anterior cornua* of gray matter in the cord, and are believed to be intimately connected there with certain nerve cells, which are capable of originating motor stimulus. The distal end of the motor fibre passes through the *sarcolemma* of each muscular fibre and is brought into the closest relation with the muscular substance, as shown in Figure 31.

The sense of touch is possessed by all parts of the body, some parts more perfect than others. Wherever the sense of touch is delicate, the deep layer of the skin is raised up into little conical *papillæ*. Into these papillæ the terminal ends of the sensory nerve fibre enters. In certain localities, as the tips of the fingers, where the tactile sense is very acute, the

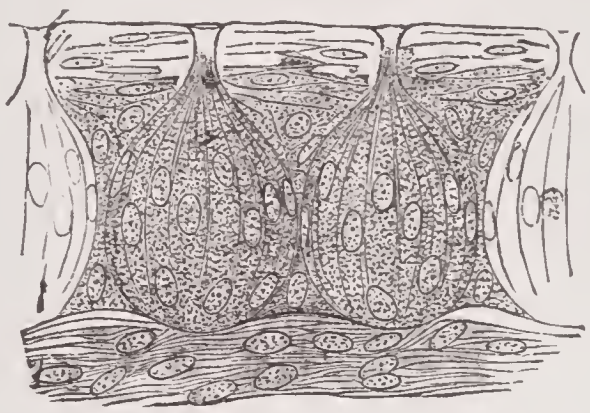


Fig. 32. Taste-Buds From the Rabbit.

nerve ending is enlarged in the papillæ, forming a little oval swelling called a *tactile corpuscle*. Filaments of the nerve of *taste* terminate in a similar manner in papillæ upon the tongue. Surrounding these papillæ are peculiar cells, or *taste-buds*, in which is supposed to reside the sense of taste. Figure 32 shows these *taste-buds* in the rabbit.

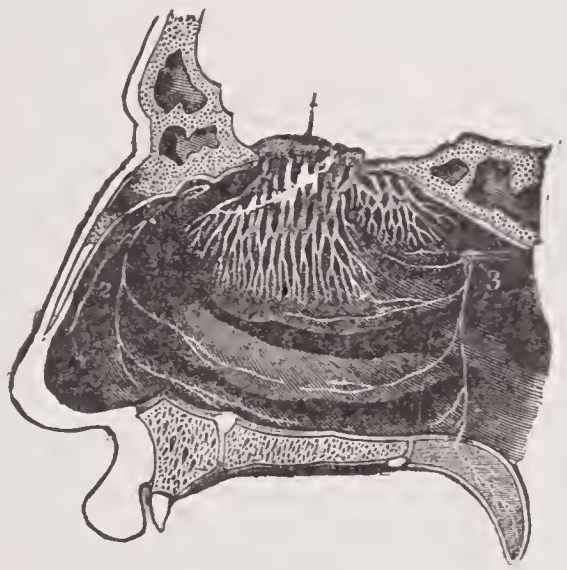


Fig. 33. Olfactory Ganglion and Nerves.

The endings of the filaments of the *olfactory* nerve, or the special nerve of *smell*, upon the delicate mucous membrane in the upper part of the nasal cavity, is beautifully shown in Figure 33. The termination of the *auditory* and *optic* nerves is explained in the chapter upon the special senses of sight and hearing.

DISEASES OF THE NERVES.

Neuralgia.

This nervous disease, in plain language, means a pain in a nerve; if in the face, it is Tic Douloureux. It is one of the most painful affections to which the human body is liable. In most instances the pain is the only symptom, as there is no swelling of the part, or sign of inflammation; but a darting, throbbing pain, and an acute soreness or sensibility. This aching or twitching pain is subject to intermissions, and remissions, and the disease is more or less of long duration, or, in other words, of chronic or long standing. The most general seat of Neuralgic pain is in the face and head, but sometimes it attacks the breast, the leg, and the foot, and not infrequently various parts of the body, depending greatly upon the state of the nervous system. When this complaint is in the face, called Tic Douloureux, or Tri-facial Neuralgia, the pain shoots from the mouth to the eyes, and often to the ear, and over the cheek, palate, teeth, and jaws. The adjoining muscles are subject to convulsive twitchings. The pain follows the course of some particular nerve. In a second the paroxysm and stinging agony is intense, and not infrequently the pain is so sudden and agonizing as to be almost insupportable.

In most instances, I have observed this disease accompanied with marked constitutional or local ailment. The exact nature of Neuralgia is obscure; it is, however, certain that some of the most intractable cases have been derived from hereditary causes, and especially those of a peculiar nervous temperament. The laws which regulate the entailment of disease by hereditary descent, and what connection exists between the mind and the brain, or how the sentient being receives impressions through the nervous system, it is not our intention or our province to notice here.

The exciting causes of Neuralgia, or Nervous Diseases, are, especially, damp and cold weather, or damp alone, if combined with malaria; exposure to currents of cold air, especially if the individual is over-heated, excited, or fatigued. In this way railroad traveling has proved a fertile source of Neuralgic affections. Debility of constitution renders the individual much more susceptible to these and other exciting causes. It has often, too, been traced to anxiety of mind, which is well known to have a most powerful influence over the nervous system. Nervousness is a term usually applied to an indefinite something—a mixture of mental and bodily disorders and irritability, generally the product of weakness.

Females are much more liable to nervous disorders than males, independent of hysterical affections, which constitute one of the most marked phases of these maladies, and many of the remarks on which apply to the present subject. In Nervous Diseases there is usually great susceptibility, as before remarked, to external influences, and at the same time mental emotions, whether of joy or grief, fancied or real, exert much influence over the body and its functions. The heart palpitates, the hand trembles, and the face flushes under the most trivial excitement. Much of this is undoubtedly due to constitutional organization, but it is also greatly increased in debilitated states of those who have never been what is called "nervous" from impaired health, or from habits of intemperance.

The temporary relief to nervous sensations which is afforded

by alcoholic stimulants, is very apt to lead those who suffer from such sensations, to put too much trust in, and to resort too habitually to, the use of stimulants — a practice which must be followed by the most pernicious consequences, and has led its thousands to ruin.

In closing this important subject, I must make one remark, that this enemy of human life, Intemperance, has dreadfully increased; and that the degree of civilization, luxury, refinement, and deviation from nature, in which we at present live, by so highly exciting and stimulating our existence, has been very destructive to human life. We shall find, on examination, that men appear, as it were, to have anxiously studied how they might entail on their posterity the greatest possible amount of mental and bodily suffering; seldom, if ever, heeding the admonition of our Heavenly Father, "I will visit the sins of the parents upon the children to the third and fourth generation."

Remedies.— The fact of Constipation being the forerunner of a variety of Nervous Affections, as Neuralgia, Nervous Headache, Epilepsy, Hysteric Fits, St. Vitus' Dance, Asthma, Palpitation of the Heart, Indigestion, and Coldness of the Extremities, forcibly points out the necessity of attending to the state of the bowels.

Those of a nervous temperament, who are more or less subject to Neuralgia or Nervous Affections, should avoid exposure to atmospherical changes, especially high winds — for the effect of changes in the wind, the temperature and density of the atmosphere, on some nervous subjects, is very remarkable. I have frequently known asthmatics, in particular, prophesy, by their feelings, a change in the weather a day or two before it took place, although the state of the wind, temperature, and density of the air, at the time, indicated no alteration, apparently being in the state they had been for some days. People who have lost a limb can foretell an unfriendly change of weather by spasms in the muscles that had been divided or wounded, and the motion of the muscles is evident to the eye. In an epileptic subject, an unfriendly change will bring on a paroxysm, while the effects from mental agitation on nervous persons, and those affected with Neuralgia, are so well known, by experience and observation, as to require no farther remark. It is, therefore, incumbent on persons of morbid temperaments to acquaint themselves with the peculiarities of their own constitutions, and so adapt the various remedies used as to allay the nervous excitement peculiar to their constitutions — for some have more difficulties to combat in obtaining relief from nervous troubles, than others.

The class of remedies capable of allaying nervous irritation, and invigorating or strengthening the system are very important — such as regular and sufficient exercise in the open air, in good weather, on foot or horseback, diet properly adapted to the stomach, strict attention to the bowels, cleanliness of the skin, and cold bathing. The producing cause, whether excessive mental exertion, sedentary employment, late hours, or excess of any kind, must, of course, be modified as much as possible.

Fig. 34. Superficial Branches of the Facial and the Fifth Nerves.
1. Trunk of the seventh or facial nerve; 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, branches of the fifth nerve.

The Shower Bath is a valuable and often a useful remedy in these affections; but some persons are so nervous that they cannot bear the shock. When this is the case, a cold or tepid douche down the back does much good, particularly if there be any tenderness of the spine on pressure — a fact which should always be investigated in those who suffer much from nervous diseases, as this symptom very often exists and is overlooked. When the tenderness is at all marked, which can be easily known by pressure down the spine or backbone, the darting pain or nervousness will be greatly increased, indicating the necessity for special treatment by counter-irritation, etc.

The soothing effect of Hot Fomentations at night, and the Cold Bath in the morning, with friction (by which is meant, rubbing the whole body well with a coarse towel), will greatly relieve distressing nervousness, until gradually a very important change will be effected throughout the whole system. In females of delicate constitution, or in that period connected with what is called, in females, "change of life," and the usual monthly irritation of the womb, the Warm or Tepid Bath, with friction, will, in most cases, greatly relieve the sensitiveness of the nervous system during these "changes." With but few exceptions, I have generally found that Hot Fomentations, in the treatment of Neuralgia, afford relief.

I feel assured, from a long experience, that much depends in the various diseases, on the digestive organs, which, in plain language, means a proper regulation of diet — as the Nervous Headache or Neuralgia of the face, which is the daily torment of thousands, is produced by visceral irritation

and a disordered state of the stomach. These more or less affect this disease, hence the necessity of employing those remedies which tend to diminish irritation, and correct the evil constitutional tendencies and habits of the patient. The treatment, then, of Neuralgia is, in a great measure, dependent upon the exciting causes which have induced the troublesome affection.

Neuralgia occurs oftenest in men of great muscular power, who have been in the habit of exerting themselves freely, and at the same time tasking their viscera with high living and venereal exhaustion — circumstances most likely to create irritation in the viscera, and to render the spinal cord and its nerves the parts susceptible to a morbid sympathy. But this malady, or disease, is also observable in persons who have over-worked their brains to the detriment of their stomachs, which they at the same time worried with stimulants. On these grounds, we find more of the disease among those who have over-taxed their minds by business and great anxiety to accumulate riches, disappointed politicians, hard drinkers of spirits, dyspeptics, and excessive users of tobacco. Among women, it occurs in those whose deeply feeling minds have trenched upon the integrity of their viscera; or in those who have strained the latter by rapid child-bearing and prolonged nursing of their children. When once this disease is fully established, it is generally worse in the spring than at other seasons. Stormy weather, at any period of the year, exasperates it.

Certain nerves of the body are more liable to Neuralgic disease than others; and these have been written and spoken of as distinct diseases. To the neuralgia of the nerve, whose branches come out of the bone above the eye-ball, under the eye, and in the lower jaw, sending branches to the whole side of the face, and to the teeth, the specific term of Neuralgia or Tic Douloureux is usually applied. When the large nerve which runs behind the hip-joint down the back of the thigh is affected, the disease is called Sciatica. Tic Douloureux also occurs, and indeed is pretty frequent in the nerves of the arm, especially of the fore-arm. As a transitory sign of Dyspepsia, it is often felt in the fingers, in the shoulders, and in the ribs. I have seen cases of Neuralgia where every principal nerve in the body was attacked in the course of twenty-four hours — one, that exposure of the hand out of a glove for five minutes caused exquisite pain. It is vain in our present knowledge of the nervous system to speculate as to the cause why one nerve, rather than another, becomes the seat of morbid sympathy and pain. It is, however, evident that derangement of the liver is connected with Sciatica; that nervous disorder of the stomach itself is mostly found with Neuralgia of the face; and that when irritation of the womb is superadded to that of the stomach, Neuralgia or Tic Douloureux of the Scalp, or Nervous Headache is the most common result. The peculiarities of the nervous habit, as I have already observed, are so very opposite, that the best advice that can be given to a nervous invalid is to avoid those articles which evidently disagree with the stomach, and not to oppress or over-stimulate it with too great a quantity of those which do agree. So far as a general rule can be laid down with respect to diet, etc., a nervous patient should be as competent to judge as the most experienced physician. As I have before told you, moderate exercise is necessary to keep up the functions of the viscera, and that should be preferred which pleasantly engages the mind and keeps it as free as possible from over-excitement. Pleasant relief may be had in agreeable society, and by traveling in countries which afford a variety of scenery, avoiding marshy parts — the vapors of which are very apt to disturb the nervous system, particularly of Rheumatic and Asthmatic subjects.

Sometimes local irritation of the system runs so high as to render the use of an article of the class of remedies termed sedatives necessary — medicines that quiet the nervous system; such as Belladonna, Camphor, Castor, Valerian, and Morphine. As anodynes, the Morphine and Belladonna and Stramonium are the most effectual. One of them should be given, just before an expected attack, which generally comes on in the morning, and repeated once or twice till the pain is mitigated or relieved. These articles should be used both externally, in the form of washes and poultices, and internally, in the form of pills, powders, and tinctures, which may be prepared by a druggist. Blisters and Setons are often used in these complaints. Stimulants and Tonics must be used as the occasion and nature of the case require. Cathartics or Purgative Medicines relax the system and lessen the pain. The Hot Bath, Hot Fomentations, or a Hot Water Bottle constantly applied to the painful part, often affords great relief.

In severe cases of Nervous Disease, a few drops of Laudanum or Morphine are the most certain to moderate the painful feeling of the mind. All kinds of Spirits are bad, and should never be used, unless to obviate some sinking of the system which can be relieved in no other way. To produce sleep, the Laudanum or Morphine should be taken in the day-time, at least four hours before the usual bed-time. Probably the best and most appropriate anodyne for this disease is the Valerian, when obtained fresh and of a good quality. An even teaspoonful of the powder is about the ordinary dose. It should be taken once in two hours through the day. An ounce of it may be steeped in one-half pint of water, and 2 tablespoonfuls taken every two hours.

The nerves sometimes require to be strengthened by the use of Quinine, Iron, Arsenic, or Strychnine. Griffith's Mixture of Iron, which can be obtained of an apothecary, is one of the best tonics, and in cases of Neuralgia associated with Anæmia sometimes has a specific action.

In Neuralgia, as a tonic, Quinine is among the most valuable and safe remedies, combined with Morphine — 2 grains of Quinine with ⅛ or ¼ of a grain of Morphine, once or twice a day, as this sedative may be required.

The dose of Morphine is from ⅛ to ½ grain; one-sixth of a grain is equivalent to a grain of Opium. Many persons, with whom Opium disagrees, can take Morphine without any unpleasant effects. It may be taken in a pill or a powder, whichever is preferred. As local or outward applications, Chloroform Liniment, Cold Water, and Warm Fomentations, are the best that can be used.

Sometimes surgical operations are resorted to in obstinate cases of Tri-facial Neuralgia; the operation is usually a serious one, though often proving entirely successful.

Sciatica.

This is but a species of Neuralgia, which attacks the nerves in or about the hip and thigh, and is to be treated in a similar manner to other forms of Neuralgia and Neuritis.

Treatment.— Externally, suitable Rheumatic Liniments are to be used. For Sciatica, the following will be found efficient:

Take Alcohol and Oil or Spirits of Turpentine, each, 2 ounces; Chloroform, 1 ounce; Gum Camphor, ½ ounce. Apply to the part and rub in well, two or three times a day. The same will be good in the case of Lumbago. Other liniments, such as are recommended for Rheumatism, Neuralgia, and Nervous Pains, may also be used, if this is not found sufficient.

Internally, the patient should first take an active Vegetable Cathartic, such as the Podophyllin or other Cathartic Pills; then follow, as soon as the physic has operated, with some good Rheumatic Alterative, such as the Tincture of Guaiac.

Steaming the parts or the whole body will be good; and use the Vapor Bath occasionally, where convenient. Indeed the Steam or Vapor Bath, in some form or other, is one of the most important remedies in all Rheumatic affections.

The pelvis should be examined, by the rectum, to make sure there is no tumor pressing on the nerves. If the patient has Rheumatism, 5 to 10 grains of Salicylate of Soda may be given for a few days. Syphilis may cause Sciatica, and proper Syphilitic Treatment should be used in case of a Syphilitic suffering from Sciatica.

Blisters may be raised along the course of the Sciatic Nerve, *i. e.*, along the back of the thigh.

Apoplexy.

APOPLEXY is a disease characterized by a sudden loss of feeling, consciousness, and the power of voluntary motion. Its immediate cause is internal pressure upon the brain, from congestion or effusion. It is most usually produced by the escape of blood from a ruptured vessel of the brain. It generally attacks elderly or middle-aged persons, and seldom occurs in early life.

Symptoms.— The disease is sometimes preceded by certain premonitory symptoms, such as fullness and weight in the head, dimness of sight, roaring in the ears, confusion of ideas, numbness in some portion of the body, and other evidences of slight or partial Paralysis. But cases sometimes occur without any warning, even in the midst of apparent good health.

When a person is attacked, he suddenly falls, losing for the time his sight, hearing, feeling, and power of motion, while the action of the heart and lungs still continues. The veins of the face and neck become turgid with blood; the arteries throb; pulse full, strong, and slow; the breathing is also slow, and the powers of swallowing much impaired, or entirely lost. This condition may continue for a few minutes only, or for several hours — when, if not fatal, it slowly yields to the power of nature, or the effect of remedies. The patient may entirely recover from the effects of the disease, but it is very often the case that partial Paralysis will remain for a long time, and it may become permanent. The mind is often more or less permanently injured, and Inflammation of the Brain may also result as a consequence.

Persons usually recover from the first attack, and may possibly from the second; but the third, of the severe form, generally proves fatal. Profound coma or stupor, small and quivering pulse, cold extremities, cold sweat on the skin, with increasing intervals between breathing, are to be regarded as fatal symptoms.

Causes.— In some persons there is a hereditary predisposition to Apoplexy. It is also said that persons with a certain formation of body, as a full, plethoric habit, low stature, broad shoulders, and short, thick neck, are predisposed to the disease. It occurs, however, quite frequently in persons of an opposite formation of body.

A predisposition to the disease is also acquired by certain habits of life, such as high living, habitual intoxication, sedentary pursuits, and long continued mental exertion. Among the exciting causes may be named, distension of the stomach by a full meal, immoderate use of ardent spirits, violent exercise, severe fits of coughing, stooping to blow the fire, violent passion, and straining at the stool.

Treatment.— The first thing to be done in a case of Apoplexy, is to equalize the circulation, thus withdrawing the pressure of blood from the brain, and then take measures to prevent an excessive return of it to that organ again.

Prompt and energetic means are to be employed. Place the patient in an easy position, with the head elevated. Remove everything from the neck that might prevent the free return of blood from the head. Apply cold water freely to the head, face, and neck, and as soon as possible place the feet and legs in hot water. Strip the patient, rub the feet and legs, gradually extending the rubbing up over the body and arms, applying warm water, to which has been added some common salt. This will produce a warmth to the extremities and a free action in the capillary vessels, which will invite the blood to those parts and withdraw it from the brain.

At the same time, if convenient, and the attack seems to be a severe one, preparations should be made to put the patient in a Warm Bath, sufficiently large to contain the whole body, as high as the arms or shoulders. If the first process does not succeed in restoring consciousness in half an hour, he should be returned to the bath for another half hour, or until relief is obtained, be it long or short. Keep the head cool all the while.

As soon as the patient has been restored to consciousness and relieved of the urgent symptoms, he should be placed in bed, with the head and shoulders somewhat elevated, and hot bricks or stones placed about his legs and body. (Be sure not to have these too hot, as burns are readily produced.) As soon as he can swallow, a brisk, active purgative should be given. For this purpose there is nothing better than an ounce of Epsom Salts with a little Tincture of Cardamom and a drop or two of Oil of Anise in a little Warm Water. If it does not operate in an hour, repeat the dose.

As the bowels are generally constipated in this disease, it would be will to aid the operation by giving an injection, composed of a spoonful of the same physic in a pint of Warm Water, a large spoonful or two of Glycerine may be added.

A large Mustard Plaster should be applied over the region of the stomach. This will have a tendency to prevent Inflammation of the Brain.

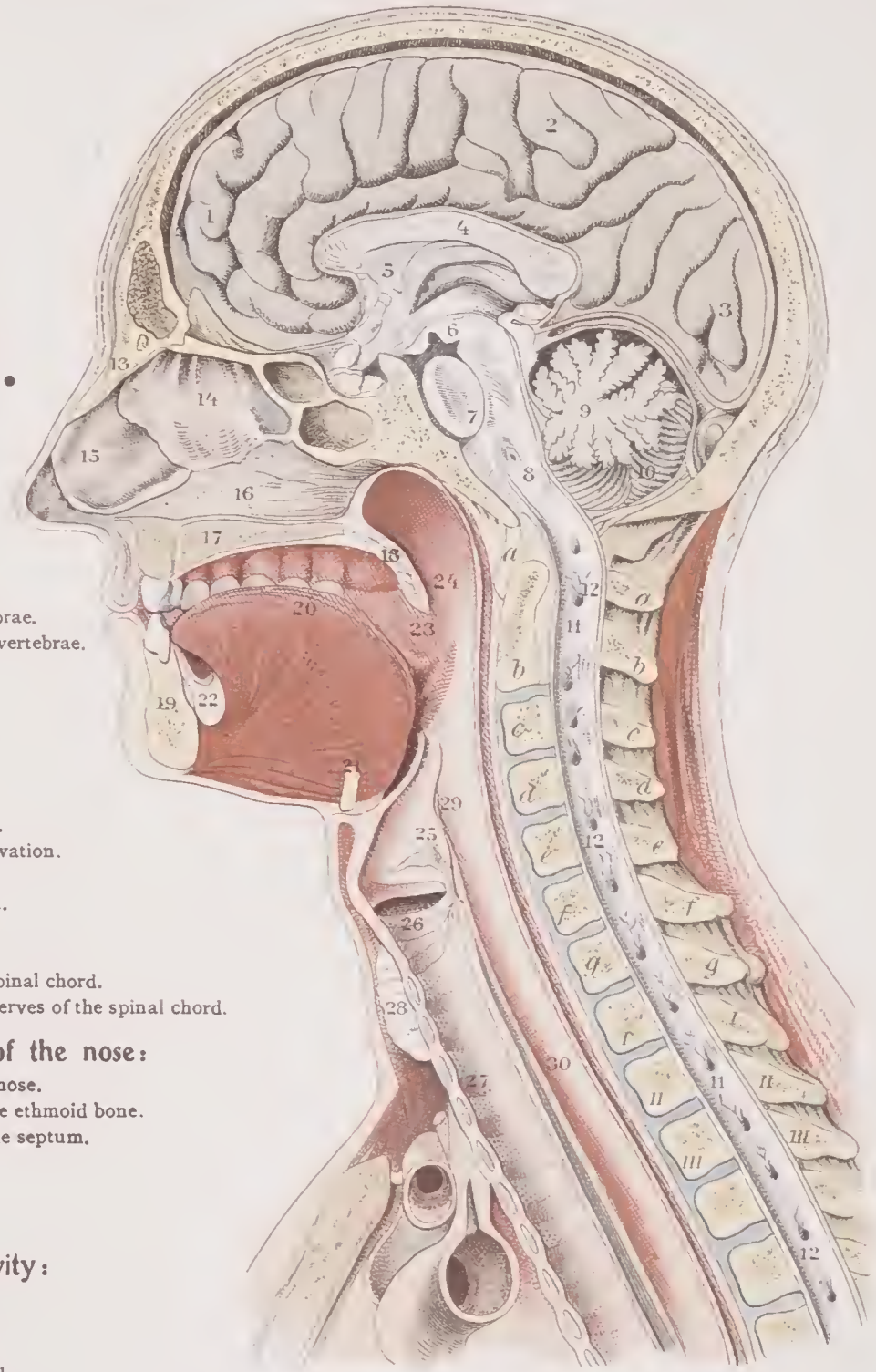
If the pulse is full, strong, and bounding, bleeding should be done at once, and consciousness will probably return soon. If the pulse is soft and weak, bleeding should be avoided. Give no Opium — it will only aggravate the disease. During convalescence, the purgatives should be repeated every few days, for a week or two.

After recovery, be careful in the diet and habits. Avoid all strong, highly-seasoned Victuals, Wines, and Liquors of every kind. Use mainly a spare Vegetable diet. Make use of fre-

THE BRAIN AND THE NERVES.

D—Longitudinal section through head and neck.

D.



a.—*g*. Cervical Vertebrae.
I, II, III. Thoracic vertebrae.

I. The brain:

1. Anterior lobe.
2. Parietal lobe.
3. Occipital lobe.
4. The beam.
5. The arch or fornix.
6. The medullary elevation.
7. Pons Varolii.
8. Medulla oblongata.
9. The tree of life.
10. The cerebellum.
11. The canal of the spinal chord.
12. Openings for the nerves of the spinal chord.

II. The septum of the nose:

13. The bridge of the nose.
14. Vertical plate of the ethmoid bone.
15. The cartilage of the septum.
16. The vomer.

III. The oral cavity:

17. The hard palate.
18. The soft palate.
19. The lower jaw.
20. The lingual muscle.
21. The tongue-bone.
22. The ligament of the tongue.
23. The tonsils.

IV. The cavity of the jaws and the larynx:

24. The cavity of the jaws.
25. The epiglottis.
26. The glottis.
27. The windpipe.
28. The thyroid gland.
29. The pharynx.
30. The oesophagus.

quent bathings, with friction, and moderate exercise in the open air. Keep the feet warm. Avoid fatigue of both body and mind, and in all things observe strict temperance.

Headache — Cephalalgia.

HEADACHE can hardly be called a disease, though in some rare instances, perhaps, the seat of the difficulty may be in the head, or brain. It is a very common ailment, however; so common that but little attention is given to it by those who suffer from it much of the time, in some form or other. In nine cases out of ten, perhaps, Headache is but a symptom, or effect, of some derangement in another part of the system, resulting from some abnormal or unhealthy condition of some other organ or from a general derangement of the whole system; and can be removed by removing the cause. Very often a slight change in your habits, a little medicine taken, a little care as to what you eat, in short, a little attention to the LAWS OF HEALTH, in your case, will be all that is necessary.

Headache is the result of a great variety of causes; consequently, there will be a variety of Headaches, differing in their manifestations or symptoms, and requiring, more or less, a different treatment.

For the sake of convenience, Headaches are divided into several classes according to the nature of the causes supposed to produce them: Headache from plethora, or over-fullness of blood; Headache from a deficiency of blood, or general debility; Headache from Fever and inflammatory action; Rheumatic Headache, Nervous Headache, Sympathetic Headache, Stupid Headache, Chronic Headache, Periodical Headache, and Sick Headache.

PLETHORIC HEADACHE.— This class of Headaches includes all cases where undue determination of the blood to the brain is the cause. There will be a feeling of fullness in the head, the pain mostly dull and heavy; the head will also be preternaturally hot. There will be dizziness after stooping, or straining; suddenly shaking the head will also aggravate the pain. The fullness in the head, and the pain, are apt to be increased soon after eating a hearty meal.

Where the excess of blood upon the brain is caused by a derangement in the circulation — the pain is not so continuous, and not so dull and heavy, but will at times be quite acute. In this kind of Headache, the feet and lower extremities will be cold; the head will also be unusually hot.

Treatment.— If the difficulty is produced by too much blood, a treatment calculated to deplete the system must be pursued. A proper course of dieting will be very important. The patient must live on food that will be unexciting, cooling, easily digested, and, if possible, that will tend to keep the bowels open — a vegetable diet, mainly of a laxative nature, such as brown, or "Graham Bread," fruits, and the like. He must avoid rich, strong food. At the same time an active Hydragogue Cathartic should be taken about twice a week for two or three weeks. One active dose will always give immediate relief in most cases of Headache; but in order to produce any permanent relief, it will be necessary to continue the treatment, both in diet and in medicine, for perhaps several weeks. The idea is to change the condition of the system, to deplete it, and especially to reduce the quantity of the circulating fluid. For these cases, nothing is better than to take a drachm or two of Phosphate of Soda once or twice a week, or as often as may be necessary, to secure a good movement of the bowels daily.

Where the difficulty is simply a determination of blood to the head, with cold feet, etc., the above salts, or something similar, should be given, and the feet and legs bathed in warm water, as warm as can be borne, with ground Mustard, or Cayenne Pepper added, and rubbed well for half an hour, say twice a day, but especially at night, before going to bed. Free exercise should be taken daily, warm woolen stockings worn, and if the feet are still cold, put a little powdered Cayenne in the bottom of the stockings. Also, bathe or wash the whole body morning and evening, rubbing the surface well to get up a healthy action in the skin, which will tend to invite the blood to the surface.

NERVOUS HEADACHE.— This is a species of Headache frequently called Stupid Headache, from the fact that it is not acute, not very painful, but yet unpleasant. The person who is subject to this Headache has a continued feeling of dullness and confusion in the head, and often a dimness of sight and deficiency in hearing. The mind seems weak, and the system not capable of continued mental exertion or labor; the memory becomes defective, and, though the person appears and feels stupid, he cannot sleep, but is wakeful and restless at night.

This condition arises from general debility of the nervous system. This may, in turn, be owing to a weakness or deficiency in the blood, or to general debility of the system. It may be induced and brought on by long and hard study; hence students are, not infrequently, troubled with this species of Stupid, or Dumb Headache. It is also caused by severe and long-continued grief, by trouble, by desponding emotions, and by the mind dwelling on the dark side of subjects. Debilitating and exhausting diseases, as Diarrhœa, immoderate loss of blood, and whatever tends to produce debility, either of the whole system or of the brain, may produce this species of Headache.

Treatment.— First find out the cause of the difficulty. Is it from long and hard study? Then discard studying. Is it from any emotion of the mind? Then overcome that state of the mind as far as possible. If caused by nervous debility means must be employed that will restore the general health and strength of the body.

INFLAMMATORY AND RHEUMATIC HEADACHE.— There will always be more or less Headache in cases of Fevers, and inflammatory conditions of parts of the system. The only way to remove the Headache under these circumstances is to relieve the disease which causes it. If it is a rheumatic Headache, treat it the same as a case of Rheumatism (which it in reality is), and at the same time pay particular attention to the circulation: that is, to equalize it. Bathe the feet and legs often in warm water, and rub well, in order to invite the blood to the lower extremities; bathe the head, if in much pain, in cold water; give 5 grains of Salicylate of Soda after each meal, and take the usual diet of Rheumatics.

CHRONIC HEADACHE.— This means Headache of long standing. It is where the person has suffered so long with it, or where the cause which induced it in the first place was so severe, that it has become organic or constitutional — a fixed condition of the brain and organs implicated. It was probably produced, in the first place, by a severe spell of sickness, in which the head or brain was deeply affected.

It is a peculiarity of this kind of Headache that it is almost always confined to some one spot of the head; it may be one-half, but it much more frequently affects but a small spot or portion of the head. It is also apt to be periodical, though it is seldom or ever entirely absent. It is not, therefore, intermittent, but is remittent, being worse or better at regular or irregular periods.

Treatment.—This species of Headache, as may well be imagined, is difficult to cure. In Chronic, or, as it may be called, Constitutional Headache, the treatment should be of a general and constitutional character, and various plans and remedies should be tried. Laxative, or mildly Cathartic Medicines, such as tablets or pills of Aloin, Belladonna, and Strychnine or Salts, preferably Phosphate of Soda, may be taken once or twice a week, or as often as necessary. The diet, also, should be such as to favor an open condition of the bowels—such as bread made of unbolted Wheat Flour, Mush and Milk, Corn Bread, and Stewed Fruits. If the pain is severe, as it will be at times, a Mustard Plaster, or an irritating Pitch Plaster, might be applied to the back of the neck. If the latter kind of plaster, let it remain several days, or a week or two, so as to cause a running sore. It will do good.

Should there be at times fever, or unusual heat in the head, or that part where the pain is located, apply cold applications, as in other forms of Headache, and be sure to keep the feet warm all the time. Pay some attention to the stomach. It will likely be found that when the pain in the head is the worst, there is a sour state of the stomach, or symptoms of Dyspepsia or Indigestion. If the stomach feels badly, give an Emetic, or a little Alkali, as a teaspoonful of Saleratus, dissolved in a little Water or Milk, or as much Carbonate of Soda, and taken once or twice a day, to destroy the acidity of the stomach.

Keep the bowels regular, the stomach free from acidity, the skin in a healthy condition, the feet warm, the head cool, and an equal circulation of the blood, and you may expect the best results that can be hoped for in this species of Headache.

If the paroxysms of pain should be marked by regular periods, as coming at such an hour every day, every other day, or at longer regular intervals, give, also, tonics—that is, treat as a case of Migraine, a mild form of which these attacks probably are.

In Chronic Headache, where the pain is located in the forehead, or fore part, or top of the head, as well as in some other forms or kinds of Headache, relief may often be obtained by using some of the coal tar products, such as Acetanilid, or Phenacetin, in 5 grain doses. Most of the Headache tablets and powders sold at the drug-stores depend for their beneficial action upon one of these drugs; they are also the chief constituents of common "cold" tablets and pills. In small doses they are usually harmless and relieve pain. In large doses they are dangerous: many serious and some fatal cases of poisoning have resulted from taking too many Headache pills.

SICK HEADACHE.—This is by far the worst species there is, or rather it is the worst and most troublesome complaint which comes under the name of "Headache." It is not, properly speaking, a Headache—that is, the disease is not seated in the head; the pain in the head, like most other cases of Headache, being but symptomatic of some other disease or derangement. Sick Headache unquestionably originates in the stomach and liver, or is owing to a sort of periodical derangement of the functions of those organs.

Sick Headache appears usually at regular periods, generally about every two weeks, or every month. In some cases, however, it comes on at irregular and much longer periods. The leading symptoms are sickness at the stomach, nausea, and sometimes vomiting, flashes of fever, heat in the head and face, and often redness in the face, and severe pain in the head. The pain may be in all parts of the head, but it is often confined to the forehead and temples, or is more severe there than in other parts. Sometimes, however, there will be severe pain in the back part of the head and base of the brain.

This troublesome complaint affects some persons so severely that they will be confined to their bed, for several days at each attack. It is a very sickening, unpleasant disease—a good deal like Sea-sickness in some respects, though with more pain in the head.

Treatment.—The most important and certain remedy in Sick Headache, is a good, thorough Emetic. For this purpose, there is nothing better than the common Emetic Powder; that is, equal parts of Ipecac and Powdered Lobelia Seed, about 1 tablespoonful to ½ pint of Hot Water; let stand and "draw" for a few minutes; then give in two or three portions, at intervals of from five to ten minutes.

After the patient has vomited a couple of times pretty thoroughly, a little gruel should be given, and he should be allowed to rest quietly in bed for two or three hours. After which an active Cathartic should be given, such as will rouse up the liver, and remove any obstructions, or undue accumulations of bile, that may exist in that organ or any of its excretory ducts. The following is an excellent preparation, which may be used in all cases of Liver Complaint, Sick Stomach, Bilious Affections, and wherever a safe and effective Vegetable Cathartic is needed: Take Pulverized Aloes, 60 grains; Castile Soap, Gamboge, Scammony, Podophyllin, and Capsicum, of each, 30 grains; make into 60 pills, adding at the same time about 20 drops of Oil of Peppermint or Cloves. Dose: from three to five pills, as a Cathartic; as simply a Liver pill, to act on that organ, regulate the bowels, and cleanse the system, one pill once or twice a day. In case of Sick Headache, about three pills should be taken; and twelve hours or so afterward, give two or three more. After a prompt and thorough action of the bowels, one pill every evening should be taken for a few days. The above pills can be obtained already made up at any drug-store under the name of Compound Cathartic Pills, or Vegetable Cathartic Pills.

Other auxiliary measures are at the same time to be resorted to, especially if the case is a severe one, and the patient is confined to his room or bed with it. The feet should be well bathed in Warm Lye Water, or Warm Water with Mustard in it; or the water may be made pretty strong with Salt. The feet and legs should be thus soaked for half an hour or so previous to and while taking the Emetic. Applications of Spirits of Camphor, or, if much heat be in the head, of Cold Water. The patient also should be allowed to smell of Camphor, or Hartshorn, Cologne, and the like; such inhalations by the nose will often relieve both the Headache and the distressing sickness at the stomach. It would be well to bathe and wash the patient all over, once or twice during the attack, using Warm Alkaline Water, that is, Warm Water

with a small quantity of Saleratus or Salt in it. This removes the oily substance from the pores of the skin, and is beneficial in almost all diseases or conditions of the system.

Giddiness — Vertigo.

VERTIGO, or GIDDINESS, called also Dizziness, is very often symptomatic of some other disease, as Hysterics, Dyspepsia, congestion or anæmia of the brain, heart disease, foul or sour stomach, and may be a premonitory symptom of Apoplexy. It results from excessive use of alcohol and other intoxicants.

Symptoms.— It consists of what is called a "swimming in the head"; everything seems to the patient to go round; he staggers, and sometimes is in danger of falling.

Very little danger attends the complaint, unless it be caused by too great a fullness of blood in the vessels of the brain. If this be the case, it should be attended to in time, or it may terminate in Apoplexy or Paralysis. When Giddiness arises from some disease, it will disappear by the removal of that disease. In females it often proceeds from difficult or obstructed Menstruation.

Treatment.— First ascertain the cause of the difficulty, and then remove it. If it be a mere symptom of some other disease, that should first be removed. If a primary affection, seated in the head, or is from a disordered stomach, a purgative should be given, and repeated occasionally. The Mandrake or Mayapple, especially if the brain be the seat of the complaint, will be the best for this purpose. An occasional Emetic may also be given with advantage, especially if the stomach be out of order. The feet should be bathed frequently, and rubbed well. Equalize the circulation, withdraw the blood from the head to other parts of the body, keep the bowels open, the stomach cleansed, and the difficulty will soon disappear.

Fainting, or Swooning.

FAINTING is too common and too well known to need any description. It is produced by various causes; among which may be named great loss of blood, and in some persons the sight of blood; violent passions of the mind; severe pain and suffering; excessive joy; disgusting sights; fright; excessive eating and drinking; offensive odors; impure and confined atmosphere; and intense study. It is also a symptom of other diseases, particularly of the heart and brain. Persons of weak and delicate constitutions are liable to it from very slight causes. If it occur frequently in a person otherwise apparently healthy, and without any known cause, a diseased state of the heart or brain is to be apprehended. All the above conditions cause a lack of blood in the brain, which always occurs in true fainting, as is evidenced by the paleness at the time of an attack.

Treatment.— A person who has fainted or swooned should be immediately laid in a horizontal position, the clothes about the chest and neck loosened, and cold water sprinkled freely on the face. If the Fainting has taken place in a tight or crowded room, the patient should be immediately removed to where there is plenty of fresh air. The hands, legs, and arms should be freely rubbed.

Spirits of Ammonia, or the Salt of Hartshorn, should be held to the nose. The Hartshorn, or "smelling-bottle," is a very good thing in such cases; and ladies who are subject to Fainting spells, generally carry it with them.

A teaspoonful or two of Compound Spirits of Lavender, with some Spirits of Hartshorn, is very good, to be taken internally. There should be about four times as much Lavender as Hartshorn, or in about that proportion. But in a majority of cases, pure air and a little cold water in the face, are all that will be required. The head should be made the lowest part of the body, so as to have the aid of gravity in bringing the blood back to the brain.

Persons subject to Fainting should avoid all crowded assemblies, and places where the air is impure or confined. They should also avoid mental excitement, too much fatigue, and tight-lacing.

Paralysis.

PARALYSIS has its seat in the nervous system, and is characterized by a loss of the power of motion or of feeling in the part affected, and sometimes both. The most usual form of Paralysis is that where one side of the body is affected. It sometimes seizes the lower extremities, or all below the hips. In the former case it is called Hemiplegia; in the latter Paraplegia. When confined to a particular limb, or set of muscles, it is called Partial Paralysis.

Symptoms.— The symptoms of Paralysis are generally palpable enough, and not easily mistaken. It is apt to come on very suddenly, with an immediate loss of sensibility and the power of voluntary motion in the part affected. Sometimes, however, it is preceded by a numbness or coldness, and perhaps slight convulsive twitchings, and other symptoms similar to those which precede Apoplexy.

Sometimes the disease will go off spontaneously, with a Diarrhœa, or Fever. A feeling of returning warmth, and slight pricking pain in the part, with returning sensation and power of motion, may be regarded as favorable symptoms.

Causes.— Paralysis may be occasioned by anything that prevents the flow of the nervous stimuli from the brain into the organs of motion, as tumors pressing on the spinal cord, or nerve; pressure from dislocations and fractures of bones; and by disease or wounds of the nerves. The long continued exposure to the influence of certain sedative agents, as the handling of white lead, exposure to the fumes of metals and minerals, will also produce Paralysis. It is also symptomatic of other diseases, as Worms, Scrofula, Syphilis, Apoplexy, or may follow them as a result. Most Hemiplegias, *i. e.*, Paralysis of one side, result from Apoplexy; which is a rupturing of a blood-vessel supplying the brain; the extravasated blood causes the Paralysis.

Treatment.— It is not often that we can do much for the Hemiplegic or Paraplegic form of the disease, if it is of long standing, especially where both motion and sensation are gone. Yet in the early stage it may often be cured by proper treatment.

At the commencement, if the attack has been sudden and violent, pursue the same course as directed in Apoplexy.

There will probably be spasmodic symptoms, violent twitching or contortions of the muscles, perhaps of the face. For this and to allay spasms and pain, give Hyoscine Hydrobromate in 1-100 grain doses by means of the hypodermic needle.

1st. Evacuate the bowels. It will generally be necessary to make use of injections, for the bowels are usually much constipated, and sometimes the lower portion of the body is so paralyzed or torpid that purgatives will not act upon the bowels. It is not best to wait for a purgative to act, for it may be that the Constipation of the Bowels is the principal cause of the difficulty. A dose of some active purgative may be given, such as Calomel, or Senna and Salts, and then give the following by injection: An ounce of Glycerine in a pint of Warm Water, to which an ounce of Salts may be added if necessary. This will excite an action in the bowels and induce evacuation; if necessary repeat.

2d. Purgatives must be given every two or three days, such as Calomel; or the Podophyllin and Leptandrin may be used. These last two are concentrated preparations — the first made from the Mandrake or Mayapple Root (Podophyllum), and the other from the "Indian Physic," or Black Root (Leptandria), and may be found in most drug-stores. From one to three grains of each, combined, will be a dose for a grown person. They are both valuable remedies in many diseases.

3d. The patient should also take the following Nervous Pills: Extract Hyosciamus, 40 grains; Extract Aconite, 20 grains; Macrotin, 20 grains; make into 20 pills, and let him take one every night and morning. The Macrotin is also one of the new concentrated remedies, made from the Rattle Root or Black Cohosh (Macrotys), and may always be found along with the Podophyllin and Leptandrin.

4th. Some good Tonic bitters are also advisable, such as the following: Take an ounce each, of Compound Tincture of Gentian, Elixir Calisaya, and Tincture of Valerian, three drachms of Tincture of Nux Vomica; add enough Water to make up four ounces altogether, and take a teaspoonful before each meal.

The extremities and parts affected, should be sponged once or twice a day with Cold Water (to which a drachm of Salt has been added to each pint), and rubbed well. Attend well to the skin and general system. Any slight attack of Paralysis will yield readily to the foregoing treatment, unless the patient be very old and feeble.

St. Vitus' Dance — Chorea.

This affection has its seat in the nervous system, and consists in convulsive and involuntary motions of one or more of the limbs. It sometimes affects one side of the face.

The complaint is chiefly incident to young persons, occurring generally between the ages of seven and twenty-one. Girls are more subject to it than boys.

Symptoms.— Chorea seldom comes on suddenly. It is generally preceded by symptoms, varying in duration from a few days to several months — such as coldness of the feet and limbs, a tingling sensation in the parts likely to be affected, heaviness in the extremities, fullness in the head, obstinate constipation of the bowels, difficulty of swallowing, a disposition to gloom, or excessive cheerfulness, and sometimes a remarkable proneness to mischievous conduct.

After a while, irregular muscular twitchings, or spasmodic contractions are observed in the face, or in one of the extremities. One of the legs will be affected with a kind of lameness, and the patient drags it in an odd and ridiculous manner. Or he cannot hold his arm still, but is constantly throwing it about. When he undertakes to carry food or drink to his mouth he makes numerous singular gesticulations, perhaps, before he can accomplish it. The head sometimes partakes of the same convulsive action.

In severer cases the patient seems to have lost nearly all command over the voluntary muscles. When he attempts to walk, he usually hobbles along in an irregular manner. Sometimes he can neither walk, stand, nor sit still. The hands and arms are often in continual motion, jerking and flying about in every direction. The muscular contractions of the face are sometimes extremely severe and ludicrous, giving a continually varying expression to the countenance.

In violent cases, swallowing is sometimes impeded, the respiration anxious and irregular, the voice altered, and the power of speech very imperfect. In fine, the muscular system seems to be in a state of revolt, bidding defiance to the authority and commands of the will. It is truly a singular affection!

Causes.— This disease may be occasioned by various irritating causes, such as teething, worms, or acrid matter in the bowels. It also, and perhaps more frequently, arises from violent affections of the mind, as horror, fright, fear, anger, disappointed love, and religious enthusiasm. Suppression of habitual discharges, especially the Menses, may produce it, and in many cases it arises from debility and extreme irritability of the nervous system. Too constant application of a child to his studies, with lack of exercise, is a common cause. It is also said to take place from sympathy, at seeing others affected by the disease.

Chorea, or St. Vitus' Dance, is not a very dangerous disease, as it seldom proves fatal. It is not, however, entirely free from danger, as, if continued long, it may run into Epilepsy, and in this way prove fatal, or render the patient miserable for life. It is also apt to injure the mind, if protracted a great while.

Treatment.— The indications of cure are, first remove the exciting cause, and then strengthen the nervous system.

Very often the stomach is in a deranged and irritable state. In such cases give an emetic. It should be composed of equal parts of Lobelia and Ipecac, given with some warm Teas. In a few hours after this give a purgative, which should be repeated once in three or four days. Repeat in six hours if it does not operate. When the subject is a young girl, about the age of puberty, or you have reason to suspect that the development of the menstrual function is concerned, the Podophyllin, or Mayapple Root, in some form, should constitute the principal part of the purgative; and it might be repeated every other day, for a few times. Other means should be used calculated to aid in bringing on the Menstrual Discharge — such as frequent bathing of the feet and legs in warm water; sitting over steam.

As a nervine and specific in St. Vitus' Dance, perhaps the Scullcap (*Scutelaria Lateriaflora*) is the best. It is an herb that can generally be obtained at Botanic drug-stores. An infusion or tea is to be made of this, of which let the patient drink from half to a pint daily. It may be drunk warm or cold.

If the child is anæmic, a pill made of the following is excellent: Saccharated Carbonate of Iron, 1 drachm; Arsenious Acid, ⅛ of a grain, divided into twelve powders, or

made into twelve pills, and take one after each meal. This may be repeated indefinitely.

If the child has worked too hard at school, he should be taken from it and given a rest, and made to take plenty of out-of-door exercise and a nourishing diet, drinking large quantities of milk.

If the case is a very bad one, the following Pills should also be given: Take Extract of Hyosciamus, 40 grains; Gum Camphor, 40 grains; Musk, 20 grains. Make into twenty Pills, and give one night and morning.

The Sponge Bath, of Cold Water and Salt, should also be employed, with plenty of friction. Also an occasional Warm Bath at night.

Epilepsy — Falling Sickness.

EPILEPSY is a disease characterized by paroxysmal attacks of convulsions, with temporary loss of sensibility and consciousness, followed usually with Coma or Stupor. It is one of the most distressing diseases to which humanity is subject.

The disease comes on by sudden paroxysms, or fits, which continue for a few minutes or half an hour, then leave the patient in his usual state, except that he is more or less debilitated and drowsy. This disease is most common among children and young persons, and boys seem to be more subject to it than girls. Its attacks are generally periodical, often monthly, or every new or full moon. Sometimes it occurs much more frequently, and again not so often as once a month. The disease is often hereditary, several persons of the same family being subject to it, extending down through several generations. Epileptics should never be allowed to marry. They should have some steady occupation, in which they will be perfectly safe during an attack. They should always be kindly but firmly treated.

Symptoms.— The attack usually comes on suddenly and the patient falls to the ground — hence the name of Falling Sickness. Where the disease has become seated and habitual, the patient sometimes experiences certain warnings of the attack, such as giddiness, dimness of sight, confusion of mind, loud ringing in the ears, sparks and flashes before the eyes, trembling in the limbs, anxiety, drowsiness, starting during sleep, sullen gloominess, irritable temper, and reverie. Some grow timid and cowardly; others spiteful, quarrelsome, or mischievous. But these premonitory symptoms usually last but a short time, seldom more than a few seconds.

Some persons are warned of an attack by seeing specters just before it comes on. Others experience what is called Aura Epileptica — a certain peculiar sensation, which I believe occurs in no other disease. It is a feeling of chilliness which commences in the feet, or legs, and extends gradually up until it reaches the head, when the patient suddenly becomes insensible and falls, or has the fit. In many instances, Epilepsy occurs invariably at night, during sleep.

When the patient is attacked, he immediately becomes insensible and more or less violently convulsed. The eyes roll about; the lips, eyelids, and muscles of the face are greatly distorted and convulsed; the patient gnashes his teeth and foams at the mouth; sometimes the teeth are firmly pressed together and the jaws fixed. The face is sometimes pale, but more commonly of a livid, purple color, with a congested state of the veins of the head and neck. Sooner or later these spasmodic symptoms abate, generally gradually, and on coming to himself, the patient feels languid and exhausted, and retains not the slightest recollection of what has passed during the fit.

Causes. — In some persons a hereditary predisposition to the disease exists. Repeated attacks render the patient still more liable to subsequent attacks. It often comes on about the period of puberty, owing, no doubt, to the important changes which take place in the system at that time.

In some cases the disease is what is called Idiopathic, that is, owing to malformations of the skull, depressed bones, or a spongy growth upon the internal surface of the cranium; organic derangement of the brain; congestion or effusion of blood upon the brain.

In others it is symptomatic, owing to intestinal irritation, as from Worms, and other causes; Teething; suppression or retention of the Menses; poisons received into the system. Onanism, or Masturbation, is also a fruitful cause of the disease. Convulsions in infancy, if not properly treated, result in Epilepsy.

Where a predisposition to the disease exists, an attack may be brought on by violent affections of the mind, or of the nervous system; as sudden fright, fits of passion, and the like. Blows, wounds, fractures and injuries of the head may also cause the disease. Especially, depressed fractures, which have not been properly treated, *i. e.*, the depressed part of the bone not elevated to its natural position, producing a constant pressure upon the brain, which is a sufficient source of irritation to produce Epilepsy.

Treatment.— Very little can or need be done, during the paroxysm, or while the fit is on, except to prevent the patient as far as possible from injuring himself. Everything should be removed from about the neck.

A great many remedies have, from time to time, been proposed for this disease, and relied on for a time as specifics; but the truth is they sometimes all fail. Where the disease is dependent on malformations of the skull, or organic derangement of the brain, it is very seldom cured, especially if the patient be past the age of puberty.

Where the disease is but symptomatic, depending upon some other derangement of the system, and not directly connected with the brain, it can generally be cured, by removing the cause, with proper attention afterward to the general system.

A general course of treatment, with particular reference also to the cause of the complaint, where it can be known, will be the most judicious.

1st. An occasional Cathartic or Purgative will be proper under any circumstances. And there is none better than the Podophyllum or Mayapple, in some form or other. It is an excellent Anthelmintic, or Worm medicine, as well as a good Emmenagogue; and is also good in all congestions and effusions on the brain, whether of blood or serum. The bowels are to be kept loose, and for this purpose the powdered root of the Mayapple may be given; or it may be reduced to an extract and formed into pills, giving two or three a day, or enough to keep the bowels open; or pills may be made of Extract Hyosciamus and Podophyllin, and given in the same way; 2 grains of the former and 1 of the latter to a pill, one or two taken daily.

2d. We must admit that drugs are not producing most gratifying results in Epilepsy. The Bromides are the only

ones which are at all effective. A drachm of Sodium Bromide may be given to an adult each day; it is best given after meals in Milk or in Soda Water. Such a dose should be given in advance of an expected attack, also.

3d. Anti-Spasmodics are indispensable. Such as are both anti-spasmodic and narcotic are preferable. The Scullcap, Stramonium and Hyosciamus, are all good. Also: Take of the Tincture of Stramonium, and Hyosciamus equal parts, mix, and give from 10 to 30 drops three times a day. Commence with 10 drops, and increase 1 drop each dose till you reach 30, or till a slight dizziness is produced, if it takes 40 or 50 drops, and then continue at that.

4th. *Tonics.*—Great benefit is to be derived from the use of tonics. There is generally weakness and debility of the whole system, and then the disease sometimes assumes the form of Masked Ague. In such cases tonics are indispensable. For this purpose Quinine may be used, made into pills with Extract Hyosciamus. Let there be from 1 to 2 grains of Quinine to the pill, and give from 3 to 6 a day.

The State of Ohio has a colony or farm where these unfortunate people are gathered together and cared for; large sums of money are also being spent with the object of learning as much about the disease as possible, in the hope that a specific remedy may be found. It is already claimed there that Rickets is a common cause, so that the prevention of Rickets will materially reduce the number of sufferers from Epilepsy.

Catalepsy.

CATALEPSY is a very remarkable disease. It consists in a temporary suspension of consciousness, sensibility, and volition. There is no muscular contraction, rigidity, or spasm. The respiration and circulation continue the same. It seems to be a sort of Trance or Ecstasy; and may last a few minutes, or it may continue for hours, or even several days.

The attack generally comes on suddenly, without any warning. The patient falls, or becomes perfectly helpless and unconscious, and every part of the body remains in precisely the position it was at the moment of the seizure. When the patient recovers, he has no recollection of what has occurred, and will commence acting or talking at the point he left off when attacked, the same as if nothing had happened. The period occupied by the attack is a perfect blank in the patient's existence; he does not even recollect that he has been affected.

In most cases, especially if the attack has been of short duration, the patient suffers no inconvenience afterward. Sometimes, however, in protracted cases, there will be some feeling of weight and pain in the head, lassitude, and dullness of mind, after the attack has passed off.

Causes.—Catalepsy may be induced by various causes. It may arise from intense passion; from long and hard study; from a morbid state of the alimentary canal; worms; plethory, and suppression of accustomed evacuations. Persons of a nervous temperament are said to be most subject to it. It occurs most frequently in females, and very often about the age of puberty. Suppression or irregularities of the Menstrual Discharge is one of the most common causes of the disease.

Treatment.—During the paroxysm, Cold Water may be thrown upon the face and body of the patient.

As soon as the patient can swallow, a brisk purgative should be given, especially where there is reason to believe that there are irritating matters in the bowels.

Medicines of a restorative, nervine, and sometimes of an anti-spasmodic character, should be given. Sometimes Emmenagogues, or medicines that will promote the Menses must be employed, such as Iron and Arsenic, which are among the best remedies for suppressed or retained Menses known. An occasional physic of the Mayapple Root should also be given, in such cases, and the feet, legs, and lower part of the body frequently bathed in Warm Water. Moderate diet and free exercise should be observed.

THE EYE.

Anatomy.

The eyeballs and nearly all of their accessory parts are securely contained in two bony cavities called the orbits. These are shaped like four-sided pyramids, with their bases pointing forward and outward, and their apices backward and inward. They are about 1⅞ inches deep, and their axes are inclined to each other at an angle of 42 degrees to 43 degrees. Each orbit has a roof, floor, inner and outer wall. The roof is very thin and separates the orbital from the cranial cavity. At its outer angle there is a depression for the lachrymal or tear gland, and another at its inner angle for the pulley of the superior oblique muscle. The inner wall has in front the lachrymal groove for lachrymal sac. The base or facial opening of the orbit has a strong, bony edge, and is about 1½ in. wide, and 1⅓ in. high. The apex is formed by the optic foramen and canal, which connects the orbit with the interior of the skull, and through which the optic nerve passes.

The orbits are lined by a vascular membrane, which nourishes the bony walls, and which is continuous at fissures and sutures with the *periosteum* of facial bones, and *dura mater* within the skull. It also forms a tendinous ring around optic foramen, giving origin to the ocular muscles.

Upon this membrane, or *periorbita*, and filling the space not occupied by the eyeball and its appendages, is found connective tissue and loose fat, which serve as a support to the globe and facilitate the various movements of which it is capable. The

connective tissue is thickened in places, forming sheaths for the muscles, vessels and nerves, and fascia for connecting the parts within the orbit with one another, and with the periorbita.

The optic nerves originate at the base of the brain, in the *thalami optici* and *corpora quadrigemina*, and receive filaments from other portions of the brain and spinal cord. From their origin they run forward as *optic tracts* until they unite just posterior to the optic foramina and form the *optic chiasm*, in which they decussate. The fibres of the inner side of each tract cross over to inner side of opposite nerve and supply the inner half of the retina on that side. The outer fibres of each tract pass directly, without crossing, to outer half of nerve and retina of same side. The optic nerves proper begin at the outer anterior edge of chiasm, and, rapidly diverging as they leave the cranial cavity, pass through the orbits to the eyeballs, which they enter about two lines within and half a line below the posterior pole.

The eyeball is situated in the anterior part of the orbit a little to the outer side of its axis, and about equi-distant from the upper and lower walls. It is maintained in position by the optic nerve behind and the lids in front, and is further supported behind and on the sides by a cushion of fat. It is nearly spherical in form, but a side view shows it to be composed of segments of two spheres of different diameters. The anterior segment, which forms the transparent cornea, has the shorter diameter and is therefore more prominent than the posterior or scleral portion. The eye is longer from before backward than transversely, and is shortest vertically. The anterior pole is the geometrical centre of the cornea, and the posterior pole is the geometrical centre of the bottom of the eye. The axis is an imaginary straight line extending from pole to pole. The equatorial plane is an imaginary plane through the centre of the globe perpendicular to the axis. The equator is the line where the equatorial plane cuts the surface of the eyeball. Meridianal planes are imaginary planes coinciding with the axis. Meridians are lines where meridianal planes cut the surface.

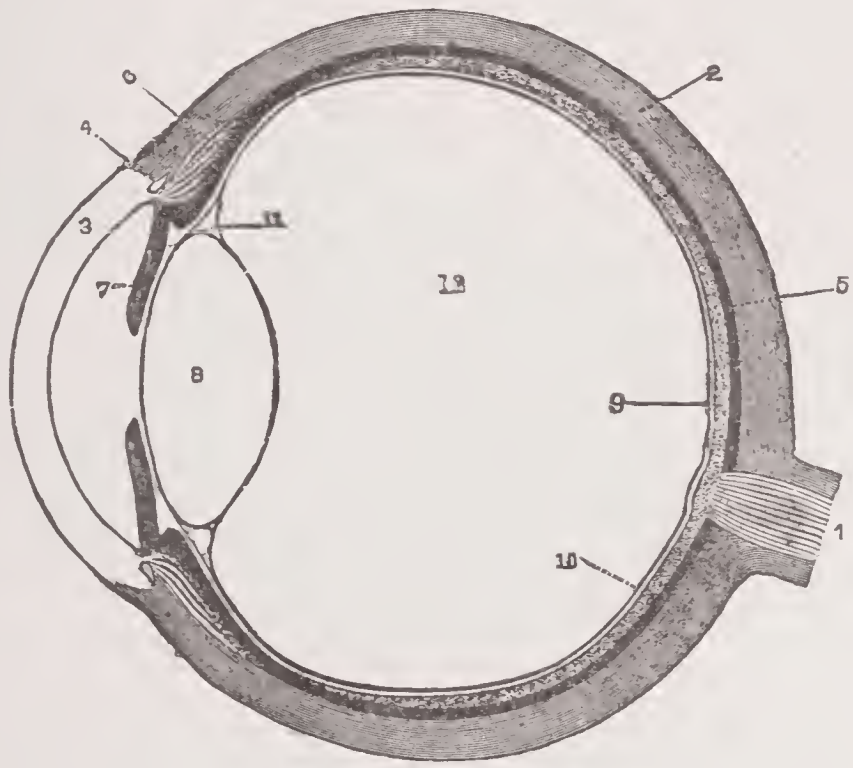


Fig. 35.

1, Optic nerve; 2, sclera; 3, cornea; 4, Schlemm's canal; 5, choroid; 6, ciliary body; 7, iris; 8, crystalline lens; 9, macula lutea of retina; 10, retina; 11, suspensory ligament and canal of Petit; 12, vitreous.

The eyeball has three investing membranes or coats which maintain its shape and enclose three transparent humors. The outer coat embraces the cornea and sclera, the middle coat the choroid, ciliary body and iris, and the inner coat is the retina. The humors are the aqueous, crystalline and vitreous.

The greater part (five-sixths) of the outer coat, commonly known as the "white of the eye," is called the sclera (from Gr. *skleros*, hard). It is very firm and elastic, nearly one-half a line in thickness behind, where it is re-enforced by the sheath of optic nerve, and gradually becomes thinner toward the anterior border, where it is only one-fifth of a line thick. The sclera is continuous in front with the cornea, being joined to the latter by bevelled edges, the outer overlapping the cornea more than the inner edge. The opening in the sclera behind, for the passage of the optic nerve fibres, is partially closed by a few fibres from the sclera, which are joined by the sheaths of the nerve fibres, and together form a sieve-like membrane called the *lamina cribrosa*. Near the inner anterior edge of the sclera is a circular channel called *Schlemm's canal*. It encloses venous plexus, receives veins from sclera and ciliary plexus, and communicates with the anterior chamber and anterior ciliary veins.

The cornea (Latin, *cornu*, horn) forms the anterior one-sixth of the outer coat and is also very dense and elastic. It fits into the sclera very much as a watch crystal does into a watch. It is made up of five layers, viz.: the outer and the inner epithelial layers, the outer and inner elastic membranes, and the corneal substance proper. The latter embraces the bulk of the cornea, as the epithelial and elastic layers are very thin. The corneal substance is composed of elastic fibres, which are arranged into bundles, and these again into layers, whose general direction is parallel to the corneal surface. The spaces between the fibres, bundles and layers is filled by a cement-like substance, in which is a system of canals and spaces containing serous fluid, lymph cells and corneal corpuscles. The cornea, unlike the other coats of the eye, has no blood-vessels, except at its edge, where a very narrow zone of capillary loops is found. It is sustained through the circulation of serum in the lymph channels. Nerves are freely distributed throughout, chiefly near the anterior surface in epithelial and elastic layers.

That portion of the middle coat which lines the inner surface of the sclera is called the choroid behind, and the ciliary body in front. The choroid extends from the optic nerve entrance to a line just anterior to the equator. The ciliary body extends from the anterior termination of the choroid to that of the sclera, where it joins the iris, with which it is continuous. The iris hangs like a curtain from the anterior edge of the ciliary body, floating in the aqueous humor. The choroid is composed chiefly of blood-vessels with connective tissue, pigment cells and a few muscular fibres. The ciliary body may be considered as a prismatic ring with a posterior, anterior

and inner edge. The inner edge gives attachment to the suspensory ligament of the lens. In the anterior outer portion is found the ciliary, or muscle of accommodation, the outer fibres of which are meridional and the inner are circular. The inner posterior surface is raised into from seventy to eighty folds, the *ciliary processes*. The iris has a central opening, the pupil, through which the light passes to the interior of the eye. The amount of light admitted is regulated by two muscles in the iris, one of which dilates and the other contracts the pupil.

The retina is attached to the inner surface of the choroid, and with it extends from the entrance of the optic nerve to the *ora serrata*. It has ten layers, but only two are of special importance, the others being accessory. The layer of *rods* and *cones* receives the images of objects viewed, and the layer of *nerve fibres*, which is an expansion of the fibres of the optic nerve, transmits the impressions to the sensorium, and is recognized as vision. The most sensitive part of the retina, the *macula lutea*, corresponds very nearly with the posterior pole.

The aqueous humor is a watery fluid which fills the place between the cornea and crystalline lens. This space is divided by the iris into the *anterior* and *posterior chambers*, which communicate through the pupil.

The crystalline lens is a transparent double convex lens, situated behind the iris and between the aqueous and vitreous humors. It is enclosed by two structureless membranes, the anterior and posterior capsules, which are continuous, near the peripheral edge of the lens, with the *zonule of Zinn*, or suspensory ligament. Between the folds of the zonule and the border of the lens is a triangular space, *canal of Petit*, which is closed during life by the folds falling together. The anterior capsule supports the margin of the pupil unless the pupil be dilated, in which case the iris floats freely in the aqueous humor. The lens, though clear and apparently homogeneous in structure, is composed of flattened hexagonal fibres with dentated lateral edges, by which they are firmly joined together. The convexity of the lens is greater on the posterior than on the anterior surface.

The vitreous body (Lat. *vitreum*, glass) fills the cavity within the retina and behind the lens. It is a structureless, gelatinous substance, possessing a refractive power less than the lens, but greater than the aqueous humor. During fœtal life the hyaloid artery runs from papilla (optic nerve entrance) to posterior surface of lens, rudiments of which sometimes persist. The canal through which it passes is the *canal of Cloquet*, or *hyaloid canal*. The anterior surface of the vitreous is hollowed out for reception of the lens, forming the *hyaloidea fossa*. The vitreous has no vessels or nerves, and receives its nutriment from the retina and uveal tract (middle coat).

The eyeball is moved by six muscles, five of which take their origin from the tendinous ring around the optic foramen at the apex of the orbit. Four are called the *recti* (straight) muscles. They pass directly from their origin, over the globe, and are inserted in the sclera near the corneal margin, one above, one below, one on the inner and one on the outer side. The fifth muscle, the superior oblique, passes to the upper inner angle of the orbit, then through a tendinous ring—the *pulley*—then backward and outward, beneath the superior rectus, to upper, outer and posterior quadrant of the eyeball, where it is inserted. The sixth muscle, the inferior oblique, arises at the inner lower angle of the orbit and passes outward, downward, backward, beneath the inferior rectus, then upward and backward between external rectus and globe, and is inserted close to the insertion of the superior oblique.

The superior rectus moves the eye upward and inward, and rotates it slightly inward. The internal rectus, the strongest, moves the eye inward, and the external moves it outward. The superior oblique moves the eye downward and outward, rotating it inward. The inferior oblique moves the eye upward and outward, rotating it outward. Three of the recti, the superior, inferior and internal, and the inferior oblique, are controlled in their action by one nerve, the third, or *oculo motorius*. The superior oblique is governed by the fourth, or *trochlear* nerve, and the external rectus by the sixth, or *abducens*. The third nerve also sends a branch to the ciliary muscle (muscle of accommodation).

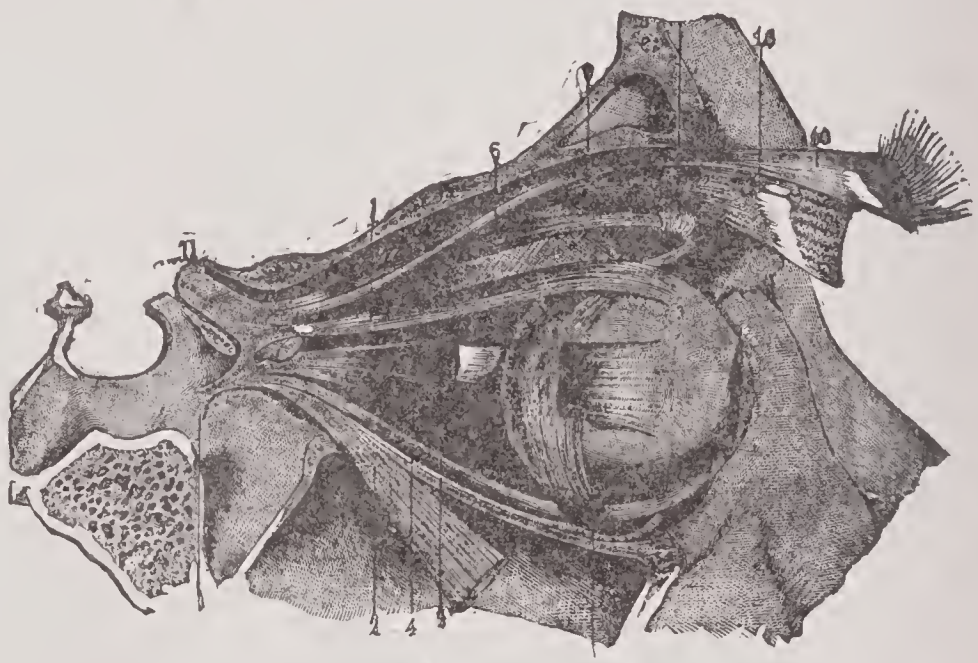


Fig. 36. Muscles of the Eye.

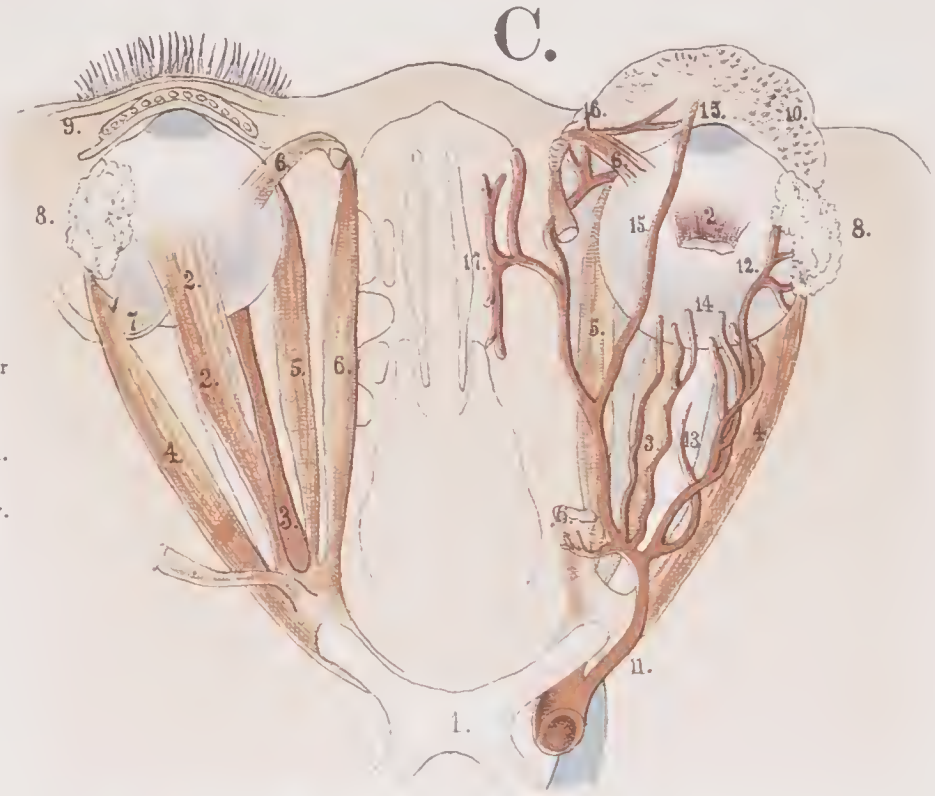
1, Inferior oblique; 2, ext. rectus; 3, int. rectus; 4, inf. rectus; 5, sup. rectus; 6, sup. oblique; 7, pulley of sup. oblique; 9, 10, levator palpebræ superioris; 11, optic nerve.

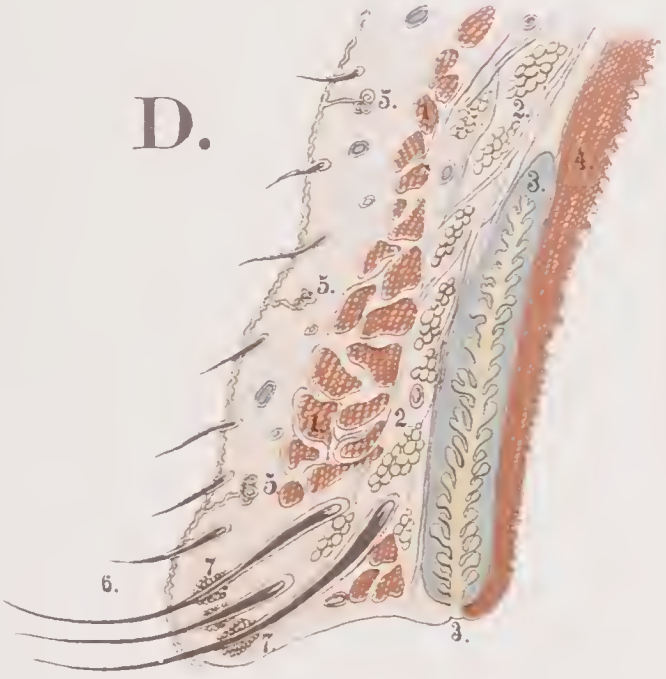
There are certain appendages of the eye which serve either as a means of protection or aid in the performance of its function. Of these, the eyebrows, eyelids and lachrymal apparatus are the most important. The eyebrows are arched elevations of skin above the orbits, covered with rows of short hairs, and serve to protect the eye and to slightly influence the amount of light admitted. The eyelids are two movable folds of skin covering the eyes in front and closing the orbital entrance. The upper lid is the larger, measuring about four-fifths of an inch in height upon its inner surface. The lower is only about half an inch high. The outer or skin covering of the lids is continuous at

THE EYE.

C—The two eye-balls and their muscles and arteries, as seen from above.

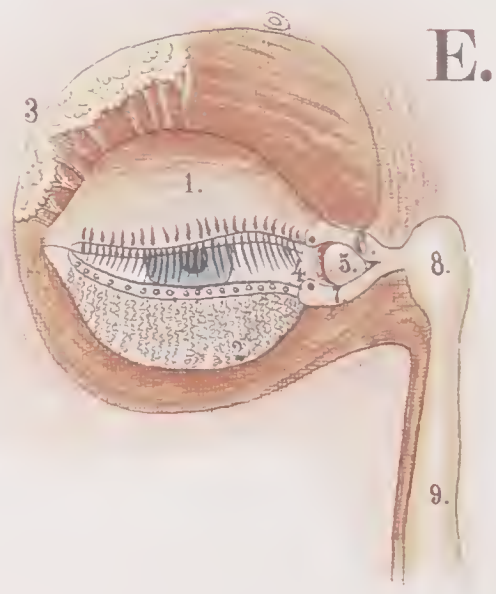
1. The cross of the optic nerve.
2. Upper straight eye muscle.
3. Lower straight eye muscle.
4. External straight eye muscle.
5. Internal straight eye muscle.
6. Upper transverse eye muscle.
7. Lower transverse eye muscle.
8. The lachrymal glands.
9. The eye-lid in cross-section.
10. The eye-lid from its inside.
11. The artery of the orbit.
12. The lachrymal artery.
13. The artery of the optic nerve or retina artery.
14. The artery of the iris.
15. The artery of the upper eye-lid.
16. The frontal artery.
17. The arteries of the nasal cavity.





D—Vertical section through the upper eye-lid (enlarged.)

1. The muscles of the eye-lid.
2. The adipose tissue, a layer between smooth muscular fibres.
3. The Meibomian glands.
4. The joining skin.
5. The glands of secretion.
6. The eye-lashes.
7. The sebaceous glands.



E—Protective and lachrymal apparatus of the eye.

1. The upper eye-lid and its eye-lashes.
2. The lower eye-lid (upper lohule and eye-lid muscle taken off), the Meihomian glands and their orifices at the end of the eye-lashes.
3. The lachrymal glands and their 10 canals.
4. The crescent-shaped fold.
5. The lachrymal caruncula.
6, 7. The lachrymal canals (tuhes) and the puncta lachrymala.
8. The lachrymal sac.
9. The nasal or lachrymal duct.

their edges with their inner mucous lining or conjunctiva (Lat., *conjungere*, to join together), which is reflected from the lids on to the eyeball, forming the *retrotarsal fold* of the conjunctiva, and *joining* the lids to the globe. Between the skin and conjunctiva the lids are composed of loose connective tissue, muscle, cartilage, ligaments, glands, blood-vessels and nerves. The so-called cartilages of the lids are not true cartilage, but consist of dense fibrous tissue. They are two in number, one in each lid. The upper is the larger, and is crescentric in shape. The lower one is elliptical. They serve to maintain the form of the lids and as points of attachment for ligaments which bind the lids to edge of the orbit, and the muscle which lifts the upper lid, the *levator palpebræ superioris*. This muscle arises just above the origin of the recti muscles and passes forward along the roof of the orbit to its insertion around the upper margin of the cartilage of the upper lid. It is supplied by the third nerve.

The muscle which closes the lids, *orbicularis palpebrarum*, arises from the edge of the orbit, near the inner angle of the opening between the lids, and its fibres pass around the lids, between the skin and cartilage, and unite at the outer angle. It is supplied by the facial, supra-orbital and superior maxillary nerves.

The eyelashes, or *cilia*, are rows of short, thick hairs on the free margins of the lids, those of the upper lid curving upward and those of the lower curving downward. Their follicles lie in the connective tissue upon the cartilage, and are connected with sebaceous glands which lubricate the cilia.

Imbedded in the cartilages are blind tubes into which open secondary follicles (thirty to forty in upper lid, twenty to thirty in lower). The tubes, *meibomian glands*, lie parallel and open in a row near the inner edge of the free border of the lid. They furnish a sebaceous secretion which lubricates the margin of the lids.

The size of the opening between the lids, *palpebral fissure*, determines the apparent size of the eye ; a large opening allowing the globe to bulge forward and become prominent, while a small fissure prevents much of the eyeball from being seen. The angles formed by the margins of the lids at the extremities of the fissure are called the *internal* and *external canthi*.

The conjunctiva, when the lids are closed, form a shut sac, with its palpebral and ocular surfaces in contact. It forms a crescentric fold at the inner canthus—*semilunar fold*, or *plica semilunaris*. This is regarded as the rudiment of the third eyelid, or *membrana nictitans*, in birds. Lying upon the semilunar fold in the inner canthus is a small red body, the *caruncula lachrymalis*. It consists of hair follicles, sebaceous glands, connective tissue and fat, is covered by mucous membrane, and has a few fine hairs on its surface.

The lachrymal apparatus consists of a secreting portion, the *lachrymal gland* and *conjunctival glands ;* and the conducting portion, *canaliculi*, *sac* and *nasal duct*. The lachrymal gland is almond-shaped and lies in a depression in the roof of the orbit at the outer angle. Its lower surface rests upon the outer part of the eyeball, and its longest diameter, the transverse, is about three-fifths of an inch. The secretion of the gland (the tears) is conveyed to the conjunctival sac by six to twelve ducts, which open in a row at the outer third of the superior retrotarsal fold. The accessory glands consist of a group of small glands arranged in a row just above the conjunctival reflection. The secretion of the lachrymal and accessory glands is composed of water, albumen and salt, and is spread over the front of the eye by winking of the lids, lubricating its surface. The excess is collected in a triangular space at the inner canthus, the *lacus lachrymalis*, and is forced into the canaliculi by the orbicularis muscle, or flows over the cheek. Ordinarily the lachrymal gland pours out very little secretion, and its removal does not materially affect the moisture of the eye, the secretion from the accessory glands being quite sufficient for this purpose. Under the same circumstances the tears evaporate from the surface of the eyeball, very little passing into the nose.

The canaliculi are two mucous canals about one-quarter of an inch long and half a line in diameter, which begin in the centre of a small elevation, the *puncta*, about one-fifth of an inch from the angle of the lids, and run along the edge of the latter (one above and one below), to the lachrymal sac. The lachrymal sac lies in a groove in the upper end of the lachrymal canal, oval in form, and flattened from before backward; is about two-fifths of an inch long and one-sixth of an inch wide; is continuous with *nasal duct*, sometimes direct and sometimes interrupted by folds of mucous membrane. The nasal duct runs in a bony canal downward, backward and outward, three-fifths to four-fifths of an inch long and one-eighth of an inch in diameter, and usually opens in inferior meatus of the nose.

Certain changes are observed in most of the tissues of the eye in old age. The sclera loses its elasticity to some extent, and presents calcareous deposits, favoring the development of the disease called *glaucoma*. The cornea diminishes in size and thickness, and also loses tone; the elastic layers become brittle and show warty elevations at margins. Usually after fifty years of age fatty degeneration begins in the upper and lower margins of the cornea, forming *arcus senilis*. These grayish, crescentric opacities gradually extend until their ends join and form a ring. The choroid, ciliary body and retina undergo degenerative changes, and their blood vessels become atheromatous. The lens increases in density, becomes flatter, and loses its elasticity, the nucleus assumes amber color, and small opacities appear. The zonule of Zinn is weakened, resulting in a tendency to dislocations of the lens.

Physiology.

The eyeballs may be considered as hollow, spherical boxes, blackened upon their inner surfaces, and having a system of convex lenses and transparent media, which unite the rays of light, forming inverted images of external objects, upon a special nervous membrane—the retina—which appreciates both intensity and color. Each eyeball, therefore, resembles a camera obscura. Images formed in the bottom of the eye may be seen by removing the sclera and choroid behind and leaving only the retina.

The impressions received by the retina are conveyed to the brain by the optic nerves, producing the results we call *vision*. The exact way in which our visual perception is gained of an object, single and erect from its two inverted retinal images, cannot be satisfactorily explained. We know, however, that the two eyes act in perfect harmony, and that the images are

symmetrically disposed on the two retinæ, and are combined into a single impression. The two retinal images are slightly different, the eyes being separated sufficiently for each to command a different view. Our ideas of *solidity* result from the union of the two images; our ideas of *distance* from the muscular efforts required to see distinctly and from experience.

The iris, with its central perforation, acts as a diaphragm regulating the amount of light admitted into the eye, by what is known as the reflex movement of the iris, the pupil contracting in a strong light and dilating in a feeble one.

The rays of light coming from any object, when entering the eye, pass through the cornea, aqueous humor, lens and vitreous before they reach the retina at the bottom (fundus) of the eye. As the light rays pass through these media they are bent (refracted) from their original course and united (focused) in the perfectly shaped eye, on the retina. It is absolutely necessary that they be focused upon the retina to form a perfect image upon that membrane. If the focus be at any point not on the retina, a blurred image results, and vision of course is indistinct. To see perfectly, it is further necessary that the focus be formed on the most sensitive part of the retina *(macula lutea)*. The retina is sensitive to the impressions of light throughout, but especially so near the posterior pole, and therefore, when accurate vision is desired, the eyes are so directed by the ocular muscles that the light is focused on the macula.

Rays of light coming from any point of illumination, however distant, are divergent, but as the pupil ordinarily is only about two lines in diameter, rays coming from a distance more than twenty feet are so slightly divergent when they enter the eye that the divergence is not recognized. So, for all practical purposes, rays coming from a distance of twenty feet or more may be regarded as coming from an infinite distance, and, therefore, as being parallel. In the ideally perfect eye parallel rays are focused by its refractive media upon the macula, and a perfect image is formed upon the perceptive layer of the retina.

When rays enter the eye, coming from a distance less than twenty feet, they are perceptibly divergent, and the shorter the distance the greater the divergence. It will therefore be seen that the refractive media must undergo a change, *i.e.*, increase the refractive power sufficiently to unite the divergent rays on the same place that the parallel rays were focused. This change the eye is capable of making, and it is called *accommodation*, because the eye can be adjusted or accommodated for different distances. The change is brought about by the ciliary muscle contracting. The suspensory ligament is in this way relaxed, and the lens, of its own elasticity, is rendered more convex, chiefly on its anterior surface. The iris is at the same time pushed forward, and the pupil contracted. The changes thus produced in the refracting media greatly increase the refractive power, accurately focusing divergent rays There is a point, however, where the divergence is so great that the utmost effort at accommodation fails to unite the rays on the macula. This is the *near point* of distinct vision, and its distance from the eye gradually increases with age, owing to physiological changes in the lens, diminishing its elasticity. By means of accommodation the eye sees everything distinctly, from within a few inches to fifteen or twenty feet away, beyond which it is unnecessary, as the vision is perfect with the media in a passive condition.

While viewing distant objects, the axes of the eyes are parallel, but near objects require a certain amount of convergence to allow the focus to be formed upon the macula of each eye. The interal rectus is the principal muscle concerned in the act of convergence, but the other ocular muscles are more or less called into action to maintain a certain position or change the direction of the eye. When we consider that six muscles control the movements of each eye, and while viewing near objects each eye must be accommodated and converged so that a perfect image may be formed on a corresponding point in the retina of each, we can but wonder how it is possible for this complicated muscular action to be maintained for any great length of time in a normal state of perfection, much more when some portion of the delicate mechanism is defective, and the harmony of action is seriously disturbed.

Errors of Refraction and Accommodation.

Contrary to popular opinion, the perfect eye is the exception instead of the rule. In many cases, however, the defect is so slight that the eyes give very little trouble unless used excessively for close work, especially by artificial light. Very often the defect so materially disturbs vision, and requires such an unnatural strain to overcome it, that a variety of troubles result. The eyes not only feel fatigued and ache, but the lids may swell, or become inflamed, the eyes becoming so sensitive that mere exposure to light will bring on a severe paroxysm of pain. Again severe attacks of headache, dizziness and a host of nervous disorders may follow.

Emmetropia is the term applied to the normally-shaped eye-ball.

HYPERMETROPIA, or over-sight, is a condition where the eye-ball is shorter from before backward than it should be, and as a consequence parallel rays of light are not united when they reach the retina unless the accommodation be called into play. A hypermetropic eye never sees at any distance without making an effort at accommodation; hence it is never at rest except during sleep, and the constant strain tends often to produce very serious consequences. In the majority of cases where hypermetropia exists, one eye is more defective than the other, and thus makes the defect much more difficult to be overcome by accommodation. The muscle of accommodation is under the same nerve control as the muscles of convergence, and hence the action of the ciliary muscle calls for a corresponding effort on the part of the converging muscles, and *vice versa*. When, however, one or both eyes are hypermetropic, a greater effort at accommodation is required, and while the eyes are focused for a given point they are converged for a nearer one, and double vision is the result. The double vision is produced by the images being formed at different points on the retina in the two eyes. Under such circumstances distinct vision is only obtained when the image of one eye (the weaker) is suppressed. If the difference in the refractive condition be very great, it will be a comparatively easy matter to suppress the image formed in the weaker eye; but if there be but little difference, one will turn inward, and the image, being formed on a less sensitive part of the retina, is finally ignored.

In the former case, the weaker eye may remain "straight," but in the latter the eye which turns in will soon become permanently "crossed." In this way nearly all cases of convergent squint, or *strabismus*, are produced.

Treatment of Hypermetropia.—The only thing that can be done to relieve this condition is to correct the defect by having the person affected wear convex glasses, which should be adjusted by an oculist who thoroughly understands the subject. The accurate correction of refractive defects is a matter of such great importance that no one but a competent person should undertake to do it.

PRESBYOPIA, or far-sightedness, is a condition that is the result of natural changes due to age. At about forty years of age most people find that they are compelled, in order to see well, to hold their newspaper a little farther from their eyes than formerly. The eyes also feel fatigued much sooner, especially when artificial light is used. This is the result of a diminished power of accommodation, and can be easily relieved by using properly fitted convex glasses.

MYOPIA, or near-sightedness, is the opposite condition from hypermetropia, that is, instead of being too short, the eyeball is too long. Parallel rays unite before they reach the retina, and divergent rays focus without the aid of accommodation. In hypermetropia the defect exists from birth, but in myopia it is usually acquired, although a predisposition, as a weakened condition of the coats of the eye, may be inherited. Close work favors the production of a myopic condition in the eye. Straining the accommodation and convergence increases the tension of the eye, and this interferes with the escape of the venous blood from the interior. As the veins pass through the sclera obliquely, any increase of pressure from within would tend to obstruct the flow of blood through them. The retarded escape of venous blood tends to still further intensify the intra-ocular pressure, and this to increase the myopia. The trouble, once begun, therefore, is very likely to become progressive, unless proper means are promptly employed to stay its further development.

Treatment.—As a myopic should be considered as a "sick eye," no time should be lost in having it cared for by one skilled in the treatment of such difficulties. Unless checked, the defect is liable to go from bad to worse until all useful vision is irreparably destroyed. All strain should be removed as far as possible, and close work abandoned until the progress of the difficulty has been checked. Concave glasses carefully selected should be worn all the time. A full correction of the myopia should be made by glasses for distant vision; and, if the defect be great, about one-half correction for near objects.

ASTIGMATISM (Gr.: *a*, without, and *stigma*, a point).—In this condition the rays of light entering in one meridian are focused at a different point from those entering in another meridian, the meridians of greatest difference being at right angles with each other.

In simple *myopic astigmatism*, one meridian is emmetropic (normal) and the meridian at right angle is myopic. *Simple hypermetropic astigmatism* has one meridian emmetropic and the other hypermetropic. *Compound myopic astigmatism* has both meridians myopic, but one more than the other. *Compound hypermetropic astigmatism* has both meridians hypermetropic, but one more than the other. In *mixed astigmatism* one meridian is myopic and the other is hypermetropic.

On account of the inability to focus all meridians at once in astigmatism, the defect is a source of much greater difficulty, and its correction is far more important than either hypermetropia or myopia. Neither convex nor concave glasses will correct astigmatism, because, the surface of the glass being curved equally in all meridians, when a glass is found that will correct one meridian, the other is either corrected too much or too little. A glass is required that will correct one meridian and leave the other unaffected. This is found in what is called the cylindrical glass, the shape of which shows it to be the segment of a cylinder, that is, in the direction of the axis of the cylinder the glass is the same thickness throughout, but its surface is curved in a direction at right angles with the axis. A cylindrical glass may be either convex or concave. The ordinary convex and concave glasses are spherical in shape. Compound astigmatism is corrected by using a lens that is ground spherical on one side and cylindrical on the other. Mixed astigmatism is corrected by one ground concave-cylindrical on one surface and convex-cylindrical on the other, with the axes of the cylinders at right angles with each other.

Diseases of the Eye and Their Treatment.

Diseases of the eye are so numerous and their diagnosis so difficult, that it requires long study, special training and experience to recognize and treat them with safety and success. Simple troubles will usually recover without treatment if not meddled with, but may ultimately prove serious if allowed to go unchecked or become aggravated by harsh or improper remedies. Grave difficulties may be overlooked as such, until vision has been permanently impaired or destroyed. In view of these facts, it is considered unnecessary if not dangerous to outline the symptoms and treatment of the various eye diseases in this article. Nevertheless, a few hints with reference to the handling of some of the simpler affections, conduct in emergencies, and the care of the eyes, will not be out of place.

If a foreign body should get into an eye, the tears will quickly begin to flow freely, and, in many cases, will wash it out. But if the substance be rough and angular, it may be imbedded in the cornea or the folds of the conjunctiva. When a foreign substance is supposed to be in the eye, the cornea should be thoroughly inspected by aid of a convex lens, if at hand, to concentrate the light upon the eye. The body may be so small as to escape detection with the unaided eye, but sufficient to cause great pain and dangerous inflammation. The best method of removing substances from the cornea, when a surgeon cannot be had, is to sharpen a lead pencil very fine, and, standing behind the person seated in a chair, steady the eye and separate the lids with the left hand, and gently pick it out with the point of the pencil. After removal of the foreign body, the eye should be rested, bathed in warm water if irritable, and the person instructed not to rub it. In case nothing be found in the cornea, the lower lid should be drawn down by placing the ball of the thumb on the cheek below, and, by pressing downward, the inner surface of the lid exposed. This should be carefully examined, and, if nothing is found, the upper lid should be everted, as shown in Figure 37, by seizing the eyelashes at the

middle of the lid, and, directing the person to look down, pulling the lid downward and outward, then placing a pencil or match on the lid about half an inch from its edge and gently pressing downward while the edge is lifted upward and over the pencil by means of the lashes. If anything is discovered on the upper or lower lid, it can be readily removed by the corner of a handkerchief being twisted to a point and used as a swab to brush it off.

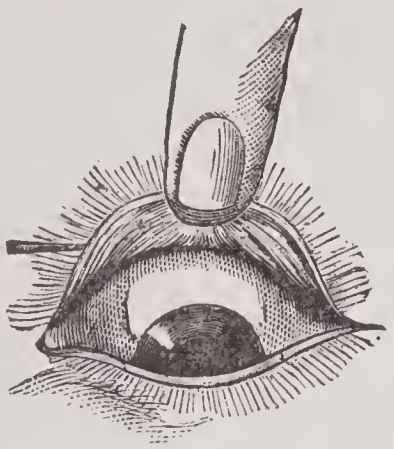


Fig. 37. Method of Turning the Upper Lid.

If the conjunctiva becomes reddened from any cause, it denotes, if long continued, that inflammation has been established; this may be confined to the conjunctiva or be a complication of some deep-seated trouble. It is not safe to tamper in such cases, but if a surgeon cannot be had at once, use nothing but simple remedies until professional advice can be secured. Warm salt water (one quarter teaspoonful to pint) is a safe remedy in all inflammatory conditions of the eye, and if used for ten or twenty minutes three or four times daily, will relieve most acute affections of the lids and conjunctiva. All patent eye-washes should be avoided, because most of them contain acetate of lead, and if this is employed when there is an abrasion of the cornea the lead will be deposited and a permanent opacity remain.

Should the warm salt water not prove sufficient until a physician can be seen, bathe the eyes in a weak solution of alum or boracic acid (two to five grains to ounce).

As a rule, so long as the vision remains perfect there is nothing dangerous affecting the eye; when, however, sight is impaired, an oculist should be consulted as quickly as possible.

For the first twenty-four hours cold applications are advisable in all injuries of the eye, especially of the lids and conjunctiva; but after that time has expired, warm dressings are usually followed by the best results.

When mortar, lime or an alkali by accident gets into the eyes, they should be quickly washed with vinegar and water (one part to eight or ten). After being thoroughly cleansed, if any part of the conjunctiva is found eroded, fresh castor oil or vaseline should be applied over the raw surface, and care taken not to allow the lids to "grow" to the eyeball. If the conjunctiva be very much injured, the lids should be kept from coming in contact with the eyeball by a piece of cotton soaked in oil. In cases of injury from acids, the eyes should be washed immediately in bicarbonate of soda (salaratus) and water (one part to ten) and then dressed as a burn.

THE EAR.

Anatomy.

The anatomy of the ear is usually divided, for the sake of convenience, into that of the external, middle and internal. The external ear embraces the auricle and exterior auditory canal; the middle ear the *membrana tympani*, cavity of tympanum, mastoid cells and eustachian tubes; the internal ear the vestibule, semi-circular canals, cochlea and auditory nerve. The auricle is the external funnel-shaped appendage attached to the malar and temporal bones by elastic fibres. It consists of fibro-cartilaginous framework closely covered by perichondrium and skin. From the lower end of the cartilage a projection extends, formed principally by the skin, the lobe of the ear. The outer edge of the auricle is called the *helix;* within this a depression, the *fossa navicularis*, at the inner edge of which is another ridge, the *anti-helix*. In front of the opening of the auditory canal is a projection, the *tragus;* opposite this on the other side of the canal is another projection, the *anti-tragus*. The concavity around the orifice of the canal is known as the *concha*. The triangular depression above the concha is the *fossa triangularis*.

The *meatus auditorius externus*, external auditory canal, extends from the auricle to the membrana tympani forward and inward, by a crooked course; average length about one inch. The outer one-third is cartilaginous, continuous with cartilage of the auricle. The inner two-thirds is formed by the bony canal in the temporal bone. At the bottom of the canal the membrana tympani is inserted in the tympanic groove, *sulcus tympanicus*. The membrane is placed obliquely, and hence the anterior and inferior walls of the canal are longest. The canal is lined by integument containing soft hairs, sebaceous and ceruminous glands. The secretion of the glands, corumen (wax), is chiefly fat and coloring matter.

The *membrana tympani*, or *drum-head*, separates the auditory canal from the tympanic cavity. It is so obliquely placed that the upper border is about a quarter of an inch nearer the entrance to canal than the lower. The posterior border is about one-fifth of an inch nearer than anterior. It is ellipsoidal in shape, with its long axis (one-third of an inch) downward and forward. At the upper portion, the short process of the malleus shows as a conical protrusion, from which

extend two folds, the anterior and posterior. The membrane is slightly concave externally. The deepest concavity surrounds the end of the handle of the malleus, and is called the umbo. The membrane is inelastic, and about $\frac{1}{250}$ inch in thickness. It is composed of three layers, a middle fibrous layer, covered externally by skin of auditory canal, and mucous membrane of tympanum internally. The middle layer has two layers of fibres, an outer radiating and an inner circular.

When viewed through the auditory canal, the healthy membrane presents a delicate bluish-gray color and is translucent. The short process of the malleus appears as a whitish tubercle, near upper margin, and the handle of malleus as a light stripe, running from this downward and backward to centre of the membrane. The "light spot" is a bright triangular reflection from the oblique surface of the membrane. Its apex points to end of handle, and its base toward margin.

The cavity of tympanum, or drum of the ear, is an irregular-shaped space, lined by mucous membrane, which is continuous with that of eustachian tube and pharynx. The antero-posterior diameter is about ½ inch; the anterior-vertical, ¼ inch, and the posterior-vertical, three-fifths of an inch; transverse, one-eighth to one-sixth; opposite drum-head, one-twelfth inch. The eustachian tube opens into upper part of anterior wall. Above the tube is the canal for the tensor tympani muscle, separated from it by a thin plate of bone. The posterior wall separates the tympanum from the mastoid cells, the openings into which are found at the upper part, close to the roof. The drum-head forms most of the outer wall. The inner wall forms outer wall of the labyrinth. An oval opening *(fenestra ovalis)* is found opposite support of drum-head in the inner wall which leads into the vestibule. The opening is closed by a membrane upon which rests the base of the stapes. A smaller opening below *(fenestra rotunda)* leads into the cochlea. The latter opening is closed by a membrane called the *membrana tympani secondaria*. Anterior, and between the fenestræ, is a rounded projection, *the promontory*. This corresponds with the first whorl of the cochlea. The upper wall is very thin and separates the tympanum from cranial cavity.

The bones of the ear (ossicles) are three in number — *malleus* (Lat. for *hammer*), *incus* (anvil), and *stapes* (stirrup). They form a chain across tympanum from membrana tympani to membrana ovalis. The malleus presents a head, neck, short and long process, and manubrium (handle). The incus has a head, long and short process. The head articulates with malleus, and is joined to roof of tympanum by a ligament; short process runs back to articulate with posterior wall of tympanum. The long process descends parallel with and behind the handle of malleus and terminates in a lenticular tip which articulates with the head of the stapes. The stapes has head, neck, crura and base. The latter rests in fenestra ovalis.

The *tensor tympani muscle* arises from the periosteum of the upper wall of its canal and upper wall of cartilage of eustachian tube, and from border of sphenoid. Before leaving the canal it becomes tendinous, and as it enters the tympanum turns nearly at right angle and is inserted into the anterior half of the inner side of malleus between short process and beginning of the handle. It draws the handle inward and makes the membrana tympani and the ligaments of the ossicles tense; at the same time the long process of the incus rotates inward with the malleus handle, and presses the stapes against the oval window and the fluid of the labyrinth. The *stapedius muscle* originates in the cavity of the *pyramid* and is inserted in the neck of the stapes. It is supposed to depress the base of the stapes and compress the contents of labyrinth.

The mastoid cells consist of a number of irregular cells contained in the mastoid process of temporal bone. In the upper part of the process a single large cell is found, the *mastoid antrum*. This communicates with the lower cells and the tympanic cavity. The eustachian tube is about a line in diameter, and extends from the pharynx upward, outward and backward to tympanum. It has a cartilaginous and bony portion. The tympanic end is bony, about half an inch long. The narrowest part of canal is at *isthmus*, the juncture of cartilaginous and bony parts. The pharyngeal orifice is trumpet-shaped, and is found in posterior nasal space just above floor of nostril. Its mucous membrane is continuous with that of the pharynx and tympanum.

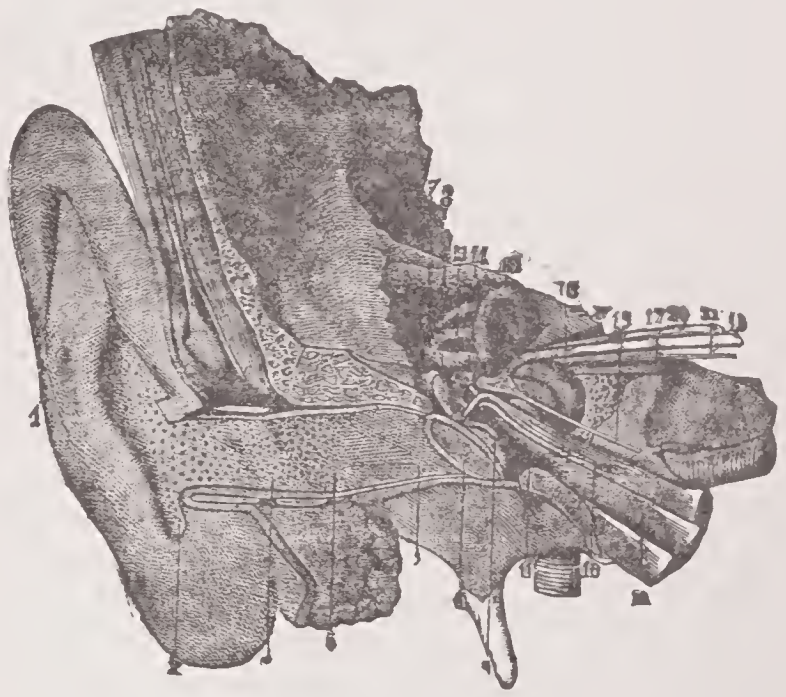


Fig. 38.

1, Auricle; 2, opening of ext. auditory canal; 3, bony part of canal; 4, cartilaginous portion; 5, ceruminous glands; 6, membrana tympani; 7, incus; 8, malleus; 9, manubrium; 10, tensor tympani muscle; 11, 12, eustachian tube; 13, 15, semi-circular canals; 16, cochlea.

The internal ear, or *labyrinth*, contains the essential parts of the hearing apparatus, the ultimate filaments of the auditory nerves. It embraces several bony cavities contained in the petrous portion of the temporal bone. Within these osseous chambers are membranous sacs which receive the distribution of the nerve. The sacs and intervening spaces are filled with a clear fluid. The bony cavities are three in number, the vestibule, semi-circular canals and cochlea.

The *vestibule* is an irregular ovoid cavity, situated internal to the tympanum. Its height and depth, antero-posteriorly, is about one-fifth of an inch, and its transverse diameter about one-tenth of an inch. The *semi-circular canals* are three C-shaped canals, starting from the vestibule and returning to it

again ; are from one-twentieth to one-fifteenth of an inch in diameter. Length of posterior verticle, eleven-twelfths inch ; anterior verticle, four-fifths ; horizontal, one-fifth inch.

The *cochlea* (snail) is a tube that coils around a central pillar or axis, and tapers toward one extremity where it ends in a blind sac. It is about one and one-half inches long, one-tenth of an inch in diameter at the beginning and one-twentieth of an inch at the end ; makes two and a half turns from below upward from left to right in right ear, and *vice versa* in the left. The cupola, or apex, is directed forward and outward. A thin wall separates the cochlea from the carotid canal in front. Internally it is in contact with the blind end of the internal auditory canal. It projects slightly, as the *promontory* on the inner wall of the tympanum. Its *axis*, *spindle* or *modiolus*, is made up by the inner walls of the tube and a central spongy bone substance ; gradually diminishes in size from base to apex. Diameter at base, one-eighth of an inch ; at apex, one-fiftieth of an inch ; length, one-sixth of an inch. Base rests upon the bottom of the internal auditory canal. The apex is formed by the inner wall of the last half whorl, ending in a thin section of funnel, the *infundibulum*. The walls of the cochlear canal are lined by a very delicate periosteum.

The bony cavities of the vestibule and semi-circular canals contain membranous sacs which correspond in shape to the osseous chambers in which they are enclosed.

The utricle (Lat., *utriculus*, a little leathern bottle) is a flattened elliptical tube resting on the inner wall of the vestibule. The outer wall is free and is separated from the outer wall of the vestibule by a narrow space filled with endolymph.

The membranous semi-circular canals are of the same shape as the body canals, and open into the utricle by five openings, the same as the osseous communicate with the vestibule. The membranous fill the osseous canals at the openings, but in other parts considerable space exists between the two, which is filled by connective tissue, vessels and fluid. The walls of the utricle and canals are very thin and delicate.

The auditory nerve, or *portio mollis* of seventh nerve, begins by two roots in the medulla oblongata. One nucleus of origin is in floor of the fourth ventricle ; the other is in the *crus cerebelli ad medullma*. The roots are in communication with the gray matter of the cerebellum and border of *calamus scriptorius*. The nerve winds around the restiform body, from which it receives filaments, and then passes forward in company with the *portio dura*, or facial nerve, to the posterior border of crus, and enters the internal auditory canal, where some fibres connect them together. At the bottom of the canal the auditory nerve divides into two branches, one passing to the vestibule and the other to the cochlea. The nerve, like the optic, is one of special sense, receiving and transmitting the impressions of the waves of sound.

Physiology.

The ear, as a whole, is a very complicated structure. The sound-waves are collected by the auricle, reflected into the auditory canal, are received upon the membrana tympani, which is thrown into corresponding vibrations ; these are carried by the chain of bones across the tympanum to the fluid of the labyrinth, and thence to the auditory nerves and through them to the brain, where they are recognized as sound. The membrana tympani, by the aid of its tensor muscle, can be maintained at various degrees of tension adapting it to different kinds of waves.

The atmospheric pressure within the cavity of the tympanum is governed by its communication with the mastoid cells and pharynx. The elements of the terminal auditory apparatus in the cochlea are supposed to be tuned to vibrate in harmony with all the different notes in our musical scale. The semi-circular canals are thought to preside over the equilibrium of the body, and to be concerned little, if any, in the function of hearing. There are still a number of points in connection with the physiology of audition remaining unsatisfactorily explained.

Diseases of the Ear and Their Treatment.

The statements made in the article on the eye are also applicable to the ear. The apparatus is so delicate that any disturbance of function should be referred to a skilled specialist for correction. Many erroneous ideas still exist in the public mind, which seriously interfere with the work of the aurist. The ear is regarded by some as so "delicate" that nothing can be done to alleviate its disorders, and cases of partial deafness are allowed to go uncared-for that could be readily cured.

The so-called "rising" in the ear, followed by an offensive discharge, is neglected because "it is dangerous to meddle with the ear" or stop a discharge from it. Many children are permitted to go in this manner without attention, at the imminent peril of their lives and with a serious impairment of hearing. The inflammation which causes such a discharge is located in the tympanic cavity, and is very liable to extend into the mastoid cells and the cranial cavity, resulting fatally. No possible harm could result from stopping the discharge, and no time should be lost in endeavoring to check it.

Children often put beans, coffee grains and other small substances into their ears, and the friends, in attempting to remove the foreign body, push it further into the canal. No instrument should ever be used, except by an aurist, to remove anything from the ear. The only thing that can be safely employed for this purpose is a syringe.

In case an insect gets into the ear, water should be poured in to kill it or cause it to come out. If this should fail to accomplish the desired result, a physician should be called.

If the ear itches or attracts attention in any way, it should be examined by a surgeon, or washed out, or a little vaseline applied on a pleget of cotton ; and on no account should it be picked at with a hairpin, ear-spoon, or other hard instrument.

One of the most common forms of deafness is caused by an extension of inflammation from the throat to the ear through the eustachian tube. The first thing noticed by the person is a ringing noise in the ear and a slight impairment of hearing. These symptoms may come on so gradually as not to attract attention for some time. The disease can be checked in the early stages, and it is therefore important to attend to it as soon as noticed.

Children frequently suffer with "earache," and as the attacks often occur in the night when it is inconvenient to call medical

aid, every family should know how to render prompt relief. The pain is usually indicative of inflammation in the middle ear which has begun in the pharynx and extended to the ear. Hot cloths should be applied to the throat and hot water poured into the ear. The water should be used as hot as can be borne, and if it fails to relieve, a small quantity (⅛ grain) of morphine, dissolved in a few drops of warm water, should be dropped into the ear while the head is inclined so as to allow it to run in. It is not advisable to use oil or laudanum, because the oil may clog up the canal, and the alcohol in the laudanum will irritate it.

INFECTIOUS DISEASES.

FEVERS.

FEVER is that morbid condition of the body characterized by increased heat, thirst, loss of appetite, dryness of skin, accelerated pulse, hurried respiration, muscular weakness, more or less pain and wakefulness, and general functional disturbance.

Fever may be symptomatic—as when it is the result of inflammation in some part of the body—or it is said to be ideopathic, or essential, when it is not the result of some other ailment, but of some specific poison which has entered the body, as measles, typhoid fever, small-pox, etc.

The temperature of the body in fever will range from 99 to 108 degrees. This is told by the use of a thermometer made for this purpose, called a clinical thermometer, which may be placed in the arm-pit or under the tongue, and allowed to remain there for about three minutes.

The temperature may run higher in some fevers without alarm than in others: 105 degrees is a high fever; 106 degrees is dangerous; 108 degrees, if long continued, is fatal. For instance, 104 degrees in typhoid fever is a high temperature, while it is comparatively low for scarlet-fever.

Heat is a stimulus, whether it originates within or without the body; hence the increased action of the heart.

The pulse of an adult in health ranges from 70 to 80 beats per minute. In fever it may range from 90 to 140 or 150. A pulse of 120 indicates a high fever; 130, if long-continued, is a dangerous symptom.

In a normal condition, there are about four beats of the pulse to each inspiration. Hence, the respiration in all fevers is hurried in proportion to the increased pulse, and the pulse rate should go up and down with the temperature. It is a bad omen to find a high temperature with a low pulse, and *vice versa*. Also, it is a bad symptom to find a rapid pulse with a low breathing rate.

Pain alone may produce all the symptoms of fever, and upon the removal of the cause of pain the fever will subside. The great object to be sought in the treatment of fevers is the lowering of the temperature, which can be accomplished by a free use of cold water. If not advisable to use the pack—which consists in rolling the patient in a sheet lightly wrung out of cold water—frequent sponge-baths may be given instead.

The higher the temperature, or body-heat, the greater the evaporation. The water of the body is carried away very rapidly. Here we see the great importance of free use of cold water as a drink, which not only replaces the water lost, but also lowers the temperature of the body. Lowering the temperature lowers the pulse in force and frequency, and also diminishes the breathing rate.

The heart's action may be controlled by the use of the tincture of aconite root or the tincture of belladonna in doses of about five drops; or the tincture of veratrum viride in doses of from two to three drops every three or four hours. Some prefer smaller doses given with greater frequency, which can and must be done when the stomach is at all irritable.

If there is much nervousness, the aconite should be given; if pain, belladonna is better; if at all desirable to produce nausea, as in pneumonia, veratrum viride may be given.

In all fevers there is more or less increased destruction of tissue; hence the importance of keeping all of the emmetories, the bowels, kidneys and skin, active or open to carry out all this increased debris of the system, thus keeping the blood pure.

It is also of vital importance that the patient should have an abundance of cool, fresh air, and sufficient nourishment to keep up the strength of the organs, especially the heart.

Fevers are generally divided into three classes: those in which the febrile condition continues from the beginning to the end, called *continued fevers;* those which come and go with more or less regularity, called *periodical fevers;* and those characterized by an eruption on the skin, and called *eruptive fevers*.

Malarial Fever.

This is a kind of Fever that comes on periodically, having a clear intermission or length of time between the fits. This Fever is distinguished by physicians under the following names: *Quotidian*, if the fit returns every day; *Tertian*, if the fit comes every third day; and *Quartan*, if it comes every fourth day.

The little animal which causes Malaria is so small that it is just visible with the most powerful microscope. It develops in the blood.

These little germs grow in marshy, swampy districts and get into the "stingers" of mosquitoes. If a mosquito, laden with such a germ, bites a person, the germ is almost certain to be deposited in the blood, where it develops and reproduces its kind, sometimes in one day, sometimes in three, and sometimes in four. The birth of the new ones causes the chills and fever. If the blood is examined with a powerful

microscope at the time of a chill, it will be found to contain large numbers of the "*Plasmodium Malariæ*," as the germ is called by scientific men.

General Symptoms of Fever.—Malaria commences with weakness, frequent stretching and yawning, followed by a feeling of coldness in the back and extremities, which gradually increases until the limbs and body become greatly agitated with frequent and violent shivering. This continues for some time, when a violent pain of the head and back comes on, and a sensation resembling a stricture, or tightness across the stomach, is frequently felt, and the feeling of coldness is so great that the patient can obtain no warmth. After a short time the feeling of coldness begins to wear off, by degrees, followed by warmth, which gradually increases, until redness and heat, much greater than natural, spread over the whole body, and the patient at length becomes so extremely hot that he is now as anxious for refreshing cold air as he was before desirous to obtain warmth. After these symptoms have lasted for some time, they gradually pass away, the thirst goes off, the skin is relaxed, and a moisture breaks out on the head, which soon becomes general, and profuse sweating breaks out over the whole body; then slowly going off, it entirely disappears. These are all the symptoms, or progress of a regular form of Intermittent, or, in other words, Malarial Fever; then the patient is left, apparently, free from disease, until the next attack, with the exception of weakness and debility. The fits generally make their invasion with a wonderful degree of exactness at the same hour and last generally about the same length of time.

Treatment.—For the cure of this disease, whether it is the Quotidian, Tertian, or Quartan, the same plan must be followed —which is, as far as possible, to prevent the disease from becoming habitual; for the longer it continues, the more it weakens the constitution; and if improperly treated or neglected, it is generally followed with serious consequences, disposing the liver, spleen, etc., to obstructions, and frequently prepares the system for Dropsies and other Chronic Diseases.

The first thing to be done for the treatment of the cold fit, is to produce artificial warmth by bathing the feet and legs in hot water, covering the body with blankets at the same time. When in bed and well covered, apply to the feet Hot Water-bottles, and let a dry heat be likewise applied to the pit of the stomach, abdomen, and along the spine or backbone, and to the hands. Warm drinks should be given freely, such as Hot Lemonade. In short, during the cold stage, endeavor to produce the hot.

In the second place, during the hot stage, you are to lay aside the remedies used in the first stage, giving cooling drinks, and removing, gradually, the clothing, etc., which greatly oppress the patient at this time, and if the Fever is very high a cool Sponge Bath may be given.

In the third, or sweating stage, the patient should be kept cool, wiped dry after it is over, the clothing changed, and sleep permitted. When there is much debility or weakness, stimulants should be given, such as a little Warm Brandy, or Whiskey Toddy, or Wine and Water.

Quinine is a specific in Malaria, *i. e.*, if properly given, it will positively cure this disease. The amount of Quinine for an adult should be 21 grains before the expected Chill. It should be given in capsules or in the liquid form. Commencing four hours before the expected Chill, 7 grains should be given, and each succeeding hour the dose should be repeated until the twenty-one grains are taken. This will not prevent the first chill following, though it may diminish its severity. After the Chill is over, from 10 to 20 grains of Quinine should be given hourly, in 2 grain doses for the next two or three days.

For Chronic Malaria, *i. e.*, attacks at intervals of two or three months, of Chills followed by Fever, associated with enlargement of the Spleen, Arsenic should be given as Quinine is ineffective. The Arsenic may be given to an adult in the form of Fowler's Solution—a drop or two three times a day after eating, or the following pill: Saccharated Carbonate of Iron, 1 drachm, Arsenious Acid, ½ grain, mixed with any Pill mass and divided into 25 Pills, one taken after each meal. This latter prescription will be found valuable in Anæmia and Chlorosis.

Inasmuch as marshy districts and mosquitoes play an important part in the cause of Malaria, as has been said, avoiding these two "evils" will aid in preventing Malaria.

Another favorite remedy is: Sulphate of Quinine, 20 grains; Sulphuric Acid, 20 drops; dissolve the Quinine in the Sulphuric Acid, to which add 1 ounce of Paregoric; shake well together, and give a teaspoonful every hour, until you have given six doses. The proper period for the exhibition of this medicine is during the remission.

When children are afflicted with this disease, these remedies should be proportioned to their ages.

As Agues are liable to recur in some delicate constitutions, it would be well to wear flannel next to the skin as a preventive. Removing for a short time to a more healthy air, has often effected a cure. In like manner a change of medicines is as necessary as a change of air; therefore, neither bark, nor any other tonic medicine, should be used longer than a fortnight at a time, but should be *changed* for another remedy whose virtues are nearly the same.

When a week or two has passed, in case the disease should prove obstinate, larger doses should be given.

In the cold fit, give Warm Drinks. In the hot fit, Cooling Drinks, Lemonade, and Toast and Water. Cold Spring Water should be taken in small quantities at a time.

When the sweating stage begins, the drinks should be the same I have mentioned, giving, at the same time, a little Wine occasionally, and any light nourishment may be allowed that the patient desires. During the intermission, or well days, give the patient such diet as will strengthen him, and moderate exercise in the open air, unless the weather or a damp situation forbids. Great care should be observed, in taking exercise, that we do not carry it to fatigue, which prostrates the system and prevents a healthy reaction, or, in other words, induces debility or weakness.

Congestive Chills.—This disease sometimes assumes an alarming form, known as the Congestive or Sinking Chill. The cold stage or chill is much longer than previously; the whole capillary system, and small blood-vessels near the surface, seem to be "congested"; the skin is cold, clammy, and pale or death-like, and the patient apparently "sinks," as though death were about to ensue. The exact cause of this form of the disease is not well understood, except that it is probably the same as that of ordinary Chills and Fever, the system only being more thoroughly charged with the poisonous Malaria. Congestive Chills seem to prevail in certain districts, and during certain seasons, more than in others.

Treatment.— In Sinking or Congestive Chill, the treatment must be more powerful and energetic than in the common form of the disease; prompt and powerfully stimulating means should be at once adopted. Give immediately two or three large doses of Quinine, with plenty of Brandy; say 15 grains of Quinine, divided into three powders, and give one powder every hour, with half a tumbler of Brandy; at the same time rub the body of the patient well with Spirits so as to recall warmth and the blood to the surface. The Warm Bath is also good.

The remedy of greatest importance in these cases is the Quinine, and sometimes it will have to be given in large doses, say ten to fifteen grains every fifteen to thirty minutes, until three or four doses are taken, and reaction begins to be established. To promote its absorption, internal and external stimulants are employed to remove congestion. It may be necessary to inject it hypodermatically.

After the chill has been overcome, and reaction takes place, treat the same as an ordinary case, while the Fever lasts. When that is over, and during intermission, give Quinine, in pills or liquid, as for an ordinary case of Fever and Ague.

Nervous or Typhus Fever.

This disease is known by various names, according to the symptoms which predominate, as Nervous Fever, Slow Fever, Jail, Hospital, and Ship Fever, Spotted or Petechial Fever, Putrid Fever, and Malignant Fever. Typhus Fever is also contagious, to some extent, or under certain circumstances. These terms are sometimes also applied to Typhoid Fever, when it assumes a character to justify their use.

It receives its first name from attacking the brain, and the effect it produces on the nervous system. The second, from the slow and gradual manner in which it sometimes comes on. The third, fourth, and fifth, because it is apt to break out in jails, hospitals, and ships, where a number of men are crowded together, and where proper cleanliness and ventilation are not observed. The sixth, from certain spots or pimples, slightly elevated above the surrounding skin, of the size of a pin head, of a bright red or rose color; sometimes there are but very few, principally upon the belly and chest, but sometimes on the face and wrists, and the most usual period for their appearance is during the second week of the Fever; in a few instances, as early as the close of the first week. The seventh derives its name from the putrid state or tendency, supposed to take place in the fluids. The last, from the dangerous nature and malignity of the Fever; they are, however, the same disease, varying according to the violence of the symptoms, and the different constitutions of the patients.

Symptoms.— In this disease, more than in any other Fever, the symptoms vary. It sometimes creeps on in such a slow, secret manner, that the disease will have made considerable progress before the patient is aware of the necessity of using remedies, but on other occasions, it comes on with a greater degree of rapidity. The symptoms are pretty much alike, common to all Fevers; first heat, then cold, or sometimes chilliness followed by heat, want of appetite, sickness at the stomach, and occasional vomiting, followed by some confusion of the head, feeling of weakness, lowness of the spirits, trembling of the hands, frequently sighing without knowing the cause, pulses irregular, sometimes a little faster than usual. and at other times about natural. In some patients, a dull and heavy pain in the back of the head is complained of, with a sense of coldness; in others, a pain in one eye.

These symptoms gradually increasing, the pulse becomes smaller, and at the same time quicker, while the arteries of the temples and neck beat with additional force. The patient is generally more restless toward night, the breathing is somewhat difficult, and very little refreshment is obtained from his short and disturbed slumbers. This gradual increase of symptoms, with the peculiar, pale, sunken countenance attending Fever, will give the alarm, even when other Nervous Diseases, with which the earlier symptoms have been confounded, are present. In the progress of the disease, the system is equally affected; for sometimes headache, restlessness, and uneasiness prevail in a high degree, while, at the same time, the tongue is clean and moist; and at other times, while there is no headache, or restlessness, the tongue will be dry and foul, and profuse sweats will break out. This Fever, moreover, is not only thus irregular in affecting various parts of the body, but it is also irregular in its recurrence after the remission; and these, instead of taking place in the evening, will arise often in the morning. Again, sometimes the Fever is very violent for the first three or four days; it then diminishes for a time, and then, perhaps, increases again.

After, or about the tenth day, the weakness increases considerably; the whole nervous system becomes affected with tremors and twitchings; the urine is commonly pale; the fingers are in constant motion; the tongue becomes dry, of a dark color, and trembles when attempted to be put out, and sometimes the gums and lips are covered with a dark, viscid substance. To these succeed stupor, cold, clammy sweats, with a fetid smell. hiccough, and twitching of the tendons, together with an involuntary discharge of the excrements. In every malignant case, this Fever ends fatally on or before the seventh day; but more frequently toward the end of the second week. When the patient survives the twentieth day, he usually recovers. When the Fever terminates favorably before, or at the end of the second week, the crisis is generally obvious; but when that happens at a later period, particularly if after the third week, the favorable turn is less evident, and sometimes several days pass, during which the disease goes off so gradually, that the most experienced are in doubt whether it abates or not. At length, however, it becomes evident by a warm moisture on the skin, by the dark colored gluey substance which adheres to the gums and lips, growing less tenacious, and being more easily removed; by the stools regaining a natural color; by the urine being made in greater quantity, and depositing a sediment; by a return of appetite, and by the pulse becoming slower than it was at the commencement of the disease. Deafness ensuing, tumors appearing behind the ears, a red rash, and an inflamed scab below the nose, or about the lips, are also considered favorable.

The symptoms which point out the approach of death, are the dilated pupil, or glassy, staring eye; involuntary, cadaverous smelling, evacuations; hiccoughs; cold, clammy, and partial sweats, with a small, weak, creeping, tremulous pulse; anxiety, restlessness, and grassy color of the face, or a sad expression, low muttering, or high delirium; starting of the tendons, quick speech, voice altered, constant watchfulness, with incoherence, stern sullenness, or unmanageable fury of mind, picking of the bed-clothes, blindness, inability to put out the tongue, difficult deglutition, or swallowing, sliding

down in the bed, lying on the back, drawing up the knees, insensibility, with a disposition to uncover the breast, or frequent attempts to get out of bed.

The causes which occasion this disease, are impure air, and living on damaged or improper provisions. Although these causes produce the disease, in frequent instances (where it is not epidemic or catching) persons are attacked even in the country with this malady. Filth, a moist atmosphere, much fatigue, cold, scanty diet, depressing passions, excessive study, too frequent use of Mercury, excessive intercourse with women profuse hemorrhage, or whatever weakens the nervous system, may produce this Fever.

This Fever also arises from Bilious Fever, when of long standing, changing into Nervous Fever. This disease is essentially one of debility.

Treatment.— In regard to the benefit of Emetics in this disease, there is some difference of opinion with medical men. They have, however, been mostly used under two circumstances; first, at the very commencement of the Fever, and secondly, when a relapse or aggravation of the symptoms has been threatened, by some intemperance in eating, etc., at or near the time when the patient was about to recover. They were used in Philadelphia in 1836, during the prevalence of this Fever, diminishing the violence of the disease very successfully; if used within the first twenty-four hours from the time of the attack, they generally arrested the disease.

On the first appearance of the symptoms, give 20 to 30 grains of Ipecacuanha, or 4 or 5 grains of Tartar Emetic, either of which may be dissolved in a pint or more of weak Camomile Tea, letting the patient drink a gill every fifteen or twenty minutes until he vomits freely, which ought to be assisted by drinking warm water.

In the early period of the simple Typhus, giving an Emetic, followed the next day by some active Purgative Medicine, has frequently cut short the Fever at once, lessening its duration and its dangers.

Through the whole course of the disease, the bowels must be kept gently open, so that the patient should, in no case, be more than two days without a stool; for Costiveness is apt to induce an increase of heat, and an affection of the head, as Delirium, etc.,—a great deal of feculent matter is produced in Fever, although little food is taken. In administering Purgatives, however, you must be very careful not to employ them in such doses as will operate severely — for if you do, you may produce great debility, and thereby lose your patient. The object is to procure one or two discharges from the bowels daily; for this purpose, two pills, containing each 1 grain of Podophyllin, 1 of Scammony, and 1 of Aloes, may be given; to be followed, after three or four hours, by some mild Purgative Medicine, such as Castor Oil, Salts, Senna and Manna, Cream of Tartar, or Tamarinds; but you are not to purge so as to produce debility, for the danger of this Fever is in proportion to the weakness.

The great point is to support your patient's strength and spirits by a liberal use of Tonic Medicines, by which I mean Sulphate of Quinine, Wines, etc., which should be early employed in this disease. At the same time a nourishing diet should be used, suited to the taste of the patient, and strict attention paid to cleanliness and a free circulation of pure air. While you are supporting the vital energies of your patient, you must take care to prevent feculent matter from being confined in his bowels, by occasionally administering Clysters, if the gentle laxatives have not accomplished this result. The Saline Mixture, given in a state of effervescence every two hours, rapidly abates thirst, and removes the incrusted irritability of the system.

The Doctor said it did not appear necessary that Wine should be given in very large quantities, but varied it according as the necessity of the case required. From half a pint to a pint may be used during the twenty-four hours, depending upon the strength, the constitution, and the habits of the patient, and the benefit derived, as one will easily perceive from its use. An ounce of Brandy may be given every two or three hours, if the patient is very weak.

Among the means for restoring, temporarily at least, the exhausted and flagging energies of the system, may be included the external application of dry heat, and Mustard Plasters, to the feet. Dr. Gerhard says of these latter: "They were of great and undoubted advantage in the stage of prostration which occurs at the decline of Fever, and certainly contributed to save the lives of several of our patients." He also found them useful in diminishing the stupor and prostration during the disease, as well as reanimating the strength of patients who were brought to the hospital exhausted or weakened from neglect, or from a fatiguing ride from a distant part of the city. But if the Fever was high and the skin very hot, the Mustard Plasters to the feet were not as beneficial as when the skin was cool, and the patient seemed sinking from weakness.

A most powerful and valuable remedy will be found in Cold Water; the earlier it is used in this disease the better, or as soon after as you have evacuated the contents of the stomach, bowels, etc. In the earlier stage of the disease, Cold Water may be poured in considerable quantities from a height, or dashed on from a pail or basin, over the patient, but in the advanced stage of the disease, sponging the body will be more safe; both modes are grateful and refreshing to the patient, and generally bring about an abatement of the Fever, followed by more or less moisture of the skin, and then by a refreshing sleep. Bathing with Cold Water may be used at any time during the day, when there is no sense of chilliness present, or when the heat is already above what is natural, and when there is no general or profuse perspiration or sweating.

During the cold stage of the paroxysm of Fever, while there is any considerable sense of chilliness present, or where the body is under profuse sensible perspiration, this remedy ought never to be employed, as by so doing we might extinguish life. In the advanced stage of Fever, when the heat is reduced, and the debility great, some stimulant, such as Wine warmed, with the addition of Spice, or Warm Brandy, should be given immediately. In some cases, where the delicacy of the system will prevent the Cold Water from being employed, tepid or milk-warm Water may be used, suffering the surface of the body to be exposed occasionally to the air, by this means you diminish the pulse, the breathing becomes easier, and sleep is immediately apt to follow. In the progress of this disease, special morbid symptoms will require especial treatment. Thus, affections of the head, with stupor and delirium, will be relieved by frequently washing the temples with Cold Water, which should be frequently renewed; and if the delirium be accompanied with wildness of the eyes, an ice-cap or cold compress must be applied to the head.

Where there prevails any unusual coldness in the lower extremities, recourse must be immediately had to the Warm Bath,

or to some warm, stimulating applications externally, in order to restore the circulation. The efficacy of the Bath will be greatly increased in such cases by having it strongly impregnated with Salt, and the patient should remain in it till his skin becomes warm. On being removed to his bed, he should be well rubbed all over with Hot Flannels, and bottles of Hot Water, or Heated Bricks, with Vinegar poured upon them and enveloped in Flannel, applied to his feet, legs, and arm-pits. When a bath-tub can not be procured, use, as an embrocation, a strong solution of Table Salt, in Heated Spirits, which admirably recalls the languishing circulation to the surface.

Camphor is one of the most useful and powerful remedies in this disease, when sleep has been interrupted by disturbances of the nervous system, or jerking of the muscles, which is, in many instances, immediately checked by giving an Injection or Clyster, in which 20 grains of Camphor are dissolved, and give internally, by the mouth, 5 grains dissolved in a wine-glassful of Water, well mixed. This dose should be given every two hours until it brings on composure of spirits and sleep. In some cases this remedy will exert a perfect control over the jerking of the muscles, and like most of the remedies of its class acts as a useful balance-wheel in preserving the harmony of the system, until the disease has passed through its natural course, which is about fourteen days, so that we should assist Nature in all her salutary efforts to overcome this disease.

When there is great restlessness, and the patient exhausted by agitation, and tormented by incessant nervous jerking, you will find a small dose of Morphia will calm the agitation and induce sleep. It is not a remedy which should be used in large doses, as patients with Typhus are certainly more readily affected by its narcotic properties than they are in any other disease.

The diet, when the Fever begins to decline, should be somewhat nutritious and supporting. The contagious character of the disease should be borne in mind. The first precaution is to separate the sick from the healthy, and thus cut off, as much as possible, the intercourse between them. Purify both beds and clothes from every particle of filth; the chambers must be often sterilized with Carbolic Acid.

On the first appearance of Typhus, or any infectious disorder, in any place where persons are crowded together, great cleanliness should be observed, and the rooms should be freely ventilated, by the admission of pure air, the floors washed frequently with strong soap-suds, and quickly wiped as dry as possible.

As a purifier, Carbolic Acid or Formalin are among the best.

Yellow Fever.

YELLOW FEVER originates in hot, low, filthy localities. Having once originated, it may spread, as other contagious diseases—may be carried a great distance in clothing or goods. Exposure and dissipation are strong predisposing causes. Non-acclimated persons are more liable to be attacked than natives. It is more fatal among the white population. The death-rate is high. Patients recovered from this fearful disease enjoy immunity from attacks in future. The attacks generally begin rather suddenly. The temperature ranges from 101 to 107 degrees. The symptoms are a dry skin, rapid pulse, thirst, frontal headache, pain in the back and calves of the legs, and vomiting. At first, the vomited matters consist of mucus and of portions of food. There is a cream-like coat upon the tongue, and tenderness at the pit of the stomach. After a day or two the pains abate, but the vomiting is likely to increase, and the skin becomes yellow. About the fourth day, the vomit contains blood, having the appearance of coffee-grounds, and known as "the black vomit." The urine and stools also contain blood. The tongue becomes dry and black, the pulse rapid but feeble. Delirium and coma now set in.

Death or convalescence may take place at any time. Convalescence may take place so early in the disease as to leave some doubt as to the correctness of the diagnosis, and death may strike the patient down before any of the characteristic symptoms are established. At times blood is found not only in the stools and urine, but the eyes, nose and mouth may bleed profusely, thus rendering the patient the most pitiable object imaginable.

This disease demands the highest hygienic skill. It can be perpetuated by the virus contained in exposed clothing or furniture. Treatment should be according to general principles. Pain and vomiting are best controlled by the hypodermic injection of morphine. Muriatic, nitric and sulphuric acid and quinine are called for.

The convalescence is generally protracted. The yellowness of the skin continues for a long time. At this period the main thing needed is good, judicious feeding and tonic treatment.

Rubeola—Measles.

This is a very infectious febrile disease. As a rule it is experienced but once. Children are more frequently attacked than adults, partly because most adults have, as children, suffered from an attack, and thereafter enjoy immunity from the disease. But it is also true that adults unprotected by a former attack are less susceptible. About two weeks elapse from the time of exposure to the development of the disease. The first symptoms are those of a cold. The patient coughs and sneezes; the eyes are suffused, and a thin mucus flows from the nose. There is a pink appearance of the eye, and during the catarrhal period there is a slight fever. On the third or fourth day the fever is increased, and an eruption begins to make its appearance at the roots of the hair and upon the forehead and temples. The eruption is of minute red spots scarcely raised above the surface, and smooth to the touch. In small-pox the eruption has a sandy or gritty feel. The first attack of small-pox is somewhat like remittent fever—a high temperature with vomiting. In measles it is more like a cold. The fever rises with the eruption. In small-pox it falls. Two days are required for the eruption to become general, and in about three or four days more it begins to disappear in the order in which it came. Now the temperature suddenly falls to the normal, or very near it. The temperature seldom rises above 104 degrees.

At times the lungs become involved to an alarming extent. The cough from the beginning is very annoying, and it is liable to continue for a long time after every other symptom has disappeared. The eyes become inflamed during the catarrhal period, and they so remain long after the patient is well in every other respect. At times the eyelids become granulated. The throat symptoms may also continue for some time, but never become a serious complication, such as that occasioned by scarlet fever.

Treatment.—In this disease, great care against exposure is required. More soldiers, during the late civil war, died from measles than from small-pox, because in small-pox less harm is occasioned by exposure. All the windows and doors may not

be permitted, in the case of measles, to be thrown open, unless it be summer; but from experience we know that the nurse needs be cautioned more against keeping the room too warm, against steaming, sweating and stimulating the patient. If it is an ordinary case, nothing is required beyond securing the greatest amount of comfort. Sometimes the eruption is very tardy in coming out. In such cases, a warm bath is useful in bringing out the eruption. Hot drinks may also be given. Such cases are exceptions, however, and not the rule. A few drops of aconite and sweet spirits of nitre, in water, may lower the pulse rate and temperature, but are generally not required. Syrup of ipecacuanha and syrup of tolu will mitigate the cough. The bowels may need some attention. If there should be a diarrhœa, paregoric may be added to the cough syrup. If constipation exist, syrup rhubarb may be given.

The "*black*" measles is not another disease, but a malignant form of the same, the eruption being attended by small hemorrhages under the skin, analogous to that in the malignant form of small-pox. This condition is attended with danger.

Typhoid Fever.

The predisposing causes of Typhoid Fever are all such as greatly depress the vital powers of the system, either temporarily or permanently, and we might say, with truth, that no person, unless originally of feeble vitality, or laboring under some cause that produces depression at the time of exposure, can have primary Typhoid Fever. It is true, that if the cause acting upon the system is very intense, the disease might be rapidly developed. When one really has got Typhoid Fever, the disease will run its course of three or four weeks, nothing, at present, being able to stop it. Often, people have many of the symptoms of Typhoid, but rapidly get well, *i. e.*, within two or three days. The Doctor takes the credit and says he has broken up a long spell of Fever, when, as a matter of fact, there is no such thing as "breaking up" an attack of Typhoid Fever.

To have Typhoid Fever it is necessary that the very minute plant, called the "*Bacillus Typi Abdominalis*," gain entrance to the alimentary canal. No doubt it gains entrance to most every one's digestive tract, but most people being well and healthy, it finds no "foothold," as it were, and perishes. People who succumb to Typhoid infection must, at the time the Bacillus gained admission to the body, have been below par, *i. e.*, were not perfectly well, so that the Bacillus found good soil to grow and multiply.

People sick with Typhoid Fever pass large numbers of these Bacilli in the stools; if this effluvia is not carefully destroyed the organism may find its way into a near-by spring or water supply for a community, and every one using this water for drinking purposes becomes exposed to Typhoid Fever.

If milk cans are washed with this same water, the organism gains entrance to the milk, in which it multiplies rapidly, and people drinking this milk are exposed to the disease. People who have to be about Typhoid Fever patients must be scrupulously clean, both with their own person and that of the patient. The bedding should not be allowed to become soiled, and the excreta should be destroyed by free use of Chloride of Lime or Carbolic Acid.

It is seen how important it is to boil water and secure good milk when there is an epidemic of Typhoid Fever. The organism is probably never free in the air, so it is not inhaled into the lungs.

Symptoms.—The early stage is frequently of considerable duration in this disease, the symptoms being those of depression. The patient complains of languor and debility, with giddiness, dullness, and confusion of intellect, of uneasiness at the belly, and sometimes slight nausea; the appetite is impaired; a general sense of soreness and stiffness, with more or less pain in the back and limbs, are not unfrequent. These symptoms increasing for two or three days, the patient complains of slight chilly sensations, with coldness of extremities, which, becoming more marked, are alternated with flushes of heat. This chill lasts usually from six to eight hours, but sometimes is prolonged to one or two days; there is often more or less bleeding at the nose.

With the development of reaction, the pulse becomes frequent, full and open, or soft and weak, in some cases soft and easily compressed, or if of a nervous character, quick and sharp. The tongue is generally loaded with a dirty mucus, and is broad, soft, flabby, and moist, sometimes coated in the center, but with reddened tip and edges; there is considerable thirst. In some cases the tongue is heavily loaded, especially at the base, with bad taste in the mouth, and feeling of oppression and pain in the abdomen, especially low down on the right side. The urine is slightly diminished in quantity, appears turbid and dark, but does not deposit a sediment; the bowels are natural as to frequency, but extremely susceptible to the action of medicine; the discharges thin, pale, and frothy. The temperature of the surface varies greatly; sometimes it is intensely hot and pungent, but more frequently, but slightly, increased with tendency to coldness of extremities. The countenance is dull, pallid, and shrunk, or transiently flushed; the eyes heavy and devoid of luster, and the head heavy, confused, and giddy. The patient sometimes exhibits great uneasiness, and is restless, changing his position frequently, but at others, is torpid, careless, and unimpressible. The respiration is frequently but little affected the first two or three days, but sometimes frequent and depressive. The temperature usually rises to 101°, 102°, or higher.

By the fifth to the eighth day we notice that the head has become more affected, the mind is confused, the patient reasons with difficulty and answers slowly. Sometimes, even at this early period, we have a partial development of that dreamy delirium termed the Typhoid State. The respiration has now become affected, and is short and quick, or labored and depressed. In many cases ulceration of the bowels manifests itself; the bowels are irregular; two, three, or four evacuations in the twenty-four hours, watery, yellowish, clay-colored, frothy, and fetid. The urine is but little diminished in quantity, but is pale and frothy, resembling whey or new-made beer. The patient now begins to complain, in many cases, of tenderness of the bowels, and it will be found that pressure produces pain.

By the tenth or twelfth day, the bowels have become quite loose, the operations frequent and difficult to arrest, with increased tenderness on pressure, and flatulent distention of the abdomen. The coating of the tongue has been gradually changing its color, and is now brown, somewhat fissured, or sometimes the coating has disappeared and the tongue is dry, red, and glossy; dark sordes commence to appear upon the teeth and lips. The Typhoid State has now become fully developed, the patient appears half-asleep, his mind wanders, he talks to himself of his business, his pleasures, or reveling

in the chambers of memory he appears to be living his past life over. Sometimes this dreamy delirium is replaced by considerable restlessness; the patient appears to be in a profound stupor, but is aroused by the slightest sound, to immediately sink back into his former condition. About this time, though sometimes as early as the fifth day, the rose-colored eruption makes its appearance upon the abdomen; this eruption manifests itself in small rose-colored spots about the size of the head of a pin, the color disappears upon pressing the finger over them, but returns when the pressure is removed. The patient has now become so prostrated that he requires assistance to change his position.

From this to the twentieth day, the Diarrhœa becomes worse, the discharges being dark, fetid, and very offensive, and the abdomen very much distended; the coating upon the tongue is almost black, and the teeth and lips covered with dark offensive excretions. The prostration is extreme, and the stupor profound. Frequently the heat of the surface sinks, the extremities being kept warm with the greatest difficulty; sometimes a fetid perspiration appears. Spots may sometimes make their appearance in the shape of purplish-red discolorations, not effaced by pressure; these extending, form large marks, like those produced by the strokes of a whip. The disposition of the patient is to lie flat upon his back, with tendency to slip down to the foot of the bed. The fæces and urine are now discharged involuntarily, or in some cases there is suppression of urine, which, if allowed to continue, will cause great distention of the bladder, with rapid prostration and death. Twitching of the tendons comes on, with picking of the bed-clothes, and finally result in extreme anxiety and excessive restlessness. At last, the vital power of the patient is so far exhausted, that there is no longer power to circulate the blood, and the patient dies.

This form of fever is not unfrequently complicated by low forms of inflammation of various organs, and as the symptoms are obscure in many cases, much care must be used to detect them.

Treatment.—The object of the treatment is to secure as near absolute rest for the intestines—because the disease is an ulceration of the intestines—as possible. This can only be secured by the recumbent position, in bed; by restricting the diet to the most digestible and least-irritating foods; and by keeping the patient as quiet as possible. Rest for the intestines being secured, the temperature must be kept down by cold sponge baths every two or three hours, or it may be necessary to resort to tub-baths. The heart must be watched and stimulated if it shows signs of weakness. Good nursing is more important than medicines. The patient should not get out of bed for a movement of the bowels, a bed-pan being used for that purpose. At the commencement, two grains of Calomel should be given, but after that the bowels should only be moved by injections.

In other cases, we commence the use of the Aconite, in the proportion of 20 drops of the tincture of the root to ⅔ of a tumbler of water, and administer a teaspoonful every hour. If the skin is hot and pungent, the Alkaline Sponge Bath should be employed, three or four times a day.

The dose of Aconite named is about the medium quantity; where there is evidence of congestion, it will have to be smaller; if the febrile reaction is vigorous, it may be increased. A marked change is not desired under twenty-four hours, and many times not before forty-eight, or even seventy-two hours. The above remedies, used in this way, gradually decrease the frequency of the pulse; but it becomes more full, stronger, and especially better in parts far from the heart, evincing greater strength. At last, the pulse coming down to eighty or ninety beats per minute, we observe evidence of commencing secretion. Then, if the patient shows no tendency to sleep, about nine or ten o'clock in the evening, when everything has become quiet, a sufficient dose of Opium should be given to induce sleep.

During this time the patient should be freely supplied with water, the diet being absolutely restricted to Milk diluted one-third with Lime Water. It cannot be too strongly impressed, that anything beyond this diet is injurious. If Milk cannot be borne, then a very thin Beef Tea may be substituted. The Milk and Lime Water should be given in small quantities, but often. Everything in the room and about the patient should be kept scrupulously clean, and the apartment thoroughly ventilated by admitting air from the sunny side of the house, and keeping an open fire in the room. Few persons should be in the room at a time, and the patient's mind kept calm. Especially should care be used not to excite expectant attention in the patient by secret movements, whispered conversation, or by failure of attention at the time expected. More depends upon this than is generally admitted by physicians. We cannot "kick Nature out of doors and depend upon the Materia Medica," as has been advised by a somewhat prominent physician.

If, at this time, there is torpor of the bowels, with indications that retained fæces are producing irritation, a mild Cathartic, carefully administered, will be advantageous—though a warm water injection is better—*under no other circumstances should Cathartics be employed.*

The Diarrhea may be controlled, at first, by the employment of any of the mild astringents. Frequently the Sub nitrate of Bismuth, in solution, with Peppermint Water and Turpentine, acts admirably in doses of three grains of the first, one to two drachms of the second. and ten to twenty drops of the third.

Tympanitis, or distention of the belly, is relieved by the local application of Turpentine, *i. e.*, a teaspoonful or two on cloths wrung out of hot water and applied to the abdomen.

If there is imminent danger to the patient, and especially if the discharges from the bowels are copious, Opium should be administered with Camphor and warm aromatic Spices, the dose of the first being large enough to induce sleep, say from one to two grains.

Stimulants additional to those named are required in the advanced stage of the disease, but they must be administered with care; small quantities, frequently repeated, so as to keep up a continued influence, are beneficial; but, under no circumstances, should the system be over-stimulated by large doses, and the stimulant then stopped, for the prostration ensuing might be fatal. The best stimulants are Alcohol, as Brandy or Whiskey, and Strychnine.

The patient's position should be frequently changed, the bed smoothed, and the cover straightened out. This is necessary to prevent injurious pressure on any part, which might give rise to Bed Sores; if any part becomes tender, with dark discolorations, or blanched white appearance, a weak Tincture of Arnica may be applied with advantage, the position being so changed as to remove the pressure from the part. If Bed Sores form, they should be washed with a solution of Sul-

phate of Zinc, from 10 to 20 grains to 1 ounce of Water, and a dressing of mild Zinc Ointment applied; the pressure being removed, this is generally sufficient for their cure.

Convalescence must be managed with great care, when the patient has been thus prostrated. Nourishing food of easy digestion, taken in small quantities, with gentle stimulants and tonics, pure air, light, and sunshine, are required. As convalescence becomes established, animal broths, with easily digested solid food, may be taken, but strictly controlled as to kind, quantity, and frequency.

Scarlet Fever.

This disease is medically called *Scarlatina*, and breaks out in spots or blotches, which are called eruptive, making their appearance on the surface of the body, of a scarlet or red color. The rash, or reddish color, may be compared to staining the skin with poke-berries, to which it bears a very striking resemblance. These spots or blotches appear generally between the second and sixth day, accompanied by Fever and Sore Throat, and usually terminate between the seventh and tenth day.

The inflammation in the worst forms of Scarlet Fever runs into ulceration and sloughing. It is usually divided medically into two forms; viz., 1st. *Scarlatina Simplex*, which means simple Scarlet Fever; in this stage of the disease the throat is not affected. 2d. *Anginosa*, if the throat be sore and ulcerated.

The two forms of this disease are essentially the same, only varying in the degree of severity; they are always liable to be modified by circumstances, which may cause one to merge gradually into the other, and the disorder, from being slight at first, may gradually, if not properly and in due time attended to, become severe. The treatment in this disease is simple. The temperature goes up to from 102° to 105°; in severe cases it is even higher.

Symptoms.—Should the attack be mild, the symptoms will commence with slight Fever. The eruption appears, generally, on the second or third day, first about the neck and face, in the form of innumerable red spots, which, in twenty-four hours or less, cover the whole body. Upon the limbs, but especially about the fingers, there is a continued redness, but on the trunk of the body the rash is distributed in irregular patches. The color of the eruption is a bright scarlet, being always most distinct about the loins and bendings of the joints. The redness spreads over the surface of the mouth. The tongue is furred in the center, while the edges and point are of a brilliant scarlet color; the eruption is most plain toward evening. As the fever increases, sometimes there is vomiting, generally accompanied with headache, thirst, and restlessness. On the third day, generally, the whole surface of the body is of a bright red color, hot and dry. The eruption is at its height on the fourth day; it begins to decline on the fifth, when these patches widen, and the florid or red hue begins to fade; on the sixth day, the rash is very indistinct; and on the eighth day, it is generally entirely gone. After this the disease begins to disappear, the skin then peals off in scales, and it generally terminates in about a week. The symptoms I have described are those which constitute the milder form of Scarlet Fever; but in the more severe form may be added a greater sensation of weakness; the Fever increases, with slight delirium, breathing difficult, thirst very great, with very sore throat; and in some constitutions this complaint is dangerous, requiring prompt and strict attention. The pulse in children is invariably very rapid, frequently numbering one hundred and forty or fifty in a minute; and in grown persons, or adults, one hundred and twenty or thirty. The artery feels small, and the beat is rather soft, and often obscure, though sometimes hard and wiry. The symptom which is the most constant in this affection—the one without which, in fact, the disease never exists—is a peculiar inflammation of the throat, which almost immediately runs into a state of ulceration. Upon pressing down the tongue with the handle of a spoon, and looking into the mouth, the palate and throat, as far as can be seen, appear swollen and of a deep florid color, and upon one or both tonsils may be seen whitish or grayish ulcers. These ulcers are sometimes small, and are usually confined to the tonsils or glands, on each side of the throat, and they occasionally extend to the uvula, part of the soft palate, and to other parts of the throat and mouth. The inflammation, and consequent swelling and ulceration of the throat, is one of the most troublesome symptoms attendant upon the disease, causing a great and painful difficulty in swallowing. The difficulty is in some cases so great, as to render it impossible to get anything into the stomach; liquids being frequently ejected through the nostrils. In some cases, however, swallowing is performed without pain or difficulty.

There is, however, a great accumulation of mucus or phlegm, which is constantly gathering in the throat, and in children produces a disagreeable rattling noise in breathing. This is caused by the passage of the air through the accumulated phlegm, which is constantly being forced forward and discharged from the nose. This symptom continues a number of days, and frequently gives to the family much unnecessary alarm. Sometimes the inflammation extends to the ear, and causes pain and swelling of the glands under the jaw and on the throat; and after the Fever has subsided, they either gradually disappear or go on to suppuration, and finally heal and discharge their contents outwardly. When these abscesses form and discharge through the ear, they frequently produce a degree of deafness.

Scarlet Fever runs its course with great regularity, and may be termed a self-limited disease. The eruption appears on the second day, and continues, with but little visible alteration, until about the seventh day, when it begins to fade, and generally, if no severe effects have occurred from the violence of the Fever, on the ninth day the patient may be considered out of danger.

Scarlet Fever may be known from Measles, which it greatly resembles, by the absence of cough and other apparent symptoms of cold, and also by the appearance of the eruption, it being more of a scarlet color, and the dots smaller, and by its appearing on the second instead of the fourth day; by the ulcerations in the throat, and the prevailing epidemic.

If Measles be known to be about, or the patient has been exposed to this contagion, we may suspect the disease to be Measles; but if there has been no exposure, or if the patient has previously had the disorder, there will be no difficulty in forming a correct opinion as to the nature of the disease.

There is and has been considerable and various opinions as to this complaint, whether it is contagious. It is the general opinion that it is, in a greater or less degree, contagious or catching, and all reasonable means should be used to prevent

it from spreading in that way, by keeping the sick and those who are well separate as much as circumstances will permit. The uniformity with which this complaint has made its appearance about the fifth day, after exposure to the contagion, has been one of the strongest proofs of its contagious character. And it is well known to every observer, that all persons are not equally susceptible to the contagion, and though one may take it, another, who is equally exposed, may not. This disease is mostly confined to infancy and youth, though the susceptibility to it is not extinct at thirty or forty years; but it very rarely attacks persons over thirty, and when it does, it is generally mild, and not often dangerous. A person who has had it once may take it again, but this is very seldom the case; if so, it must be owing to some peculiar susceptibility of the constitution, or predisposition. A second attack, however, is generally less severe than the first.

The cause of Scarlet Fever, after every investigation, is not known. It appears in all seasons of the year, but is more frequent in cold, wet, or damp weather. In all probability it is a specific germ infection which has not yet been discovered, but will undoubtedly soon be.

This complaint prevails EPIDEMICALLY like known germ diseases.

Treatment.—The treatment in Scarlet Fever should generally be confined to very mild measures, confinement to a room of an agreeable temperature to the feelings of the patient, avoiding cold or draughts of air, and the drinks cool, after the cold stage has passed off. During the continuance of the cold stage, warm drinks, so as to produce perspiration, may be given very freely if the stomach will retain them; but should the stomach be irritable and the vomiting frequent, very small quantities of liquids only should be allowed, and these must be of a nature calculated to allay the sickness. For this purpose, Spearmint or cold Ice Water, or Soda Water, are among the most suitable. A Mustard Poultice applied over the pit of the Stomach, is often a valuable remedy for the sickness and vomiting,

In the first stage of this disease, the most important thing to be done is to bathe the feet and hands in Hot Water, and continue this for the first two or three days, repeating it two or three times a day. In applying the Bath, great care should be observed so as to prevent the patient from getting cold; after which he should be quickly wiped dry and placed in bed comfortably warm. Should this disease be attended by headache, or costive or confined bowels, some gentle purgative may be given, as Epsom Salts or Seidlitz Powders; remembering that any powerful Emetics or active Cathartics are not only unnecessary, but decidedly injurious in every stage of the disease.

The second, or eruptive stage of the Fever, may be reckoned from the second or the third to the seventh or eighth day, during which time the patient should be kept perfectly quiet, in an agreeable, pleasant room, from which the light should be excluded. The bed-clothes, as well as the inner clothing, should be frequently changed; and every attention paid to cleanliness, airing the room, and the general comfort of the patient. No solid food of any kind should be allowed, nothing but light diet; and as the thirst is usually great, give, in reasonable quantities, Cold Water, Lemonade, Tamarind Water, Soda Water, or Rice Water; and any cooling drinks may be allowed freely as the means of contributing to the comfort of the patient. If the temperature is very high, cool Sponge Baths may be given every four hours or oftener. In mild cases this disease requires only confinement of the patient to a comfortable temperature, with low diet and cooling drinks, and the use of the Cold Bath, two or three times a day; which in nineteen cases in twenty will effect a cure.

Emetics may be found useful in the commencement, and sometimes through the whole course of the Fever. None will have a better effect than Ipecac, in suitable doses, according to the age of the patient. It is not always necessary, however, to give an Emetic, but if there be soreness of the throat, and a gathering of mucus or phlegm in the throat, impeding respiration, a mild Emetic will have a very beneficial effect. When given in the forming stage of the disease, or at a very early period, it lessens the Fever, and prevents it from becoming violent. The close and intimate connection which exists between the stomach and skin is so great, that if a healthy action be exerted or produced on one, the other experiences a good effect. Emetics are very serviceable in cleansing and removing the mucus or phlegm in the throat, which generally exists at this stage of the disease.

Purgatives in this, as in other Fevers, may prove useful, for they moderate arterial action, relieve the pain in the head, prevent delirium, and remove the morbid secretions of the liver, stomach, and whole alimentary canal. It must be recollected that children, among whom Scarlet Fever generally prevails, must have their bowels properly attended to. It will be found that in cleansing the stomach and bowels with one or two gentle purgatives—the dose to be in proportion to the age of the patient—much benefit frequently will result. The compound infusion of Senna and Manna, an excellent and simple medicine, and preferable to Castor Oil or Salts, particularly where there is nausea or sickness of the stomach, is the best. In the mild form of this disease simple purgatives, tepid bathing, cooling drinks, free air, a light diet, with rest, are, in general, all that is required. In the first three days of the disease, I have found cold affusions, purgatives, and cold drinks, truly beneficial. After the third day, the affusions, or bathing, should be tepid, unless the general excitement and heat of the skin still remain very considerable. The skin must be above the natural temperature and dry, when you make use of cold bathing.

Dr. John Eberle, Professor of the Theory and Practice of Medicine in the Jefferson Medical College of Philadelphia, says the application of Cold Water to the surface of the body cannot be too strongly recommended, in higher grades of this disease. In his late medical work, he quotes the following passage from Dr. Bateman, a distinguished physician: "As far as my experience has taught me, we have no physical agent by which the functions of the animal economy are controlled, with so much certainty, safety, and promptitude, as by the application of Cold Water to the skin, under the increased heat in Scarlet Fever, and, in truth, in all forms of disease, where there is great heat. This remedy combines in itself all the medical properties which are indicated in this state of disease, and which we should scarcely expect it to possess, for it is not only the most effectual febrifuge, or cooling remedy, but is, in fact, the only sudorific, or sweating agent, which can be relied upon, and will not disappoint the expectation of the practitioner. I have had," says this eminent physician, "many opportunities of witnessing the immediate improvement of the symptoms, and the rapid change of

countenance, produced in the patient by washing the skin with Cold Water."

One of the simplest, and yet one of the most effectual, plans of treatment, is to give one teaspoonful every hour of the following combination: Take Tincture of Aconite, 20 drops; Tincture of Belladonna, 20 drops; Muriate of Ammonia, ½ drachm; Water, 4 ounces. The bowels should be gently opened, and the entire surface of the body washed frequently with Castile Soap and Water tepid. For the throat, nothing is better than a flannel cloth wrung out of Cold Water and applied, and covered with a dry one. It may be changed every hour or two.

As a gargle, the following combination will be found one of the best: Take Chlorate of Potash and Muriate of Ammonia, equal parts, ½ drachm; Water, 3 ounces, and Glycerine, 1 ounce. The throat should be thoroughly washed with this every two or three hours.

Swelling of the throat externally, frequently comes on during the disease, and if not promptly treated, goes on to suppuration. To prevent this, bathe the part frequently with Ice Water, or keep an Ice Bag constantly applied. If the pain becomes intense, a clean cloth dipped in a hot mixture composed of the following: an ounce of dilute Lead Water and a drachm of Tincture of Opium, will give great relief.

Spotted Fever — Cerebro-Spinal Meningitis.

A new disease has appeared in this country, and is called Spotted Fever, from the peculiar eruption that comes out upon the skin. We speak of it as a new disease, because it is so termed by physicians; and yet it has been known for hundreds of years. The first account we have of it was in 1505, when it spread over Europe; again it made its appearance in 1528, and was followed by the Plague; and in 1556, it was attended with great mortality. It reappeared in 1592, and subsequently about every thirty years, up to 1805. Its first appearance in this country was at Medway, Massachusetts, in March, 1806; and from that period to the year 1815, it was met with throughout the United States, though chiefly confined to New England.

During the last century it is said to have followed the great European armies, among which it made great ravages. So intimately was it associated with war that the Germans applied to it the name of *War Fever* or *War Plague*. Though reappearing since, during the largest and most eventful war of which we have record, we cannot trace any relationship between the two, for it has appeared in peaceful localities, and not in our armies or hospitals.

The disease is infectious but not contagious. It is caused by the peculiar little germ which grows in the membranes that line the spinal cord and brain.

The symptoms of the disease in 1805 were similar to what they are now. In its course all the functions of the body were more or less interrupted, and often some of them were entirely suspended. The patient is seized in the midst of his usual labor, and oftentimes struck down suddenly, almost as by a stroke of lightning. The first symptoms are local pain or paralysis, delirium, or stupor, and, rarely, spasms or convulsions. The disease often commences with shifting pains; the patient suddenly feels a pain in one joint or limb, in a finger or toe, in the side, stomach, back, neck, or head. Sometimes mild, but at others so intense as to demand immediate attention. Often there is constantly increasing soreness, stiffness and pain in the back, extending up to the base of the brain, and when the disease is fully developed, the pain starts from the back and is attended with partial convulsions.

In some instances the disease progresses rapidly; the patient in the morning is apparently well, except slight soreness of the back and muscles. The pain in the back increases; a chill comes, followed by high fever; the sufferer gradually becoming unconscious, with sometimes convulsions, death occurring perhaps within twenty-four or forty-eight hours. An eruption appears during the last hours, of light red spots, from a pin's head in size to that of a split pea; as the patient gets worse, these become darker and larger, and after death are livid, and numerous, so that the skin seems to be mottled.

In other cases the disease is not nearly so severe, and runs a much slower course. For two or three days the patient is listless, dull and stupid; the face is flushed and dusky, eyes tumid, some pain in the head and back, loss of appetite, tongue dusky red and coated with a dirty mucus. He is still able to go about, but feels bad. On the second or third day there is a well-marked chill, lasting for two or three hours, and attended with marked prostration. Following this is febrile reaction, sometimes high, at others not very well marked. In the one case the surface becomes intensely hot and flushed; the pulse 120 to 140, sharp and hard; with great irritability and restlessness, though there is marked dullness of the mind; the bowels are constipated and urine scanty. In from two to six days, the Fever continuing, an eruption appears upon the surface, very closely resembling Measles, though more distinct. If the patient recovers, the spots commence fading out by the end of the first twenty-four hours, but do not entirely disappear for some days; if the disease progresses to a fatal termination, they become dusky, and at last livid, and of considerable size. As they become livid, the patient loses his consciousness, and soon sinks into a stupor from which he can not be aroused.

Diagnosis. — The characteristic symptoms of Spotted Fever are, pain in the back and head, and various parts of the body, with very great and unnatural loss of strength. The head is usually drawn far back, sometimes almost touching the shoulders.

Treatment. — We would advise that a good physician should be immediately sent for, though frequently it will not do to wait for his arrival. Make cold applications of Ice Water or Ice to the back of the head and along the spine. If the temperature is high, cool baths may be given every three or four hours. Morphine should be given as often as necessary.

Diet should be of liquids; there may be some difficulty in swallowing, in which case it may be necessary to feed by introducing predigested food into the rectum.

When the disease runs slower, treat it as a Typhus or Typhoid Fever; after this move the bowels, bathe the feet thoroughly in Mustard and Water. Sponge frequently with Water and as the Fever commences to subside, give Quinine in the usual doses.

Smallpox — Variola.

This disease is too well known to need a particular description. It is always caused, or communicated by contagion; that is, caught from others who have it. It is usually divided by medical writers into two kinds, the Discrete and

the Confluent; but they are both the same disease, in different degrees of severity. The Discrete form is the milder, where the pustules or scabs are fewer, distinct from each other, and do not run together. On the other hand, it is said to be Confluent when the pustules, especially on the face, hands, and arms, run together and form one continuous scab, and, of course, is much more virulent and dangerous.

When the virus or contagion has once been taken into the system, the disease can not be prevented; but it may be greatly modified, both by immediate Vaccination, and by a course of diet and preparation of the system. It is, therefore, proper to understand premonitory symptoms. As soon as it is known that a person has been exposed to the disease, he should be vaccinated, even though he has been vaccinated before. Vaccination will often modify the disease, if done at any time before the appearance of the eruption on the surface. The patient should also be put on light diet, and the bowels should be thoroughly moved with Salts or Calomel, or both.

As a general thing, persons have the Smallpox but once. It is very contagious. Those who come in contact with, or are exposed to, this disease, if not previously vaccinated, will seldom escape. A few cases have been known of persons having the disease a second time.

PREMONITORY, or FIRST SYMPTOMS.—Smallpox commences first with chilly sensations, alternating with flashes of heat, and great pain in the small of the back; with pain in the head, soreness of the throat, dislike to motion, nausea, perhaps vomiting, thirst, and stupor. The disease approaches very much like an attack of Malaria, only, usually more severe. The fever becomes more continuous. On the third or fourth day the eruption appears on the face, neck, and breast, in small spots, like flea-bites, which increase for the next four or five days; during which time the eruption appears, more or less, over the whole body. It is always worse on the face. Sometimes the eyelids become so much swollen as to be entirely closed, producing complete blindness for the time. About the eighth day the process of suppuration, or formation of matter in the pustules, is complete. About the eleventh, the inflammation subsides, and the pustules begin to decline, dry up, finally scale off, and disappear about the fourteenth or fifteenth day. When the eruption first appears on the forehead it feels much like shot just under the skin. On the tenth day the top of the pustule sinks in, causing a characteristic appearance occasioned by umbilication; this takes place only in the eruption of Smallpox, and is characteristic of the disease.

Treatment.—It is a disease which requires mild treatment and simple remedies. In the first stage, before the appearance of the eruption, one may not be able to tell whether it is Smallpox or some other febrile disease; but the treatment should be about the same in either case. Bathe the feet well in warm Lye Water. If there is sickness at the stomach, there is nothing better to allay it, perhaps, than frequent sups of warm Spearmint or Peppermint Tea, with a little Saleratus dissolved in it. If the nausea and vomiting are sufficiently allayed, give a purgative.

The whole surface should be bathed with Cool Water two or three times a day, previous to the appearance of the eruption. It may be continued once or twice a day after the eruption has appeared, until vesication or scabbing has taken place. Bathe and wash the body with Cool Water, if there is much fever and heat, notwithstanding the eruption. A little Saleratus, or common Salt, should always be added to the water; it helps to open the pores and keep the skin cleansed, by removing the oily, sebaceous matter from the surface.

If there is great pain in the head, bathe it with Cold Water, and give 5 to 10 grains of Antipyrine. The mouth should be washed with an Alkaline antiseptic.

As a common drink, to be used all the while previous to the full eruption, and to act gently on the skin, there is nothing better than plain Ice Water.

The bowels, of course, are to be kept open and in a lax condition; but no harsh or active purgative must be given. The best thing for this purpose is about two tablespoonfuls of Sweet Oil, to be taken every night at bed-time; or a tablespoonful of Sweet Oil and as much of Epsom Salts.

If the face swells much, and there is much suffering on this account, bathe it frequently with Warm Water, and keep well lubricated with Sweet Oil. To prevent the face and other parts from being *marked* by the pox, cover the parts with small pieces of silk, moistened with pure Sweet or Olive Oil, and keep the room as dark as possible. Exclude the light entirely, if you can, most of the time. Attend strictly to these directions and you may prevent pitting entirely, even in the worst of cases. It will also be necessary, sometimes, to tie or confine the patient's hands, or he may injure his face.

Pursue the foregoing course of treatment and you will succeed in even the most severe case.

Stimulants, such as Alcohol, in the form of Brandy or Whiskey, and Strychnine, may be required.

Isolation to prevent others from catching the disease is necessary.

Regimen.—The patient should be kept cool, and as easy as possible. The diet, of course, should be light, such as Cornmeal Gruel, Buttermilk and Water, Mush and Buttermilk, roasted Apples, Lemonade, Toast and Water, and the like. The room should be kept well cleansed and aired, the linen and bed-clothes changed often, and all noise and disturbance, as far as possible, prevented.

VARIOLOID.—This is a modified form of Smallpox, modified by the influence of Vaccination. It is generally mild, and without danger. It is to be treated the same as a case of genuine Smallpox, only that the treatment should be graduated according to the mildness or severity of the symptoms. Sometimes the disease is very mild, requiring scarcely any treatment; at other times it approaches very nearly to a genuine case of Smallpox, and requires a full course of treatment. It must be remembered that a person suffering with Varioloid may give genuine Smallpox to an unvaccinated person, if he should come in contact with such a person.

Vaccination.

The application of this valuable remedy requires care and judgment, and for want of these it has frequently failed. The first and most important point is to procure good Vaccine Matter; the next, to perform the operation properly, and the last, though not the least, that the child, at the time of Vaccinating, should be, as far as possible, in good health. The proper time for Vaccination is between the age of five weeks to four months, or before the commencement of Teething. If the bowels are out of order, or any eruption or breaking out is on the body of the infant, it is better to postpone

it unless some necessity should indicate Vaccination, such as Smallpox being prevalent, or in the neighborhood.

It is, therefore, the duty of parents to protect their children from Smallpox, this dangerous and loathsome disease, by Vaccination. The preventive of this fatal disorder was introduced by the celebrated Dr. Jenner, who, by experiments, fully demonstrated that the virus of Cow-pox may be propagated from one human subject to another, through several gradations, and still retain the power of producing the affection regularly in all its stages, and of rendering those constitutions, which are infected, secure against the attacks of Smallpox. The inoculation with the Cow-pox, or Vaccination, through nearly a million of subjects successively, of whom many thousands were exposed to Smallpox without taking it, fully established the certainty of Vaccination by Cow-pox, as a preventive of this dangerous complaint, which, if it does not kill, is almost certain to disfigure.

We have had the opportunity of witnessing the efficiency of Vaccination. If any further proof is necessary to show the efficacy of Vaccination in preventing Smallpox, it may be found in the reports of our charitable institutions for the reception of children in the various cities throughout the United States. The Orphan Asylum, of Charleston, South Carolina, contained one hundred and fifty children and not a single case of Smallpox or Varioloid occurred during the prevalence of that disease, although no additional restriction was imposed upon their intercourse with various families throughout the city.

In the aggregate, the number of children received into the Orphan Asylum of Philadelphia, since its establishment, is three thousand nine hundred and fifty-six. Among the whole there has been but four deaths from Smallpox, and these were found, on examination, to have no marks of Vaccination.

In the city of New York, the total number received in all the Orphan Asylums, is four thousand nine hundred and twenty-three; and although the Varioloid appeared in four or five of them, no deaths occurred from this cause. A similar result is also obtained from the records of the House of Refuge, which exhibit an aggregate number of two thousand six hundred and fifty-seven children received during sixteen years. If to the above we add the number of children received into the New York Alms-house, Long Island Farms, we have a sum total, during the last thirty-six years, of twenty-four thousand two hundred and nineteen, with but ten deaths from Smallpox contagion. Although we can not ascertain the entire results of Vaccination, yet we may form a very just estimate of the benefits, by comparing them with the ravages of Smallpox among children, before the introduction of the Kine-pox or Vaccination. But even admitting that Vaccination does not entirely prevent an attack of Smallpox, it nevertheless deprives it, in a great measure, of its terrors and reduces the mortality, which once made it one of the greatest scourges of mankind, to comparatively a small amount, or not one in thousands. "For example," says that learned and distinguished physician, Dr. Valentine Mott, of New York, "during the prevalence of epidemic Smallpox and Varioloid, out of two hundred and forty-eight cases of Smallpox and Varioloid, one hundred and fifty-five were unprotected by Vaccination, of whom eighty-five died; sixty-four Vaccinated, of whom one died; nine Inoculated, of whom three died." Such facts establish fully the salutary influence of Vaccination, and should at once remove every doubt as to this invaluable remedy, which has proved so great a blessing to mankind.

The Vaccine matter to be employed must be good; therefore, great care is required in the application of none but pure, healthy matter for the success of this process. For want of this, it has frequently failed, which may be regarded as one among the main causes of the want of success in its operation. Sometimes, from some peculiar state of the constitution or health of the child, the Vaccine disease will not take. Experience has long proved that weakly, unhealthy constitutions will not, in every instance, take Vaccination; these are, however, fortunately, very rare instances. Should this be the case, after a number of trials with fresh matter, let the child be left for a few months, until a change of the system, or its general health is improved, and then give it another trial. There are some individuals so constituted, that they happily pass through life without being susceptible of any contagious disease.

Some parents object to Vaccination on the ground that it may introduce into the system some constitutional disease to which the person from whom the Vaccine virus, or matter, has been taken, is subject. This objection, we think, is well entitled to consideration; the danger should be carefully avoided. No prudent physician will run the risk of using matter taken from any person having scrofulous tendencies or diseases which affect the skin. Have your child vaccinated as early as circumstances will permit; it appears to be a very simple operation, but should only be undertaken by a skilled physician. Absolute cleanliness about the entire process is of the greatest importance, not less than ten minutes should be consumed in thoroughly cleansing the physician's hands and then the arm. If the Vaccine matter is taken immediately from the pustule, or the scab, or matter which is like cream, medically called *Pus*, it may be inserted in the flesh with a needle or pin. A little place may be scratched in the thick part of the outside of the arm, between the shoulder and the elbow, and the fresh matter rubbed in with the point of a pin or needle, or lancet. Another method is to lift the skin with the point of the lancet, and then insert the matter under the skin. When making this scratch or incision, be careful to draw no blood, as its mixing with the matter causes it frequently to lose its effect. The matter may always be taken from the pustule between the sixth and eighth day after Vaccination. After the eighth day the matter begins to lose its virtues, until a scab is formed, which appears to contain all the virtues of the freshest matter. The scab commonly comes off in about eighteen or twenty days. It can at any time be moistened with a little Warm Water, and made into a paste, of the consistence of cream, by putting it upon a piece of glass, and then with the point of a large needle, or lancet, inserted in the same way as before described, with the matter taken from the arm. After you insert the matter, be careful of the dress, so that it does not rub it off and let it have an opportunity of becoming dry; a large corn protector or special Vaccination shield should be placed over the point of inoculation, as a protective. Scratching the arm must be avoided, no matter how great the desire may be to do so. Nothing, not even the garment, should come in contact with the sore, from the time the Vaccination is performed until the arm is entirely well.

By far the best Vaccine virus, to-day, is prepared direct from the pustule on a healthy cow or calf. This virus is supplied by the large drug manufacturers in two convenient

forms — in capillary tubes, a liquid, and on points, dry, each point being separately sealed in glass. Each tube or point has sufficient virus for one Vaccination, and should be used for one person only. This form of supplying the virus reduces the danger of contamination with some other disease to a minimum. This is the only form which can be recommended.

Bad results from Vaccination are due to a lack of knowledge in performing the operation, or to carelessness afterward, such as scratching.

Remedies.— Internal treatment in Vaccination is rarely required, except now and then a teaspoonful of Castor Oil, if the bowels are out of order, or there are feverish symptoms. The principal thing to be attended to is the arm, to protect the vesicle, or the sore, from injury, particularly from the sixth or seventh day. If from friction or any other cause, inflammation and swelling around the pustule should become severe, you may bathe it with Cold Water. But it is better, at least with but few exceptions, to permit Vaccination to pursue its entire course undisturbed until it forms into a hard, round scab, of a dark mahogany color, which generally falls off from the fifteenth to the twentieth day, leaving a permanent circular mark on the skin, depressed, and marked with six or eight minute pits. When one is specially exposed to this disease, it will not be amiss to attempt re-vaccination every seven or eight years.

Chicken-pox — Varicella.

CHICKEN-POX, sometimes also called Water-pox, is an eruptive disease, consisting of pimples scattered over the body, but appearing mostly over the back, shoulders, and arms. They are generally smooth, transparent or whitish, and flattened at the top. After a few days, they become yellowish or straw-colored. Sometimes the vesicles are sharp or pointed, and the fluid which they contain remains clear, like water, throughout the disease. The disease is almost exclusively confined to children, appears but once, and is seldom of much consequence, as there is but little febrile disturbance or other sickness attendant. About the third or fourth day the vesicles burst, exude a little thick fluid, and then concrete into puckered scabs, leaving but slight marks behind. The eruption does not usually appear all at the same time, but is often followed by one crop after another, for several days. The disease is contagious. It is sometimes difficult to distinguish Chicken-pox from Smallpox, when the latter is mild. The umbilication of the pustules in Smallpox, and the series of crops of pustules in Chicken-pox, aid in making the distinction.

Treatment.— All that is necessary is a few simple remedies and a little care. A mild laxative or gentle physic once or twice, sponging the surface of the body at night with warm Alkali or Saleratus Water to open the pores of the skin, and keep the patient warmly clad and free from exposure to cold, is all the treatment that is requisite in ninety-nine cases in a hundred. If there should be much fever, or the case should be bad, treat the same as Measles or a mild case of Smallpox.

Mumps.

This disease consists of inflammation of the salivary (Parotid) glands, situated on either side of the lower jaw. It commences with more or less fever. Afterward a swelling at the angle of the jaw appears, and spreads gradually to the face and neck, in the vicinity of the gland, causing much difficulty and pain when the jaws are opened. On the fourth or fifth day, the swelling begins to subside. This disease most frequently occurs in childhood and early life. The tumors or bumps sometimes appear on both sides; at others, only on one. These swellings are movable, hard, sore, and very painful, and often of a large size; indeed they sometimes become so large as to produce a difficulty of swallowing and of breathing. Other glands of the body are sometimes affected by these swellings. In the male, the testicles are sometimes greatly enlarged and inflamed. In women, the breasts partake of the same kind of inflammation. Mumps is a disease quite devoid of danger, if the patient is not much exposed to cold or damp weather; unless, as has occasionally happened, though rarely, the inflammation becomes suddenly transferred to the testicles, or breast. When this is the case, these glands will sometimes suppurate or break, and cause considerable difficulty.

Remedies.— In most cases this disease is mild, requires only good nursing, and care that the body be kept warm and dry. Children should stay in the house, and be kept quiet, as violent exercise, or whatever stimulates the system in a high degree, may excite a disease of the testicles, or breast, or cause more or less fever.

In mild cases, very little treatment is required, if the child is kept warm. If the swellings are painful, give a dose of Paregoric. Keep Hot Lead Water and Opium on the swollen glands. (A drachm of Tincture of Opium in an ounce of dilute Lead Water.) If the bowels are costive, give some gentle purgative. If a purgative is necessary, give a little Epsom Salts, or Castor Oil. Let the diet be light and simple. In violent cases, if the swelling appears in the testicles or breasts, Lead Water and Opium should be applied, and the testicles should be supported in a suspensory bandage. If the parts are very much swollen, Hot Poultices applied to the swelling will give relief; and if the pain and swelling are very severe, one or two Leeches may be applied to the swelled parts. In general, however, the application of hot fomentations affords speedy relief. The diet should be light and is necessarily liquid.

Whooping-cough.

This complaint commences with hoarseness and sneezing, similar to a common Cold, redness of the face, and a watery discharge from the eyes and nostrils, with an unusual desire to sleep. After a longer or shorter continuance, a whooping sound is heard when the air enters the lungs during the coughing spell, and as this increases, an appearance of suffocation and vomiting, with which the paroxysm usually terminates. In an advanced stage of the disease, the child struggles for breath until relieved by a full inspiration, followed by the whoop. During the intervals the child appears as well as ever, but the frequency and severity of the Cough increases as the disease advances, which lasts, generally, for five or six weeks, when it gradually declines. In some cases, I have known the Coughing to last for five or ten minutes, and so violent as to exhaust the child, and compel it involuntarily to empty the bladder and bowels. The breath will often be lost for so long a time that the face, lips, and neck will turn pur-

ple, and the eyes will be swelled almost out of the head. The child will frequently take hold of something in order to support itself during the Convulsion or fit of Coughing. This fit of Coughing is very often cut short by Vomiting. There is usually brought up by every fit of Coughing, a load of tough, glairy phlegm, which, in young children, is swallowed into the stomach; and by those who are older, is expectorated. The act of Vomiting not only throws off the phlegm which has been swallowed, but greatly relaxes the windpipe and lungs, and promotes the secretion of the mucus.

In the early stage of this disease, or in mild cases, there is little or no fever, but in a severe attack of this complaint, and especially in children who have weak lungs, the fever is often violent, and not infrequently dangerous. Nevertheless, although mild cases require but very little treatment, severe forms of this disease, sometimes, by improper management or want of care, result in Inflammation of the Lungs, Dropsy, Consumption, and Emphysema. Whooping-cough is epidemic, and, in different seasons of the year, is found to vary in severity. It follows the laws of other contagious diseases, and it is reasonable to assume that it is a germ-disease, though the germ has not as yet been discovered. A second attack is seldom known to occur.

When the skin is moist and warm, the appetite good, and the expectoration and vomiting free, the disease will commonly end favorably. The looser and the greater the quantity of phlegm discharged, the milder the disease will be. When this disease occurs in its mild and simple form in a healthy child, the termination is usually favorable.

The treatment of Whooping-cough is unsatisfactory, as far as drugs are concerned. The disease being contagious, the child should be isolated. Whooping-cough in itself is usually not dangerous; but Pneumonia is so common a complication, that too great care cannot be taken to avoid this. If the attacks of Coughing are often and severe, rest in bed is required. There should be plenty of fresh air, night and day. In the early stages, if the fever is high, the following Alkaline Fever Mixture may be given: Solution of Ammonium Acetate, 2 ounces; 2 to 4 drops of Tincture of Aconite (amount depending upon the age). To this mixture add a sufficient amount of Anise Water or plain Water, to make a total of three ounces (about an ounce of Water); of this give a teaspoonful every two or three hours. Some physicians recommend that a sixth of a grain of Extract of Belladonna be given to a child a year old, three times a day, until a red flushing of the skin occurs, which latter condition is a sign that poisoning will occur, if the drug is continued. Many other drugs have been recommended; but they do more harm than good. Medicines have little effect upon the course of Whooping-cough.

When the worst of the attack is over, and convalescence has begun, the greatest care must be taken of the child, for it is at this stage that the Pneumonias are contracted, and so often result fatally. Draughts must be avoided, also excessive heating; the child must not be exposed to wet or cold. Sometimes there remains a troublesome Cough, associated with general weakness. Such a patient should have a change of climate, if possible. Great care should be taken with the food, choosing such as is nutritious, readily digested, and palatable. Tonics, such as the following: Saccharated Carbonate of Iron, a drachm, and a fifth of a grain of Arsenious Acid, made into twelve pills or powders, taken, one three times a day, should be given in conjunction with Cod-liver Oil.

Influenza.

This disease is characterized by an increased secretion of mucus from the membranes of the nose, mouth, and bronchial tubes, attended with sneezing, cough, thirst, fever, and loss of appetite. There is a tendency to Pneumonia as a complication.

Causes.— It is generally epidemic, or endemic, prevailing throughout a certain district, and affecting usually a large proportion of the inhabitants; hence it is assumed that it is due to a germ, as are other contagious diseases; notwithstanding the fact that the Influenza germ has not been discovered as yet. When it appears in a mild form, it is not considered dangerous; but when it rages as an epidemic, with highly inflammatory symptoms, and is not attended to in time, unfavorable and sometimes fatal consequences may result.

Symptoms.— The disorder usually commences with sneezing, coughing, and chills, succeeded by heat, hoarseness, sore throat, followed with pain or soreness in the lungs and stomach. There will be increased expectoration of mucus, running at the nose, pain in the chest, back, shoulders, and head, especially in the forehead. The eyes become red and bloodshot, and there is general debility and weakness. Complications are serious as a rule, and the disease often leaves the patient in a much weakened condition.

Treatment.— The disease in every case must be considered serious. The patient should be confined in bed while there is fever. The bowels should be opened with Calomel or Salts. At night 10 grains of Dover's Powder should be given to an adult. Antipyrine in small doses may be used for the Headache. In case of weakness of the heart, Strychnine should be given. If there is much difficulty in expectorating, or in breathing, give occasionally a teaspoonful of Tinctures Lobelia, Blood Root, and Wine of Ipecac.

Convalescence should be watched carefully, avoiding exposure, and taking nutritious diet and tonics. Alcohol may be used throughout the course of the disease.

Diphtheria.

This seems to be considered, both by the profession and the people generally, as a new or modern disease. This, however, is a great mistake. By a careful investigation into the medical records of the past, it will be found that this seemingly new disease existed as an epidemic in the city of Rome, A. D. 380; also, that it raged in Holland in 1337; in Spain in 1600; in Naples in 1509; and in New York in 1611, and again in 1771, and in most cases was extremely fatal. But whether new or old, is of but little consequence; the main thing is to know how to treat it, and especially how to cure it.

Symptoms.— Diphtheria is a peculiar kind of Sore Throat and Laryngitis, in which a false membrane is formed. It is most common among children, though grown persons are quite liable to it. The patient is most usually, perhaps, taken in the morning, and generally with sensations as of an attack of cold in the head, being somewhat drowsy, a weariness through the joints, and usually more or less soreness of the

throat, difficulty of swallowing, and of turning the head. A peculiar symptom is a sort of uneasy sensation, or stinging pain, just inside the throat, opposite the angle of the jaw-bone and under the ear, as though there were some small object lodged there. Soon there will be considerable swelling and hardness of the glands of the throat; the face appears bloated or swollen; the eyes perhaps a little red, swollen, and moist. The inside of the throat, at this stage, will be found quite red, in children of a rose color, while in grown persons more purple or dark red; the uvula or palate becomes swollen and elongated, and there is generally a discharge of watery matter from the nose, but no sneezing or cough. Usually there is but little fever; but in some cases the disease is very sudden and alarming in its attacks, exciting the apprehension of the patient and friends, and may terminate fatally even in a few hours. In such cases the symptoms are all intense.

The next symptom that may be noticed is the appearance of a whitish spot, apparently somewhat swollen, back in the fauces or throat, perhaps several such spots; soon these spots will run together, and form what is called the diphtheritic membrane. These patches, somewhat like ulcers, though generally of a whiter appearance, may be located on the pharynx, the tonsils, or the uvula. As the disease progresses, the white, false membrane extends more or less over the fauces, or back part of the mouth and throat, and swallowing becomes very difficult; the glands of the neck and under the jaw become more swollen; the tongue is pressed forward and upward, the saliva escapes from the mouth, and the breath of the patient is generally very offensive. Swallowing now, especially of solids, is very difficult, and dreaded by the patient. If he sleeps, he will often awake with convulsive coughing, caused by the saliva escaping into the windpipe instead of passing into the œsophagus or throat. This disease may be known from Quinsy by the manner in which the patient swallows—it being difficult to do so in both cases. In Quinsy, the patient usually shuts the eyes, leans the head forward, and swallows with a quick, spasmodic effort or jerk; while in Diphtheria, the face and chin are raised, the eyes stare wide open, and the act of swallowing is done as slowly and easily as possible, so as apparently to allow the substance to be swallowed to pass along the tongue slowly over the epiglottis to the œsophagus. The act of swallowing in Quinsy, as well as in ordinary Sore Throat, seems to cause severe pain; while in Diphtheria pain does not seem to be the cause of the difficulty.

Diphtheria may be easily known from Croup, from the fact that it is not attended with cough, while a peculiar sort of cough is one of the characteristics of Croup. In Diphtheria, the nose also seems to be stopped up, or discharges a watery, transparent fluid, which gives to the voice a sort of nasal character, not met with in Croup, Quinsy, or any other form of Sore Throat.

In the course of the disease, if it yields to treatment, or the constitutional strength of the patient, that is, as the patient grows better, this white membrane peels off in spots or in strips, and is discharged from the mouth along with the saliva; sometimes in quantities really astonishing. And it may be that after one pellicle has thus been thrown off, another, and even a third one may be formed, generally whiter and thinner than the first, and finally thrown off in the same way. After this diphtheric exudation or pellicle has been thrown off, the parts from which it has been removed will appear shriveled and greatly shrunken, as though a portion of the substance had been removed. Yet it will be found, on examination, that no abrasion of the surface, or ulceration has taken place.

The disease is contagious and infectious; caused by a small bacillus which was discovered several years ago. The bacillus growing causes the membrane to form, which may become thick enough to obstruct breathing, which is one great danger in Diphtheria. As the bacillus grows and multiplies, a waste product is formed, called a Toxin, and this is absorbed by the blood of the patient, so that the entire system is poisoned. The heart is especially injured by the Toxin, and this is the second great danger in Diphtheria.

Treatment.—This is in many cases a very dangerous disease, yet it may be very successfully treated in almost every case, if taken in time. All active, harsh, or depleting measures should be avoided, as not only unnecessary, but actually injurious. Avoid, therefore, blood-letting, active purging, and emetics. Eat nothing but a little of the mildest kind of food, as Gruel, Porridge, Custard, soft-boiled Eggs, boiled Rice, and the like; remain quiet in a warm room, and drink no cold water. The air in the room should be kept moist by boiling water constantly. No one but mother or nurse and the doctor should come in contact with the patient. Quarantine should be strict. The throat should be swabbed, by means of cotton on a probe, with Peroxide of Hydrogen, Loeffler's solution, or some other local application. These applications should be made twice a day. For very young children warm compresses may be applied to the neck; for older children and adults, cold applications should be made to the neck.

Diphtheria Antitoxin is a specific in this disease, and should be given in a liberal dose as soon as the diagnosis is made. This is given by a needle and syringe under the skin. It may be necessary to repeat the dose. Greatest care and cleanliness is required in administering Antitoxin. It has reduced the death rate of Diphtheria from 20 to 30 per cent. to from 2 to 4 per cent.

As convalescence commences, the child should be kept in bed and heart tonics should be given for two weeks after all symptoms have passed. There is great danger of Paralysis of the Heart for some time after recovery seems assured.

For a heart tonic, Strychnine in 1-100 grain doses may be given to a child three times a day for many days—as long as the pulse is weak.

If the breathing is slightly interfered with, an emetic of Ipecac may give relief; if the breathing is very greatly obstructed it becomes necessary to put a tube in the larynx—this is termed intubation. It is a delicate operation, but saves many lives. If it is impossible to obtain some one to intubate, an opening through the neck into the windpipe should be made, through which the child may breath.

St. Anthony's Fire—Erysipelas.

This disease is characterized by a shining red inflammation of the parts affected, accompanied with more or less swelling, and a distressing irritation, with a stinging, smarting, itching, burning sensation. The irritation is sometimes so great as to almost set the patient crazy. The temperature is usually high, with rapid pulse.

It is generally superficial; that is, affecting only the skin; and most usually attacks the face, ears, and head; sometimes only the feet, hands, and legs; at other times it may appear on the back, but may spread over most of the body. It occasionally becomes deep-seated, and is apt to suppurate and break; it is then called Phlegmonous Erysipelas.

In the progress of the disease, after a few days, especially where it is confined to the face and head, it is apt to form a number of little vesicles or blisters, containing a yellowish fluid, which will sometimes be thin and watery, and at other times tough and sticky, adhering to the parts. Sometimes, in severe cases, these vesicles will run together, forming a complete mass or scab; the face will be greatly swollen, the eyes perhaps closed, and the patient will suffer great pain in the head, with fever, thirst, restlessness, and perhaps delirium.

When it appears on other parts of the body, it is not apt to form blisters, but the burning and itching will sometimes be intense and excruciating. It will remain on the surface a few hours, perhaps, in red, burning spots, slightly raised or swollen, and then go in and disappear for awhile, often rendering the patient very sick at the stomach; and then perhaps appear again, and so continue for several days. It is a very distressing complaint, and when it affects the face and head is often dangerous.

Causes.—It is caused by a germ which multiplies and forms long microscopic chains; an abrasion of the skin is necessary for it to start in, but such an abrasion need not be large enough to be visible to the eye. This is very much like the germs which cause Child-bed Fever. In some persons its attacks are periodical, coming on once or twice a year; and persons who have suffered from frost-bite are apt to be troubled with it in the frost-bitten parts, during the winter and spring seasons.

Treatment.—There is no doubt that the digestive apparatus is more or less deranged in this disease; and this derangement may be the exciting cause. It is always well, then, to commence the treatment with a cathartic. It will do good, besides cleansing the system, by rousing the organs of secretion and excretion to a more healthy action. Calomel, followed by Salts, may be used.

If the attack seems likely to be very severe, the Vapor Bath should then be employed and a thorough sweat produced.

The Vapor Bath, or steaming, is very important; where the eruption appears more or less over the body, and there is great heat, itching, and pain, it will generally give immediate relief.

Various washes have been recommended to be applied to the affected parts to cool down the inflammation. Among the best, as a cooling wash, is a solution of Borax and Sugar of Lead; this often is very good. Mix 2 drachms of each in 1 pint of Rain-water, or a drachm of Tincture of Opium to an ounce of dilute Lead Water. These washes, of course, are to be used before vesication or blistering takes place.

An Ice Bag or Ice Water applications should be kept constantly over the inflamed surface.

An ointment composed of a drachm of Ichthyocol to an ounce of Ointment of Zinc Oxide, or plain Petrolatum, may be applied to the entire inflamed surface.

Applications of a solution of Bichloride of Mercury, in the strength of one part in five thousand of water, may be tried (keeping it out of the eyes). If suppuration takes place, the abscess should be opened and the Bichloride of Mercury used as above.

If the temperature becomes very high, cold Sponge Baths may be given. Stimulants may be required. The diet should be restricted to liquids.

In Traumatic Erysipelas (which arises from wounds, by appearing on their edges and spreading thence over the surface) treat with applications of Bichloride of Mercury as described above.

In Phlegmonous, or deep-seated Erysipelas, which generally appears about the thighs and hips, rely on Bichloride of Mercury applications and purgatives.

Hydrophobia.

This is a disease of dogs, which may be communicated to man. The name comes from the fact that dogs suffering from this disease were supposed to fear water, which is not a fact; the dog, in reality, is extremely thirsty, but, because of the disease, is unable to swallow, hence his strange actions in the presence of water. Other animals than dogs have the disease; as the cat, rabbit, etc.

If a person is bitten by a mad dog, and is susceptible, and does not take care of the wound, any time from two weeks to three months after being bitten, he may develop symptoms of Hydrophobia.

The disease is undoubtedly caused by a germ, but it has not yet been discovered. The famous Pasteur studied the disease and succeeded in making a preparation which prevented people from having Hydrophobia, if they took the preparation before being bitten. His experiments upon himself and his enthusiastic followers, though interesting, are too extensive to describe here. No cure for Hydrophobia, once developed, has come from the Pasteur Institute, or any other place. The disease is usually fatal.

It commences with a numb feeling about the seat of the injury. There is sleeplessness, and a sense of impending danger. Soon the act of swallowing is interfered with. Spasms occur, and they result from the slightest cause, as a sound, a draught of air, a ray of light. There is some fever. Finally, the patient's sufferings are gradually reduced, and he sinks into a profound sleep or coma, from which he cannot be aroused. The pulse becomes slower and weaker, and finally stops. The end usually comes within forty-eight hours.

Treatment.—Preventative treatment consists in muzzling all dogs during the summer months at least, if not all the year.

The wound of a person bitten by a mad dog should be thoroughly cleansed with Soap and Water, after which it should be well cauterized with Caustic Potash or Concentrated Carbolic Acid. The wound should not be allowed to close for five or six weeks. A moist Bichloride dressing should be kept on it all the time.

Of course it should be ascertained, beyond a doubt, that the animal has Hydrophobia, before shooting it; for many people have been bitten by dogs which were not suffering from Hydrophobia, yet have passed through all the worry and torturing treatment, which is only necessary in case of true Hydrophobia.

When once the disease develops, Morphine and Chloroform should be freely used.

Lock-Jaw — Tetanus.

This is a dangerous affection, and consists in a contraction of a part or the whole of the muscles of the body; but more especially the muscles of the jaws.

Causes.— It is almost invariably caused by wounds or injuries of the tendonous portions of the body, though sometimes it will arise from any wound, especially in warm climates, and occasionally from other causes. Punctured wounds, that is, such as are made with a pointed instrument, as a nail, are the most likely to induce Lock-jaw. Wounds in the bottom of the feet, or palms of the hands, where the tendons are most numerous, are the most liable to bring it on. Piercing the foot with a nail, by treading on it, is very apt to result in Lock-jaw. Any wound that injures a tendon may induce the disease. The real cause is a little germ, called the *Tetanus Bacillus*. This bacillus lives in the soil, and in dirt and rust. If introduced into a wound, as on a rusty nail, it multiplies and grows, at the same time throwing off poisons which within two weeks after the injury, produce the symptoms of Lock-jaw.

Symptoms.— Lock-jaw sometimes makes its attack suddenly, very soon after the injury; but more usually comes on gradually, beginning with a slight stiffness in the back part of the neck, which increases, rendering it difficult and painful to move the head. Next there will be pain and stiffness at the root of the tongue, rendering it difficult to swallow; tightness across the chest, and pain in the diaphragm, or just above the pit of the stomach, shooting through to the back. Next a stiffness is felt in the muscles of the jaws, and they soon become locked, so that it may be impossible to open the mouth. There may or may not be contractions and stiffness in the limbs and other parts of the body. Convulsions occur at intervals.

Treatment.— 1st. As to preventing its occurrence. No wound, where there is reason to believe the tendons have been injured, especially in the bottom of the foot or palm of the hand, should be allowed to heal on the surface before the bottom heals; particularly if it has been made by a nail or other dirty instrument. If it is, it will be almost sure to induce Tetanus. Such wounds should be immediately laid open with a clean, sharp instrument, and treated as any punctured wound should be. Do not use a poultice.

If in two weeks after the injury, or perhaps sooner or later, the patient experiences difficulty in swallowing, and stiffness in the muscles about the jaw and neck, Anti-tetanic Serum (much like Anti-diphtheritic Serum — Antitoxin) should be procured and injected at once, according to directions on the containers. Morphine, Chloroform, and Bromides should be freely used to control the spasms and pain. The diet should be light and nutritious, and is necessarily liquid.

Carbolic Acid is sometimes injected when the Serum can not be obtained, and is often valuable. The bowels must be kept well opened.

Tuberculosis.

TUBERCULOSIS is one of the most widely-spread and common diseases man is subject to. The disease has many names, depending upon the part of the body it is located in. When in the lungs it is known as CONSUMPTION; in the hip-joint as *Coxitis;* in the lymph glands, especially of the neck, as *Tubercular Adenitis* (formerly as SCROFULA); in the spine as *Pott's Disease*, etc.

The disease is caused by a germ, known as the *Tubercle Bacillus*, and discovered by the famous Prof. Koch. This organism is capable of living for long periods of time dried up in dust. It can withstand considerable variations of temperature, and, all together, it is quite "hardy." It gains admission to the body through the lungs, by being inhaled with dust. It is admitted through the mouth into the tonsils, or through the mouth into the stomach and intestines. It may be carried by the blood to various parts of the body, where it lodges, grows, and multiplies. First an inflammatory hardening occurs, then the inside of the hardened spot begins to soften and finally becomes "cheesy." This material breaks down and becomes semi-liquid, and like pus, and in the lungs constitutes the material expectorated in Consumption. This material contains large numbers of the Bacilli, which when thrown off from a body may get into food or drink of other people, or it may dry up and form a part of the dust in the air we breathe. They, the Bacilli, may also be thrown off in the urine, the stools, and the discharges from Tuberculous sores. It is evident how important it is, that the expectorated matter and excretions of persons suffering from Tuberculosis should be carefully collected and destroyed by burning, to prevent others from catching this dreadful disease, which is so rapidly increasing.

Cattle are dangerous disseminators of Tuberculosis; it is not an uncommon disease among them, and rare beef, from a Tuberculous steer, or milk, from a Tuberculous cow, are dangerous articles of diet, especially for people of an inherited Tuberculous tendency. Undoubtedly these are common sources of Tubercular infection.

Tuberculosis is probably never inherited, as a disease in itself, but the conditions of the body (we do not know just what these are) which are favorable for the growth and development of the germ, are inherited and passed down from generation to generation; this is especially true if both parents are of families with Tuberculous tendencies. Some of the children of such parents may have Consumption, others Pott's Disease. Another may have hip-joint disease, etc., all expressions of the implantation of the Tubercle Bacillus in suitable soil, but in different parts of the body.

Undoubtedly, some *Tubercle Bacilli* are more vigorous, more active, than others; perhaps this explains why if such an active Bacillus should fall upon favorable soil, there results what is termed by the people Quick Consumption, or by the doctors Acute Tuberculosis.

Every one takes into his system a greater or less number of *Tubercle Bacilli* during his life; the Bacillus, however, only produces Tuberculosis in those whose tissues supply the conditions necessary for its development.

CONSUMPTION.— Tuberculosis of the Lungs usually follows Pneumonia, Pleurisy, or an attack of Influenza; instead of completely recovering from these diseases, the patient continues to cough, the temperature rises in the evening, there is continual, but gradual loss of weight, and the appetite is poor. A competent physician, at this time, can by a careful examination of the chest, say pretty positively whether Tuberculosis is commencing or not. If it is, there is great hopes of cure, provided immediate change to a high, dry country is made, and proper treatment adopted.

Later the characteristic red spots make their appearance on the cheeks; there is almost constant fever; large quantities of material are expectorated from time to time, associated with coughing attacks; more or less severe hemorrhages from the lungs occur; the appetite is poor; there may be a troublesome Diarrhœa; night sweats cause more or less dis-

comfort; the finger-nails become clubbed, the eyes are bright, and emaciation becomes very marked. There is one strange feature, the patient is usually hopeful to the end. Death often comes gradually and without pain; sometimes it results from one tremendous hemorrhage.

The disease may run a course much like Typhoid Fever and terminate in death rapidly.

People may entirely recover from fully developed Tuberculosis with proper care and treatment.

POTT'S DISEASE OF THE SPINE is Tuberculosis of the bones of the back. It is a chronic disease, crippling and deforming the patient, sometimes causing running sores and cold abscesses, which often open in the groin. The disease may cease, leaving deformity, or general Tuberculosis, or Consumption may terminate the existence.

TUBERCULAR PERITONITIS causes an almost uncontrollable Diarrhœa, with slight temperature, especially in the evening; the patient gradually assumes the appearance of one suffering from Tuberculosis in other parts.

Treatment of Tuberculosis.— Commencing Tuberculosis of any part of the body can be cured in any individual who is otherwise fairly healthy. Three things are essential to produce such a cure: a high, dry country, best secured in the mountains of New York, or Colorado, or in New Mexico; an out-of-door life in the fresh air, and a nutritious diet; an appetite for such a diet being stimulated by the fresh air and appropriate tonics.

Surgical Tuberculosis in addition to the above treatment requires absolute rest. By Surgical Tuberculosis, I mean Tuberculosis disease of the bones, joints, or skin. Plaster casts and like appliances are used in such cases.

The medicinal treatment of Tuberculosis, in whatever part of the body it may be, consists in the administration of Creosote, or some preparation made from it, Cod-liver Oil, and some form of Iron; Alcoholic stimulants are also valuable. Three drops or more of Creosote may be given three times a day; 5 to 10 drops of the Syrup of the Iodide of Iron may be given three times a day; Alcohol may be given in the form of Whiskey or Brandy with the Creosote.

The diet should consist in all forms of nutritious food, beef, eggs, milk, vegetables, and almost anything of the substantial foods desired may be used. Pastry and sweets should be used sparingly.

When the patient is in the advanced stages of the disease, home is the best place. He should be made as comfortable as possible, Morphine being freely used whenever it is necessary.

Bathing and keeping the skin active is necessary in all stages of the disease. Flannel, *i. e.*, woolen clothing, should be worn next to the skin during the greater part of the time.

The Night Sweats can usually be controlled by Atropine in hundredth of a grain doses. Hemorrhages should be controlled by Morphine and the local use of ice and cold applications.

TUBERCULAR ADENITIS — SCROFULA.— The name Scrofula is derived from *Scrofa*, a hog, because it has been observed in swine. It is called the King's Evil, because Edward the Confessor, and other kings of England and France, pretended to cure it by the touch. The last that practiced this delusion was Queen Anne; in the year 1707, she issued a proclamation in the London papers, inviting her scrofulous subjects to the royal touch. This disease chiefly affects the glands, particularly those of the neck, and consists of small hard kernels under the skin of the neck, and under the jaw, where they remain for a long time, often gathering and breaking, and discharging matter. Many persons have scrofulous constitutions or temperaments, which they inherit from some one of their progenitors.

As to the causes of Scrofula, there can be no doubt that hereditary predisposition is the cause above all others. That a predisposition arises in children from their fathers having had this disease, is undoubted. In children, the glands (those of the neck, chest, and belly) are the most usual seat of scrofulous disease. In adults, or grown persons, the Lungs most generally suffer. Of nearly nine thousand scrofulous children examined in the various hospitals of England, over thirty-two per cent. had light hair and eyes. The skin is dry and hard, and of a greasy exhalation; and has a fetid and sour smell.

Treatment.— Bathing in Salt Water is among the best remedies in this disease, and drinking Salt Water so as to keep the bowels gently open. Iodine has been highly recommended in France, Germany, and England, for the numerous cases which it has cured of Scrofula.

One of the most important and useful remedies in this disease, is to keep the skin clean; and the sea air is, beyond all doubt, very beneficial in restoring the system to a state of health. All sores heal better in sea air than in any other; and it is a well-known fact that children, who play and run in the open fields, where they breathe the pure air, preserve their health and prevent disease. Exercise gives strength to the flesh, hardness to the bone, and energy to all the fibers. Inactivity produces despondency in the mind, invites disease, and produces feebleness of the body.

A valuable outward application has lately been discovered for dispersing the Scrofulous Tumors, or swellings of the glands or joints, by rubbing the part gently with it, or by applying flannel moistened with it over the part. It is composed of the following ingredients: Take of Iodine, 20 grains; rectified Oil of Amber, 4 drachms; rectified Spirits, 2 ounces; mix. On adding the rectified Oil of Amber to the Iodine, a combustion or flame takes place, and when this is finished, the Spirits should be added.

The usual Treatment of Tuberculosis should be followed out, in addition to which the nodules may be removed by surgical operation; or in case pus forms in them they should be opened and dressed with Iodoform.

Rheumatism.

RHEUMATISM is a constitutional disease, characterized by certain local manifestations. These manifestations are due to inflammation, acute or chronic, of the synovial membrane lining the joints, of certain serous membranes, particularly those of the heart, and of fibrous tissue elsewhere in the body. Rheumatism is classified as *acute articular rheumatism* and *chronic rheumatism.*

IN ACUTE ARTICULAR RHEUMATISM the lining membranes of the joints are inflamed. In the course of the disease certain complications involving internal organs are liable to arise. The parts more likely to become affected are the serous membranes, the *endocardium* and *pericardium* lining and surrounding the heart.

The attack usually begins suddenly. Sometimes there is a slight amount of fever for a day or two preceding the joint

affection; sometimes the pain and tenderness of the joints precede the fever, but usually these symptoms appear together. The disease may attack any joint of the body, and is indeed very seldom confined to one or two. The affected joints are swollen red and extremely tender. Pain is not so great except when attempting to move or when disturbed or jarred. The slightest movement causes the most excruciating pain. Swelling is most apparent when the knees, ankles, or wrists are the joints involved. The swelling is usually in proportion to the severity of the inflammation. One joint after another generally becomes involved. Sometimes upon attacking a new joint all tenderness and swelling disappear from the joints first involved. The fever ranges in this disease between 102 and 108 degrees. Profuse sweating is a common symptom.

The disease very rarely proves fatal. When it does it is due to the extension of the inflammation to the heart, and the development of *pericarditis*. Even then the number of deaths during the acute attack is very small, but in the fact that the heart is so frequently attacked lies the danger of the disease, for, as explained under the head of diseases of the heart. the great majority of valvular diseases of the heart are due to *endocarditis* developed during an attack of acute rheumatism. Usually, however, the lesion of the valves causes no inconvenience until a number of years afterward. The heart is more likely to become involved, the more intense the disease. Other organs, such as the pleura, the peritoneum, and the membranes enveloping the brain, have been known to suffer inflammation during the attack, but it is extremely rare. The head is usually free from pain. The duration of the attack varies from ten days to five or six weeks. There are sometimes relapses. One who has once suffered from acute rheumatism is more liable to subsequent attacks.

Treatment.— In the treatment of Acute Rheumatism, the first effort should be to excite the free action of the skin, or, in other words, sweating by a warm Vapor Bath, if it can be procured; if not, substitute for it a well-warmed bed, with hot bran in bags. or bottles of hot water, or any warm applications that will produce perspiration, or sweating, with warm diluent drinks. Fifteen grains of Salicylate of Sodium should be given to an adult as soon as possible, followed by 10 grain doses during each of the next two hours. This is one of the few specific drugs we have, and it almost invariably cures. It should be taken for some time after all symptoms have disappeared. The object is to produce gradually a moisture on the skin, and thereby reduce the fever. In this disease I have found great benefit from the simple use of Lemon-juice, 1 tablespoonful every four hours, lessening the dose gradually. Warm Lemonade is likewise beneficial. The bowels and the kidneys particularly, should be attended to, some good medicine being taken to secure several evacuations daily. A dose of Salts may be given in a tumbler of warm water, and repeated every day for several days, so as to keep the bowels freely open.

I have found from a long experience, great advantages to be derived in the local or outward treatment of the joints. When they are much swollen and painful, much ease may be given by wrapping them up in a quantity of soft carded cotton or wool, over which wrap, if you can get it, a piece of oiled silk, so as to keep it air-tight. By thus covering the joints, you keep them in a perfect Vapor Bath, and after keeping this covering on for twelve or twenty-four hours, you will find, on removing it, that it is saturated with moisture that is strongly acid. If this treatment is continued, it will give you great relief, as it supports and keeps the limb steady, and at the same time promotes sweating. It is also serviceable in Gout, which is a twin sister of Rheumatism.

CHRONIC RHEUMATISM, properly so called, is an inflammation of a lower grade, and generally without fever; requiring some variation in the treatment. The back, hip-joints, knees, shoulders, and ankles, are the seats of Chronic Rheumatism — often a great degree of numbness in the parts affected. The extremities and even the trunk of the body will often be much colder than in a state of health. In this disease I have found the greatest benefit from local or outward remedies, and have cured or removed the severe pains of many years' standing, by the following various remedies.

Care, however, must be taken to protect the parts with cotton, and indeed the whole body by a covering of flannel. After the hot application is removed, so as to prevent any current of cold air, by spreading the cotton about a quarter of an inch thick, and a piece of flannel sufficiently large to cover the part affected, quilt the cotton to the flannel, so as to cause it to remain spread. When applied, it will produce relief in a very short time.

LINIMENT.— Take of Cayenne, or Red Pepper, ¼ pound; Alcohol, or strong spirits, 1 pint; soak the Pepper in the spirits for ten days, and strain it.

The best external application which we have ever used is the compound Chloroform Liniment as an ordinary liniment, and it is useful in Rheumatism; another good local application is a drachm of Tincture of Opium to an ounce of dilute Lead Water.

The use of Wine of Colchicum, or Meadow Saffron, is considered a very important remedy in this disease. The Wine of Colchicum can be obtained at any apothecary store, or you can make it, by infusing 1 ounce of the seeds in a pint of Teneriffe Wine. Let it stand two weeks, occasionally shaking, and then strain through paper. The dose is one teaspoonful. Or the following is a very good preparation: Magnesia, 1 teaspoonful; Wine of Colchicum, 1 teaspoonful; Water, 1 wine-glassful. This dose can be repeated three or four times a day.

When you find Opium necessary to give relief from pain in this disease, or to procure sleep, the best form to use it in is the Dover's Powder. This powder quiets and relieves pain.

Where the disease proves very obstinate, the Hot Sulphur Springs of Arkansas, by bathing in their waters, have been found successful in removing the complaint. In some of the most difficult cases, I have given great relief by steaming the joints, and bathing them with Rum and Vinegar, as hot as could be borne. In some cases, where the patient was cold, feeble, and relaxed, Quinine, when used with prudence, has effected a cure when all other means failed.

Cold and wet are to be particularly guarded against. Flannel or woolen worn next to the skin must always be regarded as one of the chief preventatives of this disease, to be proportioned in thickness to the season of the year, and to the feelings and temperature. Some, if the flannel is uncomfortable next to the skin, may wear it over the under-dress, which should be of cotton.

Persons of full habit, liable to Rheumatism, should avoid Malt Liquors generally, take animal food sparingly, and avoid violent exertions, which heat the body. Persons of spare,

weak, or feeble habit, may live more freely or better, and are required to keep up the condition of the body to as good a state as possible. Where it becomes necessary to use purgative medicines, you will find pills of Aloin, Belladonna, and Strychnine preferable, as they are innocent, yet useful in this complaint. Remember when the kidneys are affected, or, in plain language, when you can not pass your water freely, the Sal Niter, or in other words, Saltpeter, in 8 grain doses, in ½ tumbler of Water, every three hours, possesses great power in freeing the kidneys.

We must not omit to remind one of the dangers of Heart Disease as a result of Rheumatism. For this reason, an acute attack of Rheumatism should be attended to at once.

Any notice of Rheumatism at the present day must be imperfect without some allusion to *Electric* and *Galvanic* agencies, Galvanic Rings, Electric Chains, etc. We must therefore, conclude by saying, that the using of Electric or Galvanic appliances for the cure of Chronic Rheumatism, may be more or less useful, in a variety of cases, as they are now used extensively with many apparently beneficial effects.

DISEASES OF WOMEN.

MIDWIFERY.

Labor, or Childbirth.

AT THE end of nine months from the time of conception, the natural period of Pregnancy is accomplished. Some women are a day or two earlier, others a day or two later; but they usually have their child in forty weeks from the time of conception. When a woman is about to be confined, or approaching this period, it is not unusual for her to be troubled with irregular pains for several days previous to her labor; these are called False Pains, and are usually most troublesome during the night. They do not bear down like real Labor Pains, but are sharp, last for a few moments and then pass off. In real labor, there is a discharge from the vagina. When the pains come on at regular intervals, or gradually increase in severity, and are attended with a bearing down sensation, a looseness of the bowels, frequent inclination to make water, and a slight discharge, or moisture of the organs of generation, it will be presumable that true labor has begun, however slow or feeble it may be at the commencement; the discharge, which is called a "show," is often colored, and sometimes there is an appearance of fresh blood. Should the case prove tedious, the pains not strong and irregular, then small doses of Quinine may be given; this will often be followed by a good effect, and the pains will become more regular. If the bowels are costive, a dose of Castor Oil, or an injection of Salt and Water, will produce an operation, relieve the lower bowels, and advance the process of the labor; this ought never to be neglected when the bowels are not open, or costive. Drinking freely of Cold Water often increases the pains, and may be used with perfect safety.

As soon as labor commences, the belly sinks, the dress becomes loose, and there seems to be a descent of the womb into the bottom of the belly; the motions and weight of the child are felt to be lower than formerly, and the head of the fœtus, or child, falls down to the orifice of the womb and presses upon it. The physical causes that determine the exit of the fœtus, or child, are the contraction of the uterus and that of the abdominal muscles. By their force the mucus secretion takes place; this lubricates the parts, and the mouth of the womb gradually undergoes dilatation, or opening, increasing at each bearing down. As the process of labor advances, the finger, directed into the vagina, will find a considerable tumor; this contains the fœtus. The opening or mouth of the womb gradually dilates and enlarges as labor progresses, and finally it becomes large enough for the head of the baby to pass; the pains now gradually increase, the pulse becomes stronger and more powerful, the face is flushed, perspiration flows in abundance, and the whole body is in extreme agitation. The process still goes on; the pains are now more frequent, stronger and lasting; presently a strong pain comes on, and suddenly the water, medically called *Liquor Amnii*, gushes out, wetting the bed. There is now a longer interval between the pains, and on the midwife introducing her finger, she will discover a great change—a large, round, hard substance is felt, which she at once knows to be the head of the child. The pain returns again, the woman becomes more distressed, the face looks intensely red, accompanied with a trembling of the lower limbs; the pains are much longer; she lays hold of a towel, which is commonly fastened to the bed-post for the purpose, and she bears down with all her might, exclaiming, "Oh! when will all this be over?" It is impossible to express the impatience, to depict the suffering, of this awful and critical moment. The head of the child descends lower and lower into the vagina, or passage, until it firmly presses on the perineum, and shows itself at the outward or external orifice. In some instances, if it be the first child, it is apt to remain some time before it is expelled; if she has had the second or third child, or more, a few pains will generally complete the work. But in every instance, let me impress on your mind *patience;* and let Nature alone, for she will accomplish the labor.

When the infant gradually advances, enlarging the passage so that the crown of the head may be felt, the birth is then advanced one-third. When advanced forward as far as the ears, it is then in the vagina, or passage; if the membranes have not already burst, they may now be opened, and the waters by their effusion will render the vagina slippery, and promote the birth of the child. After the child is born, there

is a freedom from pain, and the mother feels rejoiced, and "thanks God" for the sudden transition from pain and severe suffering to comparative ease.

The navel-string may be divided as soon as the child is born, or a few minutes afterward, giving time to establish fairly, by breathing or crying, the new mode of life. I generally let it remain five or ten minutes, until the cord ceases to beat, before its connection with the mother is severed, or the navel-string is cut. If separated immediately after birth, it may do an injury; therefore it is advisable to let it remain on the bed for a few minutes. As soon as you see signs of life established in the child, the navel-string must be tied with a small cord, or string, or a piece of silk thread, which has been rendered clean by dipping in boiling water. It should be strong enough to bear tying in a tight knot. First tie the navel-string two inches from the belly of the child, then again two inches from the first, so as to leave a space between, and, with a sharp pair of scissors, cut the cord or navel-string so as to separate the child from the mother. The cord should be well tied, two inches from the belly, as the child may otherwise loose its life by the loss of blood; then attend to it, and see that the string does not come off. If it does, another string must be tied immediately around it, as serious accidents have frequently occurred by this neglect—the child bleeding to death. The child, on being taken away or separated from the mother, is to be placed in flannel in the arms of the nurse, and put in a moderately warm situation.

The After-birth should next be attended to. Generally, from twenty to thirty minutes elapse between the birth of the child and the expulsion of the Placenta, or After-birth. In a large proportion of cases, the After-birth will come away generally in the course of ten or twenty minutes after the birth of the child. It will be proper, however, to catch hold of the cord and carefully ascertain if the Placenta can be felt in the passage, and whether the woman is losing more blood than is natural at such a time. If the Placenta can be felt in the passage, no great danger need be apprehended, as a few pains, a little gentle motion, and very moderate extension of the cord, will deliver it safely. When it remains high up in the uterus, however, and especially if there be an unusual loss of blood, the action of the womb must be promoted by pressing and kneading the lower part of the abdomen, by grasping or squeezing the womb gently in the hand, at the same time pulling *very moderately* and moving the cord, so as to make the extension in different directions. Great care is necessary in these cases not to pull so hard as to break or separate the cord from the Placenta, or to bring down the womb—the latter of which accidents would be fatal, and the former, to say the least of it, very troublesome. As a rule, it is safest *not* to pull on the cord at all.

In cases of excessive Flooding, whether the After-birth has come away or not, the woman should be placed upon her back, with her head and shoulders low, be kept perfectly still, and cold Vinegar, Spirits, or Water applied freely to the lower part of the abdomen and birth-place, by means of Cotton or Linen Cloths, which should be changed every few minutes until the Flooding is arrested. If the After-birth be retained in the womb, do not hurry it, but wait for the pains to come on. Great care is necessary, in these cases, not to pull so hard as to break or to separate the cord from the Placenta. Sometimes a change of position assists the After-birth to come away.

If the pains are severe after the After-birth has come away give 20 or 30 drops of Laudanum, or 1 or 2 teaspoonfuls of Paregoric. No attempt should be made to move the patient or change her clothes for some minutes. Put a dry towel (or clean gauze pad) to the birth-place. After she has fully revived, change her clothing, and put dry articles beneath her. The greatest caution should be observed that she does not exert herself so as to cause the loss of blood. For two or three days after delivery, the patient should be kept perfectly quiet, see but little company, and be restricted to a plain diet. The bowels, if necessary, should be moved with some gentle Laxative, as Castor Oil. The milk generally comes on the third or fourth day, but may come on the second or fifth. At this time, there is generally some little Fever, Headache, Hot Skin, and Thirst. The Lochia, or Discharge, which a woman has for several days after the birth of the child, may stop; this produces a slight Fever; but when the milk comes on, this secretion is established.

Should the breasts become hard, they must be softened by frequently and gently rubbing them with the hands and by the application of flannel cloths, squeezed out of the Lard as hot as can be borne. Draw the breasts frequently with the Breast-pump as the milk can seldom be drawn out by the child during the first week or ten days. An error is often committed, and much suffering is frequently caused, by attempting to force out the milk when the breasts are hard and caked, sore and painful, before they are softened by rubbing them.

In closing these remarks, I cannot urge too strongly upon every midwife the great importance, during the time of labor, of keeping the woman calm and composed, and not to hurry Nature; by this course of conduct, a great variety of accidents may be prevented. Besides, women should be aware of the fact that hundreds of deaths and a long train of diseases are produced by too great haste, and not waiting patiently for the operations of Nature; her laws cannot be infringed upon with impunity. A long experience in my profession, in the Obstetric Art, has convinced me that patience is the great remedy in childbirth.

The pains and suffering connected with birth, or parturition, are often great and protracted. When the trial comes, the fortitude and resignation with which those sufferings are borne, by the most delicate females, should call forth the kindness and sympathy of man. That women generally endure pain and sickness with more fortitude and patience than men, is evident. Looking forward with the pleasing hope of being the mother of a tender offspring, upon which she can lavish her affection and tenderness, sustains her in fulfilling the conditional requirements of Nature. Few men could be induced, for any consideration, to suffer in a similar manner. Then, how imperative the duty of every husband to be kind to the mother of his children, and to sustain her amidst her trials and afflictions; for God has devolved this sacred trust on man, that his smile and tenderness should soothe her in the moments of sorrow. It is in moments like these which give exercise to the noblest charities of our nature, in offices of kindness to our best and most devoted friend on earth, a faithful and affectionate wife. The female constitution being of a more delicate conformation, and having a finer texture of nerves than the other sex, gives women a quickness of sensibility and great promptitude of expression; it softens their manners, refines their ideas, and produces a lively sense

of pleasure and pain; but while they enjoy these advantages, the peculiar construction of their frame subjects them to painful and critical vicissitudes, that affect not only their health, but also their temper, which fully entitle them to all possible lenity and indulgence.

In a long practice in my profession, how continuously have I witnessed effects from these causes on the functions of the sexual organs! Every part of the animal economy is inflamed by the passions, but none more so than the uterus or womb. Anger, fear, grief, and other affections of the mind, often occasion obstructions of the menstrual discharge and of the womb, which prove very difficult to cure, unless by careful and skillful treatment. I trust I have been sufficiently explicit in my directions to place you upon your guard, so that you may be circumspect in your conduct at such times, for females have sufferings to endure, from diseases of the womb and other afflictions, that will be hereafter mentioned, which should call forth the indulgence and sympathies of every noble and feeling heart.

Directions for Nurses.

The directions which I shall give, will impart such information as will enable a woman of good common sense and observation to manage almost any ordinary case of labor without the aid of a physician. Most of the accidents that occur during the course of labor, or childbirth, we believe, are produced by not giving Nature time to perform her operations. A nurse should remember, if she wishes to be considered skillful in her calling, never to force Nature, but to give her time to perform those operations; this will enable her to be successful in almost every case. It fortunately happens, that in those cases which terminate quickly, but little assistance is necessary; and thousands would pass safely through this ordeal of Nature, if they would but exercise patience and fortitude. A careful and experienced accoucheuse, or midwife, gives a woman confidence, relieves her of much anxiety, and thereby enhances her chance of going through her confinement safely.

By far the most important feature of successful midwifery is cleanliness. The patient, nurse, physician, bed-room, bed, and bedding should be absolutely clean. I cannot impress this necessity too strongly upon you; for carelessness in this respect is the cause of childbed fever. No nurse should attend a confinement who has recently been near a patient with Erysipelas or other contagious disease. It is not at all amiss to have all the linen thoroughly sterilized by boiling and drying in the oven; the patient should have a complete bath shortly before confinement; the doctor's and nurse's hands and nails should be absolutely clean, being scrubbed with soap, water, and a brush and then soaked in Alcohol or Bichloride Solution, after which nothing that is not clean should be touched. The examining finger, after it is once cleaned, should touch nothing but the parts to be examined. It is not amiss for both doctor and nurse to wear a sterilized gown over their ordinary clothes. This is no place for a false modesty, the bed-clothes and gown of the patient should be arranged so that the doctor can see what he is doing when he makes the examinations and should not have to be guided by the sense of touch alone.

When a woman is expecting to be confined, her arrangements as to her room should be attended to, as frequently, when the morning and evening winds are chilly and damp, a little fire may be necessary. A mattress is prefcrable to most other kinds, being comparatively clean and firm; however, the pneumatic mattress is the ideal one. The bed-clothes and clothing intended for this purpose should be well dried and aired, and if the weather is cold, warmed, and everything in readiness, that there may be no delay when needed, or a change in them required. The bed should be well protected, to avoid a draught of air, and so arranged that everything that is wet or soiled be removed, in order to avoid the disagreeable and unwholesome smell that would arise during the woman's confinement in a warm or close apartment.

Labor usually takes place about the end of the ninth month, or the thirty-ninth week of Pregnancy; which varies but little from four and a half months after Quickening, or the first perceptible motion of the fœtus, or child. It frequently happens that a woman is troubled with irregular pains, more or less severe, for a number of days, or even several weeks, previous to her confinement, which, from their not producing any effect toward expelling the child, are called False Pains. These pains are usually most troublesome during the night, and may be entirely absent during the day. They are often sharp and tedious to bear, coming on at irregular intervals, and do not bear down like efficient and expulsive contractions of the womb, nor are they attended with a discharge from the vagina or womb, as is usually the case in real labor. When the pains are suspected to be false, they may be relieved by warm Sudorific and Anodyne Drinks, or Camphor and a little Hot Water; or if these do not give relief, a teaspoonful of Paregoric, or 20 or 30 drops of Laudanum may be given, which may be repeated, if it becomes necessary, in three or four hours. No danger need be apprehended from giving an Anodyne, for if the labor be actually beginning, it will often have a good effect in regulating the pains, and advancing the labor or childbirth.

When the pains come on at regular intervals, gradually increasing, called grinding pains, and attended with a bearing down sensation, a looseness of the bowels, frequent desire to make water, and a slight discharge or moisture from the birth-place, it will be strong evidence that true labor has commenced, however slow or feeble the pains may be at the commencement. The discharge is often colored, and sometimes there is an appearance of fresh blood. Should the case prove tedious, or the pains feeble or irregular, bathe the feet in Hot Water, and give a small dose of Quinine, which will be followed by beneficial effects; the pains will now become more regular and stronger. A dose of Castor Oil, or an injection of Salt and Warm Water with Soap by evacuating or purging the lower portion of the bowels, adds greatly to the ease and celerity of the birth of the child, and ought never to be neglected when the bowels are not free. When it is desirable to increase the force of the pains, let the patient drink freely of Cold Water. I have often produced or increased the pains by this valuable, though perfectly simple and safe remedy. Ergot or Spurred Rye is sometimes administered for this purpose; but it is an unsafe medicine, except in cases of a peculiar and difficult kind, and should not be given without the advice of a physician, as it will endanger the life of the child, and probably that of the woman. It should never be given until the Placenta is delivered.

The location of the pains is different in different cases, though the usual pain at the commencement of labor is in

TWENTIETH CENTURY ATHLETICS *versus* NINETEENTH CENTURY INDOLENCE

Result: THE TALL GIRL OF TO-DAY

the lower part of the abdomen or belly, and extending round into the back and hips. In the last stage, they are usually confined to the lower part or small of the back. When these pains continue hard in the lower part of the abdomen for a *long time*, and confined to this part alone, there may be reason to fear the case may be a tedious one, as in some instances the child rests upon the pubic bones for some time before it descends into the pelvis.

When you have ascertained that the actual labor is progressing, which is known by the symptoms I have before described to you, and by introducing your finger up the birth-place, well greased with Sterile Petrolatum, which should be done with much care and tenderness, your nails being closely and smoothly pared, you will feel the mouth of the womb dilate or open during the time that each pain comes on, and the bladder or bag containing the waters. If the labor be not much advanced, you will feel the mouth of the womb and its dilatation or opening more gradually at every pain.

The patient ought to be encouraged by cheerful conversation, and her mind kept occupied. Light nourishment should be given, as a cup of Tea or Cold Water. The pernicious and too prevalent custom of giving stimulants, such as Brandy, Whiskey, etc., is to be avoided, except in cases of great prostration or weakness. The patient should, if convenient and comfortable to her, lie upon her left side. Some, however, prefer a different position. A practice which is often followed by midwives, which cannot be too strongly condemned, and which is highly dangerous, is that of delivering a woman kneeling on the floor. As I have before told you, the best position is generally on the left side, the body and head being elevated by pillows. Such a position, however, need not be taken until the labor has advanced, and the pains have become frequent and severe; until which time I allow my patient to sit up, or walk about, or take her pains in any position which she may prefer. The time for her being put to bed may be known by the change of the pains becoming longer, causing her to hold her breath, and to make bearing down efforts, showing fully that labor is coming to a close. Presently the membranes will break and the water be discharged. Now place a pillow between her knees, and occasionally elevate or lift her upon her knees at each pain, for the purpose of affording free space. A towel, sheet, or some convenient article should be tied to the bed-post, so that at each pain the woman may pull it, as it assists her very much in her efforts, and she derives great benefit and comfort from the support.

When the last strong pains of labor are expelling the head of the child, as it advances, press the right hand steadily and firmly against the part between the anus and birth-place, called by physicians *Perineum*, so as to give that part support, and prevent its rupturing or tearing; at the same time inclining the child's head to the pubes, which means the parts that form the arch in front. It is really important to attend to this matter, as by want of proper care, from hurrying the birth of the child, many serious accidents have occurred—the birth-place and anus have become one opening from the tearing of the Perineum.

As soon as the head of the infant comes out the midwife ought to pass her fingers carefully around its neck, to ascertain that it is free, as it sometimes happens that the cord is twisted around the child's neck. Should this be the case, she must endeavor gently to slip it over the head, otherwise the neck may be so strongly compressed as to strangle the infant. At this period, the mouth and nose of the child, if there is any delay in the passage of the body, ought to be kept as free as possible from the discharges from the birth-place, as they may be drawn in by the infant in its efforts to breathe. Neither ought the body, nor even the legs of the infant, to be drawn from the mother too rapidly; their expulsion should be left to the natural efforts of the womb; for if too suddenly pulled away, the natural action of the womb becomes changed, and irregular contraction, accompanied by unnecessary pain and discharge, may be the consequence. Hemorrhage may result from too rapid delivery, and tears are far more liable to occur, if the labor is rapidly completed.

After the child is born, or expelled, if it should not cry immediately or breathe freely, it should be chafed upon the stomach with a flannel cloth; a little Cold Water, or Vinegar, or Spirits, should be sprinkled upon it, and occasionally a sudden gust of air blown upon it with the mouth or a fan, so as to resuscitate it. These means, if the child be alive, will generally revive it, and the breathing will be established; but should it remain apparently lifeless for some minutes, put it in Warm Water and rub it well, inflating the lungs by putting a quill or pipe-stem into one nostril, and then closing the nose and mouth so as to prevent the escape of the air through them, gently, until the lungs are filled. When the lungs are filled, the mouth and nose should be unclosed, and the air forced out by gentle pressure upon the chest and abdomen, or belly. This application may be done several times, and the motion of breathing be imitated by the pressure of the hand upon the belly of the child, giving it a rising and falling motion. By using this means, I have known many children that were apparently dead, resuscitated, or brought to life. If there is great urgency, you may put your mouth to the baby's and blow directly.

The new-born infant should be allowed to feel its new mode of life before that by which it previously existed is cut off; therefore, too much haste in tying the cord should be avoided. It ought to remain a few minutes before separating it from its mother, or until the cord ceases to beat. If separated too soon, it may produce injury to the child. The navel-cord must now be tied with a strong twisted cord, or thread, about as large as a knitting-needle, so that it will not break, as a string that is too fine is liable, when tied firmly, to cut the vessels and cause bleeding. It is necessary, particularly if the umbilical cord be large, to tie it very firmly, as the child may otherwise lose its life by the loss of blood, a circumstance that has frequently occurred within our knowledge. Tie the cord three fingers' breadth from the belly of the child. This leaves it long enough to tie again, should it be required. Then tie it again about two inches further from the first string, leaving a space between the two strings, and then divide the navel-cord with a sharp pair of scissors. The infant is now to be placed in flannel until washed and dressed. The child should be frequently examined, to ascertain whether it bleeds at the end of the cord; and if so, another string should be immediately tied to make it perfectly secure. As soon as the infant is separated from the mother, it is proper to ascertain, by the hand placed upon her belly, that there is not a twin child; if there be, the remaining bulk will indicate it in a way that can scarcely be mistaken. Should it prove so, the recurrence of the pain which is to effect the expulsion of the second child, must be quietly

waited for. In most cases of twin children, the second is quickly and easily born, after the pains set in.

The child being taken away, as before directed, the After-birth should next be attended to. In a large proportion of cases, this will come away without assistance, in the course of ten or twenty minutes after the birth of the child. It will be proper, however, to take hold of the cord, and carefully ascertain if the Placenta or After-birth can be felt in the passage, and whether the woman is losing more blood than is natural at such times. If the After-birth can be felt in the passage, a few pains or a little gentle motion, or a very moderate pulling of the cord, will deliver it safely. When it remains high up in the belly, however, and especially if there be any unusual loss of blood, the action of the womb must be promoted by pressing and kneading the lower part of the abdomen by grasping and squeezing the womb gently in the hand, at the same time pulling very moderately, and moving the cord, so as to make the extension in different directions. Great care, however, is necessary in these cases, not to pull so hard as to break or separate the cord from the After-birth, or to bring down the womb, the latter of which accidents would be fatal, and the former, to say the least, would give a great deal of trouble. I have known cases where midwives and doctors have been in such great haste to get through with their labor as quickly as possible, to pull the After-birth away so fast as to produce Flooding or serious difficulties, which may eventually, as it does in many instances, produce a Falling of the Womb. Every midwife or physician, has, or ought to have, sufficient experience to be aware of the danger of pulling away the After-birth, instead of waiting the regular efforts of Nature, and assisting her in her operations; that childbirth is a natural process, and that Nature is fully competent in all *ordinary* cases, and in *extraordinary* ones oftener than is usually imagined. In cases of excessive Flooding, whether the After-birth has come away or not, the woman should be placed upon her back, with her head and shoulders low; kept perfectly still, and Cold Vinegar. or Water, or Spirits, applied freely to the lower part of the bowels, and to the birth-place, or genital organs, by means of cotton or linen cloths, which must be frequently changed until the Flooding is stopped. If, under these circumstances, the After-birth be retained in the womb, the most skillful assistance ought to be obtained to deliver it safely.

The drinks, after the delivery, should be Cold Water, Coffee, or Tea. If the patient should feel weak or faint, a little Camphor may be given in a little Cold Water, or a little Brandy or Whiskey may be given.

If the pains, called After-pains, should continue severe, after the After-birth has come away, 20 or 30 drops of Laudanum or 1 or 2 teaspoonfuls of Paregoric may be given, or some other Anodyne, which will generally moderate the pain and afford rest. No attempt should be made to move or change the clothes until the Flooding is done, particularly if the woman is faint or nervous. In changing her clothing and putting her to bed, whether there is Flooding or not, be cautious that she does not exert herself so as to bring it on. She ought, in no case, to be permitted to walk or stand upon her feet. After her delivery, she ought to be kept perfectly quiet for two or three days, see but little company, and use plain, unstimulating diet, and such kinds of food as are the easiest of digestion. If her bowels are costive on the third day after delivery, give a dose of Castor Oil or some gentle purgative; if the bowels are sufficiently open and the woman be comfortable, this will be unnecessary. Should the bowels be sore or painful, make a Liniment of an ounce of Gum Camphor dissolved in a half-pint of Sweet Oil; rub the bowels with it, and apply, after rubbing, warm flannels. If the breasts are swelled, hard, and painful, this Liniment will likewise be very beneficial in such cases. On the third or fourth day, and sometimes earlier, the milk generally comes; and if delayed to the fifth day, it is usually more or less accompanied with some little Fever, Headache, Hot Skin, and Thirst; and the countenance has a red appearance. Should the breasts become hard or swelled, they must be softened by frequent applications of Sweet Oil, or by gently rubbing them with the hand with Oil as hot as it can be borne. This usually affords instant relief. After rubbing them well, apply flannel, dipped in Oil, as hot as it can be borne. The milk should also be drawn occasionally with a suitable instrument called a Breast-pump. When this proper course is taken, there is seldom any trouble with the breasts. A great error is frequently made, and produces much suffering, by attempting to force out the milk when the breasts are hard, sore, and painful, before they are softened by rubbing them well, as I have before mentioned. Be careful, then, in the first place, not to allow them to get very full and hard, until they are softened; and never attempt to force out the milk with the Breast-pump until they are soft. It is in vain to make the attempt to force it until they are so, as you will only give your patient a great deal of unnecessary suffering. The Pump is a valuable instrument when judiciously used; but it is too powerful in the hands of those who do not understand how to use it properly.

The too common practice of confining a woman to her bed three or four weeks is unnecessary, as it debilitates her system, and frequently, instead of benefiting, does injury to the general health. The length of time, as to her confinement, depends much upon habit, as some women can do that which, in similar circumstances, others would suffer much from. If the confinement, or childbirth, has not been very severe, after the first week, allow her to sit a while on an easy chair, until her bed is aired and made up, particularly if it is warm weather; and by the fire, in a comfortable room, in winter. This will, from the change of position, afford her great comfort, and assist her much in regaining her strength. It may not, however, be proper to permit her to stand or walk much for at least ten days after her confinement, particularly if she is weak, or has lost much blood, by which I mean Flooding, during her labor. I have, under ordinary circumstances, permitted women, whose habits have been regulated by an active life, to return, with care, after the second week, to their usual mode of domestic affairs, attending particularly at this time to the feet being well protected from cold and dampness, and the clothing sufficiently warm, allowing such food as may assist in affording a sufficiency of wholesome milk for the infant.

In regard to the bandage immediately after the delivery, it will always be found beneficial, if there has been an unusual loss of blood, attended with weakness, relaxation, etc. A moderately tight and well-adjusted bandage is proper, and should be worn for a few days. The bandage should always feel comfortable and easy, as a tight one interferes more or less with perspiration or breathing, by preventing a free and easy descent of the diaphragm, by limiting the action of the

respiratory muscles, interrupting, in some degree, the digestion, and the healthy motion of the intestines, by compressing the stomach and bowels. In every case, let the bandage be smooth and comfortable to the feelings of the patient. Some physicians do not use the bandage at all, claiming that it may be in the way in case of an emergency early, and useless later. In fact this is a matter of choice rather than of necessity.

The management of a new-born infant is a matter of great importance in the preservation of the life of the child. A few brief observations on this subject may be necessary. As soon as the infant is separated from the mother, by cutting the cord or navel-string, it should be wrapped in warm, dry flannel, so as to prevent it from taking any cold; then great pains should be taken to wash it clean, gently and tenderly, with Warm Water and mild Soap, and particularly about the eyes, under the arms, and in the groins. If it is thickly covered with the white unctuous matter, which is often very difficult to remove, you will, before washing, find it much easier to remove this by rubbing the infant over with fresh Sweet Oil. The child should be as little exposed to the air as possible during this process, and wiped dry and wrapped up in a warm flannel cloth, as soon as possible, so as to prevent its taking cold.

In dressing the navel, draw the cord or navel-string through a folded clean piece of gauze, or other clean cloth in which a hole is to be made of suitable size to admit the cord to pass through it; dust the cord and dressings with Boric Acid Powder, or other drying powder, so as to prevent the edges of the rag from excoriating it, or making it sore; then turn the end of the cord up, and place over it another fold of gauze; put a bandage moderately tight around the child, in such a manner that it will keep the dressings on the navel-string from slipping or being drawn up. Keep the bandage smooth and in its proper place, not by pins, but by sewing it with a needle and thread, and yet not so tight as to interfere with the breathing. It is frequently the case that the infant does not pass any water for several days after it is born; the cause is from a want of secretion by the kidneys.

Once more I will repeat, so as to impress it upon your minds, cleanliness is essential above all other things.

After-birth.

The After-birth, medically called the *Placenta*, is the substance which comes away from the mother after the birth of a child. It is an organized body, of a glandular appearance, circular form, about six inches in diameter, and as thick as the palm of the hand. Its office is to transfer oxygen and nutrition from the mother's blood to that of the fœtus. It is filled with arteries and veins, and in appearance resembles the spleen. The navel-string of the child, which is in general about half a yard in length, and as large round as the little finger, proceeds from the After-birth, and enters the belly of the child. The navel-string, or cord, as it is called, contains two arteries and one vein. The vein conveys the blood from the Placenta to the child; and the two arteries convey the blood from the child back to the Placenta. These arteries beat in consonance with the beating of the child's heart. The After-birth, during the growth of the child in the womb, adheres intimately to its substance; but after the child is born, the After-birth separates and comes off with the membranes which inclose the child before birth. These membranes, three in number, often adhere together in such a manner that they appear to be only one. They are called the *Amnion*, *Chorion*, and *Decidua*. The After-birth is convex on the side which adheres to the womb, and concave on the other. It commonly adheres to the fundus of the womb, although it may, and often does, adhere to almost every other part; if it is attached over the opening of the womb, as sometimes occurs, there is usually more or less bleeding from the seventh month, and often fatal hemorrhage at the time of birth unless properly treated. Fortunately this is a rare condition. It usually comes away from the mother in the course of half an hour after the child is born. In some instances, it is expelled at the same time with the child and the membranes which contain the child are broken. After the birth of the child, there is a short cessation of the pains, but they soon return and expel the After-birth.

The blood of the fœtus is entirely different from that of the mother and the two kinds do not mix. The blood-vessels of the umbilical cord terminate in a net work of loops, in the Placenta, and these loops of vessels lie in contact with similar vessels in the walls of the uterus or womb. Nutritious material and oxygen are absorbed by the baby's blood from the mother's blood, through the two sets of vessel walls. The pulse of the fœtus is about twice as fast as the mother's.

After-pains.

In childbirth there are three distinct spells of pain—the first comes on to expel the child; the second to expel the After-birth, and the third to expel the clots of blood which accumulate in the womb after the expulsion of the After-birth, and to contract the organ to its natural size. The After-pains begin after the expulsion of the After-birth. In some cases these pains are very slight, especially with the first child. In other cases, they will be almost as hard as those which expel the child. They commonly cease after about twenty-four hours, but will sometimes continue for two or three days. If any part of the After-birth has been left, the pains may continue until it is expelled. The After-pains are commonly harmless, but when they are very severe, and prevent sleep, give 10 to 20 drops of Laudanum, which will regulate them. A teaspoonful of Paregoric will answer the same purpose. Unless the pains are very severe, the Laudanum or Paregoric will be unnecessary.

After-pains are necessary and essential, and are caused by the efforts of the womb to attain that properly contracted condition on which the woman's safety depends. If they are very severe, it is generally owing to the presence of clotted blood, which must be expelled before they moderate. If these pains are moderate, by which is meant the usual severity after the child is born, they are salutary, and should not be interfered with. After-pains are often kept up for some length of time by the bowels being costive; in such cases, a tablespoonful of Castor Oil is a safe and effectual remedy. Too tight bandaging frequently aggravates the After-pains. If the confinement be a first one, the After-pains will scarcely give trouble. When they are severe, as I have before directed, 10 to 20 drops of Laudanum may be given in a little Water.

The discharges which often continue from the womb for some time, require that the birth-place should be externally cleansed with Warm Water, occasionally, and care should be

taken to prevent the clothes from being wet. Perfect quietude is to be observed, light nourishment given, and the infant applied to the breast, whether it appears to contain milk or not. If Laudanum, Paregoric, or any other opiate has been given, and the bowels are confined, which is usually the case when such medicines have been used to allay pain, it will be proper, on the morning of the third day, to give a dose of Castor Oil. After the bowels have been moved, and the patient is doing well, she may be allowed gradually a more nourishing diet; but stimulants should never be taken, unless for some special reason, such as great debility or weakness.

If the foregoing directions are attended to, there are few cases that will not progress regularly to a complete convalescence. Remember that during the whole of this time there is no greater comfort, or more salutary practice, than the free use of Tepid Water, *so as to preserve the strictest cleanliness.* In doing this, be always very careful that in employing these means you do not wet the bed or clothing of your patient. The great object to be kept in mind in the management of childbirth, is to have patience; never to hurry or force Nature; to encourage the mind of the patient by assuring her that the process, though a painful, is a natural one; and our Heavenly Father, who has ordered its marvelous arrangement and adaptations, will be present in the hour of travail.

Symptoms or Signs of Pregnancy.

Conception is succeeded by many important changes in the constitution, and generally by affections of various parts of the body, which are called Signs of Pregnancy. These signs are: 1st. A cessation or suspension of the Menses. 2d. A certain derangement of the stomach, termed Morning Sickness. On first awaking, the woman feels as usual, but on standing upon her feet, a qualmishness or sickness comes over her, and shortly afterward retching or vomiting takes place. Some women, however, do not suffer at all, or but very little, compared with others, who are sick from the time they conceive until they are delivered. 3d. In two or three months, certain changes may be noticed in the breasts; they swell and enlarge, with pricking and darting sensations, like those attending the commencement of Menstruation. Some women, however, experience scarcely any kind of inconvenience whatever; while others, again, are perfectly incapable of retaining the least thing on their stomach, and are thereby reduced to a state of extreme weakness. With some women the vomiting will continue during the whole, or greater part, of the second stage of Pregnancy as well as the first; but it does not usually happen. Partial suppression of the urine or water, with frequent inclination to void it; itching about the external parts of generation; Costiveness, Tenesmus, and Piles, are the complaints they are chiefly incommoded by during this period. Most women quicken about the sixteenth week after Conception, at which time the mother becomes sensible of the slightest efforts of the child; and besides the complaints just enumerated, she will then be liable to sudden unpleasant feelings, and slight hysteric affections. According to the common received opinion, Quickening, so termed, is generally understood to commence at the time when particular sensations are perceived by the mother, caused by the first motion of the child. The most usual time of feeling any such symptom, is about the latter end of the fourth, or beginning of the fifth month of Pregnancy. At this period the uterus, or womb, filling up the pelvis, slips out and rises above the rim; and, from the sudden transition, women of delicate constitution and irritable fiber are apt to feel unpleasant, more particularly so if in an erect position. During the last three months, or third stage of Pregnancy, general uneasiness, restlessness (particularly at night), costiveness, swellings of the feet, ankles, and external genital organs, cramps in the legs and thighs, difficulty of retaining the urine or water for any length of time, varicose swellings of the veins of the belly and lower extremities, and piles, usually prove most troublesome. In Pregnancy, the nipple becomes changed; the circle round it is of a brown or dark color. In those who have blue eyes, fair complexion, and light hair, this change does not appear until late in Pregnancy; but in those of dark hair, eyes, and complexion, the color of the nipple or circle, medically called *Areola*, becomes darkly colored. 4th. In the third month, but not before, the belly begins to enlarge or swell, and gradually increase in size until the full term of Pregnancy is completed. 5th. Between the sixteenth and twentieth week, the womb rises up into the belly, and the motion of the child is felt, which is called Quickening. The first time a woman is with child, this sensation of Quickening is like that of a bird fluttering within her; at other times she feels a tickling or pushing sensation; or the child gives a kick or a jump, and this too with so much energy as to move the petticoats, a book, or any light article she may have in her lap.

It is of importance to remember the above symptoms, and the order in which they occur: 1st. Cessation of the Menses; 2d. Morning Sickness; 3d. Swelling and Darting Pains in the Breast, and dark color around the Nipples; 4th. Gradual Enlargement of the Abdomen or Belly; 5th. The Movements of the Child.

In ninety-nine cases out of a hundred, if these symptoms are present, the woman is pregnant. Much of the unpleasant sickness pregnant women are subject to may usually be avoided by keeping the bowels gently open with Seidlitz Powders, Castor Oil, or Pills of Rhubarb, which should be taken occasionally. A clyster made of warm Soapsuds will often be sufficient, if repeated every few days; or Senna and Manna; and if there be any aversion to taking medicine, give some simple articles, such as Roasted Apples, Figs, Prunes, or anything that will quiet the stomach, and prevent costiveness of the bowels.

The Toothache, so often complained of by pregnant women, and which may occur at any period, is seldom relieved by extraction, having its seat in the adjacent nerves of the face or jaws, and is neuralgic. The teeth ought not to be drawn during Pregnancy, unless urgently required, but should be relieved by applying Hot Fomentations to the face. Rubbing the jaw externally with Spirits of Camphor or Laudanum, or applying Mustard Plasters behind the ears, will afford relief.

The cramps of the legs, etc., in Pregnancy, caused by the pressure of the enlarged womb on the nerves, are often troublesome, but not attended with any danger, and may be speedily relieved by a change of posture and friction, or rubbing with Spirits of Camphor, or hot Whiskey and Salt. Palpitation of the Heart occurs frequently, and usually about the period of Quickening. In general, it is the result of a disordered stomach, and may be relieved by attention to diet, and moderate doses of Magnesia and Epsom Salts, of equal quantities. The Palpitation of the Heart may be produced

by a morbid state of the nerves, and is then termed hysterical. Attention in all such cases should be paid to the diet, air, exercise, etc., with the view of improving the strength, the bowels being kept open by mild means. All exciting or agitating subjects should be carefully avoided, and the mind of the pregnant woman kept calm and tranquil; for the mind, in the early stages of Pregnancy, exercises the most powerful influence over the child through life; and how many peculiar traits of character have been indelibly fixed upon their offspring from these exciting causes, are evident in many families. When the Palpitation occurs from the state of the nerves, as before described, producing uncomfortable feelings, a teaspoonful of the Tincture of Castor or Asafetida, with an equal quantity of Compound Spirits of Lavender, mixed in a little Water, will seldom fail to afford relief, which may, if necessary, be repeated on its recurrence.

Morning Sickness is one of the most painful feelings attendant on the pregnant state, which medicine commonly fails to relieve. A cup of Chamomile or Peppermint Tea, taken when first waking, and suffering the patient to be still for an hour, will frequently alleviate the distressing sickness, or a cup of strong, clear, black coffee may be tried before getting out of bed. If this does not succeed, a pill composed of Cerium Oxalate, 1 grain, the same amount of Bismuth, and 1-12 of a grain of Cocaine may be given every half hour until relief is secured. The use of these tablets should not be long continued. The diet should be regulated, sexual intercourse avoided, and rest secured. Sometimes the vomiting becomes so severe that it is necessary to induce abortion. In some cases feeding by the rectum is necessary, *i. e.*, predigested food is injected into the rectum, giving the stomach complete rest.

The anxiety, and sometimes despondency of mind, in other words, lowness of spirits, to which pregnant women are more or less liable, greatly depends on the state of their general health and the natural temper and character of the individual; but it can be greatly aggravated, and may often be excited by circumstances, or by officious persons. Let me, then, urge upon you *the important necessity* of keeping the mind as tranquil and cheerful as possible, particularly during the first four months of Pregnancy; a judicious course of this kind will produce the most beneficial and well-balanced mind in the child; while, if the contrary, a desponding and nervous temperament, with many other peculiarities, will be the consequence.

The urine of a woman who is pregnant should be examined every two weeks during the eighth and ninth months of Pregnancy; this is especially important if there has been any headache. The object is to determine the condition of the kidneys as they are forced to throw off the waste products of two instead of one body.

Puerperal Fever — Childbed Fever.

The Puerperal or Childbed Fever is a disease peculiar to women within a few days after delivery, and is generally considered a dangerous disease. It is usually of an inflammatory character, arising from inflammation of the womb, or of the peritoneum or lining membrane of the abdomen.

The usual symptoms are chilly sensations, succeeded by fever; headache; distention or swelling of the abdomen, with great sensitiveness and violent pain; suppression of the milk, and generally a suppression of the lochial discharge; nausea, sometimes vomiting; thirst; quick pulse; low spirits, and often delirium. Sometimes it assumes a Typhoid character, and is then still more dangerous. It usually appears about the third or fourth day after delivery, though it may be much slower in making its appearance, in which case it is usually more protracted but less serious in its immediate results and less dangerous to life.

The causes are protracted and difficult labor; the use of instruments in delivery; confinement in a cold, damp room; improper treatment after delivery; and, above all other things filth; filth on the part of the patient, filth on the part of the nurse, and, finally, filth on the part of the doctor. Dirt and filth are the key to the cause, cleanliness the key to the prevention of Puerperal Fever. This disease is highly infectious, and any one suffering with Boils, Abscesses, or Erysipelas, or infectious diseases, should not come near a woman about to be confined. Nurses and doctors having at that time or shortly before had charge of people suffering from those conditions should not take charge of confinement cases. If proper cleanliness is observed at the time of the confinement and afterwards, the chances of having Puerperal Fever are reduced to a minimum and seldom occurs. The disease is caused by a germ, much like the one which causes Erysipelas, gaining entrance to the "raw" surface on the inside of the womb. A woman suffering from latent Gonorrhœa at the time of her confinement, may also have a form of Puerperal Fever, but it is usually not so severe.

Treatment.— A few cases of Puerperal Fever might be avoided by giving the patient a thorough and active purge, of the proper kind, the next day, or about twenty-four hours after delivery. For this there is nothing better than a full dose of Salts; or a dose, say three grains, of Podophyllin, with a teaspoonful or two of Cream of Tartar. This will carry off the unhealthy accumulations and secretions in the system, and tend greatly to prevent the disease.

Where the disease has commenced, if there be much nausea and sickness at the stomach, give an Emetic — follow, as soon as the Emetic is over, with an active Hydragogue Physic — say a grain or two of Calomel. Repeat this in three hours, if the first dose does not operate.

The fever usually runs high (102° to 105°), and for this purpose, *i. e.*, to reduce the temperature, cold Sponge Baths should be given every two hours. Stimulants are usually required for this purpose; half an ounce of Brandy may be given every hour or two, depending upon the strength of the pulse. Strychnine should also be given, a sixteenth of a grain every two or three hours or oftener. *Anti-streptococcic* syrum should be obtained if possible and used at once. Cold applications should be kept on the abdomen. Diet should be liquid, preferably milk; cold water may be taken freely. It may be well to scrape out the uterus; great care and skill are required in such an operation. Bichloride vaginal douches should be given. This is a serious disease, upon which Oliver Wendell Holmes has written much.

Keep the bowels loose by occasional small doses of Podophyllin and Cream of Tartar; an occasional dose of Castor Oil and Turpentine will also be good, or Salts may be used as before.

ABORTION.

ABORTION, or MISCARRIAGE, means a woman losing her child previous to the seventh month of her Pregnancy; that is, before it is due time. When this occurs after that period, it

is called Premature Labor. Miscarriage involves pain and weakness, in addition to the loss of offspring, and is often a severe trial to the maternal constitution. It may occur at any period of Pregnancy; but particular stages are more liable to the accident than others. These are generally considered to be about the time of the first Menstruation after conception; again at the twelfth week, and toward the seventh month; and the liability is increased at those times which correspond to the Menstrual period. When Abortion has once taken place, it is more likely to occur again. Some have so strong a tendency to it, that they never go beyond a certain stage, and then invariably miscarry. The cause of Abortion may exist in the constitution of the female herself, being the result of weakness and irritability, or of an overfull habit, or a diseased condition of the womb; or the fœtus, or child, may die, or be deficient in development, when it is cast off like a blighted fruit. Suckling, after conception has taken place, is not infrequently a cause of Miscarriage. Active diseases, occurring during Pregnancy, such as Fevers, severe Inflammation, Eruptive Fevers, etc., are almost certain to occasion the expulsion of the uterine contents. Continued Diarrhœa and the action of strong Purgative Medicines, particularly the Aloetic, are dangerous. This is a very good reason for those who are pregnant avoiding all quack aperient medicines; they almost all contain Aloes, and may be very injurious. All undue exertion or agitation of body or mind, sudden jerks or jumps, riding on horseback in the early stage, or in a shaking carriage, in the latter stages of Pregnancy, may any of them bring on Miscarriage. To these may be added, exertion of the arms in doing anything on a level above the head; costive bowels and straining consequent thereon; sexual indulgences, and luxurious habits. Those who have once suffered from Abortion, ought to be extremely careful during succeeding Pregnancies, and all ought to bear in mind the possibility of the occurrence. Women who have Syphilis usually have a number of Miscarriages or Abortions at various stages before bringing forth a still-born child, later a living child which dies soon, and perhaps followed by a child which though it lives had better be dead, for it is seldom strong and healthy, and often shows evidence of its parents' sins.

The symptoms of threatened Abortion vary with the constitution. In the strong and plethoric it is often preceded by shivering and febrile symptoms, and by a feeling of weight in the lower bowels. In the weak there is languor, faintness, flaccidity of the breasts, general depression, and pains in the back and loins. Intermittent pains, and discharge of blood from the passage, signify that the process has begun. If Miscarriage occurs within the first month or two after conception, the process may be accomplished with so little inconvenience as to escape notice, and be mistaken for a Menstrual period; more generally, however, the severity of pain, and an unusual clotted discharge of blood, render the case evident. The pain, the discharge, and at the same time the danger of an Abortion, are in proportion to the advancement of the Pregnancy. When a Miscarriage goes on, the pains increase in force and frequency, and continue with a discharge of blood, in fluid or clots, until the ovum, or first formation of the child, is expelled; after which both become moderated, until they cease altogether, the red flow giving place to a colorless one. It is very important that those in attendance upon the patient should examine every clot that comes away; if large, tear it in pieces, that they may ascertain whether the contents of the womb are expelled or not—for there is no safety or rest where Miscarriage is progressing, until it has taken place and everything is cast off.

As soon as a female experiences threatenings of Abortion, she ought at once to retire to bed, upon a mattress, and keep perfectly quiet until every symptom has disappeared. Sometimes this simple measure, *promptly adopted*, is sufficient to avert the threatened evil. If there is much feeling of fullness, and the patient is of full habit generally, eight or a dozen Leeches may be applied to the lower part of the bowels; if there is fever, Saline medicines may be given, such as the common effervescing draught of Carbonate of Soda and Tartaric Acid, or Lemon-juice; or, if the bowels are much confined, Seidlitz Powders, assisting the action by Cold Injections, if necessary. When the pains are severe, particularly in the weak and irritable, twenty or thirty drops of Laudanum should be given, and may be repeated in a few hours, if the symptoms are not improved. In the case of a profuse discharge, the patient should be kept very lightly covered, movement avoided and every article of food or drink given cold, or iced if possible, provided the vital powers are not excessively reduced; cloths dipped in cold, or Iced Water, should also be applied to the lower part of the body, and frequently changed; Acid Drinks, with Cream of Tartar, may be given freely. Ten or fifteen drops of Elixir Vitriol may be given, in a wineglassful of water, every two or three hours. Should slight faintness come on, it is better not to interfere with it, but use outward remedies, Camphor, Cold Water, etc., as they may be salutary. If it reaches to an extent to threaten life, Brandy and Water, or other stimulants must be used. Profuse and continued discharge, though it may not threaten life, must occasion a weakness which will take a long time to overcome, and which may ultimately, if not properly attended to, promote the development of other diseases of the womb.

The bowels will, in some cases, require strict attention, as indeed they do throughout. For this purpose Castor Oil is a good medicine, or injections of Cold Water, or Tepid Water, are most useful. A teaspoonful of Epsom Salts, dissolved in half a pint of Water, either cold or slightly warmed, to which add fifteen drops of Elixir Vitriol, forms a most excellent and mild purgative, which should be taken before breakfast. In all cases where the constitution of the woman has a tendency to Miscarriage or Abortion, a quiet state of mind should be observed, avoiding all violent exertions, particularly lifting heavy weights.

Three principles of treatment are to be kept in mind in the management of Miscarriage:

The first, to prevent it, if possible, by rest, opiates, etc.

The second, to allay pain, moderate the discharge of blood, and to save and support the strength of the patient.

The third, when Abortion must take place, to expedite the separation of the ovum, and free the contents of the womb. This is generally done by simply occasionally drinking cold water, and in difficult cases, if necessary, an anæsthetic should be given, and by means of proper instruments the uterus should be cleaned out. This is perhaps the best treatment in all cases.

The health of pregnant females should at all times be an object of great care and interest; and they should be impressed with the conviction that, while bearing the first child,

they may, by proper care and attention, lay the foundation for their future health and that of their offspring; while by neglect and imprudence in this matter, they may not only enfeeble their constitution, but entail upon their children an inheritance of infirmity and disease.

Miscarriage, or Abortion, which includes all cases in which delivery takes place before the sixth month, seldom occurs without being preceded, or accompanied, or followed by a morbid discharge of blood from the womb, which is commonly known by the name of Flooding. Abortion, or Miscarriage, takes place with the first Pregnancy, and during the first two months; therefore, great care should be observed during this period, as any cause which either destroys the life of the child in the womb, or brings on morbid or premature contractions in that organ, may induce Miscarriage. Coughing severely, or vomiting, a blow or fall, or a misstep, leading to an effort to prevent falling, may and does frequently result in Miscarriage; and having once occurred, it is, without proper care, exceedingly liable to be the case at the same period of a subsequent Pregnancy. The same result may follow any vivid moral impression; for fright, or mental excitement by passion, or witnessing any accident, will be found often to end in Miscarriage. In some healthy females, however, it occurs without any other cause than mere fullness of blood. A bleeding from the womb is often in such cases a first symptom of Abortion, and should be attended to as early as possible before it goes to any considerable extent. The amount of Flooding, in most cases, is in proportion to the early period of Pregnancy at which it takes place, for in the latter month there is seldom much blood lost. But there are cases in which pregnant women will lose blood repeatedly from the womb and yet not miscarry, but these are very rare cases.

In most cases, the occurrence of Flooding between the first and fourth month, unless very slight, or quickly relieved, is usually followed by a Miscarriage; but as soon as the child and its membranes are both expelled by the contraction of the womb, then the Flooding soon ceases. In many such cases, it is often very difficult, and sometimes impossible, to deliver the After-birth and Membranes, which remain, and finally pass off after putrefaction has taken place, resulting in long and offensive discharges from the womb, and which, unless treated very skillfully, frequently result in many internal mischiefs of a serious character, such as Ulcers, Inflammations, etc.

In all cases, those who are constitutionally disposed to Abortion, or have a tendency to Miscarriage, should take great care to preserve a quiet state of mind, and to avoid all violent exertion. All active purgatives should be avoided, and exposure to great heat or cold, during the time of Gestation or Pregnancy.

When the Miscarriage has really taken place, and the fœtus or child is expelled, together with the contents of the womb, the same precautions should in general be observed as in childbirth.

To prevent Miscarriage when it is threatened, or on the appearance of the first symptoms, the patient should lie down and be as quiet as possible; live on very light diet; bowels be kept freely open; and an injection of thirty drops of Laudanum should be given in half a pint of Slippery Elm Tea. Should Flooding be present, cold Lemonade should be drank freely, and cloths, wet with Cold or Ice-water, applied to the thighs and lower part of the abdomen and birth-place, which should be repeated until the Flooding is relieved. The hemorrhage will usually not cease until the uterus is entirely empty, and often it is necessary to scrape the uterus out. This should only be undertaken by a competent surgeon, as in careless hands it would be attended with more or less danger.

Means of Preventing Abortion.—To prevent Abortion, women of a weak or relaxed habit should use solid food, avoiding great quantities of Tea, Coffee, or other weak or watery liquors. They should go soon to bed and rise early, and take frequent exercise, but avoid fatigue. If of a full habit, they ought to use a spare diet, and chiefly of the vegetable kind, avoiding strong Liquors, and everything that may tend to heat the body or increase the quantity of blood. When the symptoms appear, they should at once go to bed and take sufficient Morphine to quiet the pains and keep them quiet. A quarter of a grain may be taken at the first dose, an eighth of a grain is sufficient for subsequent doses. In both cases, the patient should sleep on a hard mattress, and be kept cool and quiet; the bowels should be kept regular.

MONTHLY SICKNESS, OR MENSES.

Monthly Sickness, medically called *Menstruation*, occurs in all normal women, from the age of fourteen to forty-five. It is the usual order of Nature, and essential to the reproduction of the human species. The blood discharged amounts to five or six ounces, and it continues from three to four days. The time of its appearance differs in different women, depending upon the constitution. Previous to the Monthly Sickness, pains are felt in the back and legs, and a kind of heavy feeling in the womb. Some women are very nervous and hysterical about this time; in others, from the change of blood, the face becomes flushed, accompanied by Headache and Dizziness. Excitement, both of the mind and body, have a powerful influence over a woman's Monthly Sickness. Some girls menstruate earlier than others; this is owing to the functions of the body, and their way of living. When girls take an active part in household affairs, and exercise in romping, playing, etc., the health, strength, and energy are greatly improved, and the Menstrual function becomes more healthy and regular. When Menstruation does not come on at the proper time, or is obstructed in its course, after it has been once established, exercise, fresh air, change of scene, everything which gives rest to the mind, and increases the circulation sufficiently to produce moderate perspiration, will greatly assist in restoring the natural Menstrual Discharge. The Menstrual effort is commonly preceded, in its first appearance, by a general uneasiness, pains in the back and hips, sickness at the stomach, and headache. In young persons, these entirely new sensations often produce great uneasiness, and should lead them to seek maternal counsel. The breasts enlarge, or become the seat of uneasy sensations, and sometimes pain; a fullness is felt in the head, with a slight throbbing pain in the temples, and sometimes giddiness or swimming of the head; also pain in the back, a sense of fatigue in the loins, and a weight felt in the lower part of the abdomen. In full-blooded individuals, there may be a bleeding at the nose accompanying these disturbances of the usual health. The bosom becomes enlarged and the whole form rapidly devel-

ops itself. After more or less of these sensations, in healthy females, a few drops of reddish colored fluid, resembling blood, will escape from the womb, affording her immediate relief, even though the quantity be small, and though it may only continue a few hours. Her usual health now returns. In about four weeks a similar train of symptoms occurs again, attended by a longer flow of blood, and of longer continuance than before, which then becomes periodical or monthly, returning every four weeks, and is called the Menses or Courses. The establishment and regularity of this discharge in young females is essential to their health. The period of life when it first appears is always a critical one, and calls for the care and attention of mothers.

From a variety of causes, the womb may fail to take on this its proper function, although the age has fully arrived at which it should be expected. It may happen, although the discharge may have commenced, or occurred once, that several months may elapse before it appears the second time. In such cases, if the female continues to enjoy uninterrupted good health in other respects, there is no reason for alarm or anxiety; nor should any interference with the course of Nature be adopted or permitted, for several months at least, so long as the general health remains good. But this Monthly Discharge being indispensable to health, at this period of life, cannot be retained or suppressed for many months without impairing more or less the general health, and perhaps destroying the constitution. A retention of this discharge, or nonperformance of the proper functions of the womb, often results, in young females, in a train of symptoms which generally ends in what is called

Green Sickness, or Chlorosis.

When this is the case, the girl becomes pale, or of a greenish pallor, and her face more or less bloated; she feels feeble, dull and drowsy; her stomach is out of order, accompanied by acidity, or sour belchings, flatulence or wind, occasional nausea or vomiting; palpitation of the heart; and finally the nervous system becomes deranged, often resulting in fits of melancholy. Her feet and ankles often become swollen, especially toward night, showing a tendency to Dropsy; her sleep is restless and disturbed; often craving unnatural food, as Clay, Chalk, and the like. The bowels are usually costive, sometimes attended with griping pains. If the derangement is allowed to continue, the lungs are apt to become affected, and the foundation for Consumption may be laid. Occasionally the face will become flushed, attended with pains and fullness in the head, pain in the back, and in the region of the womb. These symptoms, however, are indications that Nature is endeavoring to bring on the discharge, and should be assisted by proper remedies, as will be hereafter directed. Should the obstruction continue, the skin finally becomes of a dusky yellowish-green color; the breathing short and hurried on the slightest effort, and great agitation is felt on the least alarm. The mind often becomes depressed, and other hysterical symptoms occur, followed, perhaps, by a gradual wasting away of the flesh, terminating in Consumption, Dropsy, and Death.

Sometimes such cases, arising from a retention or suppression of the Menses, depend upon some original defect in the constitution, or some diseased condition of the body, organic or functional, which prevents the womb from performing its appropriate office; but, in most cases, exposure to cold, wet feet, damp air, check of perspiration, and the like, at an improper time — at the critical time when the Menses are in progress, or about to commence — will be found to be the prolific cause. For want of proper care or attention — often from ignorance — at these critical seasons, the Menses are suddenly stopped by getting the feet wet, or cold, or by taking a sudden cold in some other way, so that it frequently happens, when the next monthly period arrives, there is a complete suppression of the discharge; and if neglected, the suppression may continue until the disease, known as Chlorosis, or Green Sickness, is fully established. This disease may be brought on at any time, even after the Menses or Courses have been established regularly for years. In such cases, it will usually be found to depend upon taking cold at an improper time, causing a stoppage of the discharge, and upon a want of proper treatment afterward. Thousands of lives are made wretched every year from ignorance or inattention to this important matter! Sometimes, perhaps, several months may pass, without any show or discharge, and yet the general health may not seem to be seriously affected; but invariably, after a longer or shorter time, if such obstructions are allowed to continue, they will result in great mischief to the constitution, and lay the foundation for incurable diseases.

As has been said, it generally occurs in young girls, and may be owing to an inability in Nature to fully develop or continue the Menstrual Discharge, or where, as is most commonly the case, no doubt, the girl has been neglected or improperly treated at this most critical time in her life. In cases of this kind, forcing medicines, that is, active Emmenagogues, will not do, as in cases of temporary or recent suppression; or at least they must be but secondary in the treatment, and either not used until after other remedies of a restorative and strengthening character are used, or else in conjunction with them. While the constitution and nervous system are greatly enfeebled, and the whole system of the female organs is out of order, there is, in nearly all cases, a deficiency of red blood in the circulation. Tonics, Restoratives, and Chalybeates or Iron Preparations, are the remedies indicated, with exercise, pure air, and due attention to the skin. Where it is practicable, traveling and change of scenery and associations, will be of great advantage. Free exercise in the open air, as riding on horseback, and daily ablution of the whole body, with severe friction or rubbing, are of the utmost importance. Many physicians think the Green Sickness (Chlorosis) is a disease of the blood, and when this is cured the Menses will return, in other words, the Chlorosis is the cause of the cessation of Menstruation, not the result.

Treatment.— Ordinarily, where the Menses are regular and healthy, no medical treatment is necessary. It is a natural discharge, and needs no treatment. It is always necessary, however, to observe due caution against exposure and taking cold during the period of the discharge. It may often be well to make use of some proper and mild means to aid Nature in her work, such as bathing the feet in Warm Water, especially at night, on retiring. This will often aid and also guard against taking cold. It is sometimes the case, however, and especially with some women, that this natural and necessary discharge is far from being a trifling matter; but, on the contrary, is so painful and profuse that it is always looked forward to with the greatest dread.

As internal remedies, take the following: Tincture of Myrrh, Tincture of Aloes, Tincture of Blood Root, and Muriated Tincture of Iron, each 1 ounce; mix, and take a teaspoonful three times a day; also, pills composed as follows: Take Sulphate of Iron (powdered and exposed to the air till it becomes dry and white), 1 drachm; Quinine and Gum Myrrh, each 30 grains; Podophyllin, 20 grains; make into 60 pills, with Extract of Gentian, and take one pill night and morning. If you cannot get the Podophyllin, take 60 grains of Aloes instead. Should the pills operate too much on the bowels, take but one a day; or omit them altogether for a few days at a time. A better preparation is a pill or powder composed of a grain or two of Saccharated Carbonate of Iron and a sixtieth of a grain of Arsenious Acid. Such a pill may be taken three times a day after meals.

Sometimes the hymen is imperforate and prevents the discharge, which is then dammed back and produces serious trouble. The mother should know the condition of her daughter's Genital Organs, and if there is such an obstruction, a surgeon should be consulted.

DISEASES OF THE WOMB.

Dysmenorrhea, or Painful Menstruation,

Is simply what the name indicates—*Painful Menses*—often very profuse, sometimes flooding; severe bearing-down pains, somewhat like the pains of childbirth; and lasting, frequently, for several days. It is owing, undoubtedly, to a diseased action of the uterus or womb, and dependent, perhaps, upon various causes. In some females it appears to be constitutional; for, in some families, all the females for successive generations have suffered more or less severely at their monthly periods.

In cases of this kind, treatment is necessary. It should be commenced before the menstrual discharge begins, or at least as soon as the premonitory symptoms are felt. The feet should be bathed in Warm Water, as hot as can be borne, and if the patient use the warm Hip Bath, at the same time, which should be as hot as can be borne, it will be all the better. Other means are to be employed to mitigate the pain and suffering during the attack. An active Cathartic should be taken as soon as the first symptoms are felt. This should be the first thing done. The following recipe will answer the purpose well: Take Pulverized Aloes and Gamboge, each 30 grains; Podophyllin, 20 grains; Cayenne, 10 grains; make into 30 pills, with Mucilage of Gum Arabic, and take three pills. If Salts are preferred, they may be taken instead, and are often more satisfactory. These will generally operate speedily and thoroughly, while at the same time they exert a special and very beneficial effect upon the uterus. After the pills have operated, to relieve the pains, in addition to the Foot and Hip Baths, apply Hot Fomentations of Turpentine to the lower abdomen.

After the attack is over, and during the interval previous to the next expected period, such remedies are to be made use of as will be calculated to remove the difficulty or modify the severity of the succeeding attack. Usually some distinct cause exists which induces Painful Menstruation, such as misplaced uterus, or one which is inflamed. A skillful physician should be consulted, and if he deems it necessary, and it usually is, a thorough examination should be made. It is a false modesty which causes a woman to refuse to be examined by a reputable and legitimate physician; however, for her sake, and that of the physician, it is best that she should be accompanied by a friend of her own sex. Sometimes a simple operation will often entirely remove all the pain which has accompanied Menstruation.

The bowels should be kept open and in a good condition, by occasionally taking a dose of some good Vegetable Cathartic Pills. The surface of the body should be bathed daily and rubbed well, so as to keep the skin in a healthy condition, for much will depend upon a free and healthy action of the perspiratory organs. The diet should be plain, nutritious, and of easy digestion. When the monthly period comes round again, make use of the means recommended for an attack of Painful Menstruation, more or less vigorously, according to the symptoms, and then pursue again the course here recommended, as intermediate treatment.

Menorrhagia.

The excessive or immoderate flow of the Menses is medically termed *Menorrhagia*. This condition is always the result of some definite cause, which being removed cures the condition. There are usually exciting causes besides the disordered condition of the Genital Organs. Excitement, overexertion, and exposure to damp and cold are the chief exciting causes; of the real causes inflammation of the Generative Organs, Polypi or Tumors are among the commonest. It is readily seen that Menorrhagia is a symptom of a disease and not in itself a disease. To determine where the difficulty is a thorough examination is necessary; oftentimes the matter can be righted with but little difficulty. Drugs are of little value, and at least should not be taken until the cause of the difficulty is known.

Amenorrhea.

That is, No Menorrhea, or Suppressed Menses. This condition is the symptom of some disease, either general, as Anæmia or generally lowered vitality, or local disease of the Generative Organs. It may indicate some serious disease, or it may suggest Pregnancy.

Drugs should not be given until the cause is known and this can only be determined by a properly trained physician after a thorough and careful examination. A surgical operation may be required or simply the judicious application and use of tonics, including Iron, may be all that is necessary. *Do not* take Tansy Tea or Pennyroyal Pills, and like preparations until the cause is positively known, for these drugs have caused far more harm than they will ever do good.

When the expected time arrives for the Menses to appear, and Nature seems to be making an effort to bring them on, which will be known by such symptoms as headache, pain in the back, loins, and limbs, weariness, pale countenance, with occasional flushes on the cheeks, irritable temper, capricious appetite, etc., additional means should immediately be made use of—such as bathing the feet and legs in Warm Water, sitting over the steam of Hot Water, etc.; and if the bowels are costive, a brisk and active Cathartic should be taken, composed of Aloes, Gamboge, and Mayapple Root, or Podophyllin, such as recommended in case of Dysmenorrhea.

Flooding.

An excessive flow of the Monthly Discharge is called Flooding. Excessive discharges of the Menses may occur in various ways; may return too frequently; may flow too copiously, amounting to profuse bleeding from the womb, when not infrequently clots will be mingled with this excessive flow or discharge; or they may come on at unusual periods, during Pregnancy and Suckling. Much, however, depends upon the constitution of the woman, and on climate—what would be natural Menstruation in one, would be profuse in another; and so in regard to climate—what would be profuse in a cold climate, would be only natural in a warm one.

There are three distinct forms under which this affection manifests itself, each of which has its acute and its chronic peculiarities. In the first form, the discharge is of the natural appearance and quality, but the quantity or frequency of its occurrence is greatly increased. In the second, the discharge is very considerable, and mixed with clots of blood. In the third, the loss of blood is sometimes very great, and attended with marked changes in the size and position of the womb—a circumstance which does not take place in the two former.

The first usually comes on with a sudden flow of blood from the womb; after a short time it stops for a few hours, or probably a day or two, and then recurs again. It may come on and stop again, for a number of days. Sometimes the discharge is regular in its return, but lasts twice or three times as long as it should remain on. In other cases, it is not usually large, but returns every two or three weeks, instead of coming on at the proper time or period of four weeks. This form of the disease, or menstrual discharge, often occurs in young and even married women, and is generally accompanied, during the intervals, with that troublesome complaint, the Whites, medically called *Leucorrhœa*.

The second form of the disease differs from the first, in a larger amount of blood being discharged in a given time, and in the formation of clots, which are mixed with the natural flow or secretions. This does not usually take place with women who are under thirty years of age; but in women between thirty and forty, particularly those whose constitutions have been injured or weakened by Child-bearing or Diseases of the Womb. This complaint comes on gradually, one or two small clots appearing at first, which is probably but little noticed, and then in the next period appearing in much larger quantities. After continuing in this way for some time, the loss of blood will probably increase, or become so great as to produce feelings of exhaustion or weakness, and not infrequently fainting.

The third form in which this complaint exhibits itself, and which is much the most severe, is in women who are from forty to fifty, when the Menses or Courses are about to cease. The symptoms in such cases, both general and local, are much more severe than in the two former; the womb is more or less disordered in its structure and position, and the case is much more difficult. No woman, let her constitution be strong or weak, is exempt from it. It may attack the strong or plethoric, or the weak or debilitated, or the melancholic or the woman of sanguine temperament.

Some degree of irregularity of the Menses, either in time, quantity, or duration, and the Whites during the intervals, generally precede the attack.

Usually the natural discharge appears first, and continues about twenty or thirty hours before the clots of blood begin to be expelled. These clots are sometimes of a dark appearance, and of an offensive smell. The quantity of blood lost by some women is very great, producing extreme weakness, and not infrequently causing serious alarm and apprehension from the quantity of blood discharged. The first attacks of Flooding in this manner generally last from six to ten days; but if the disease is of long standing, they may continue two, three, or even four weeks, almost without stopping. There is generally at this time a difficulty in passing the urine or water, the bowels are costive or bound, the appetite fails, the surface of the body is pale, the whole system is feeble, and the general health suffers severely. The patient may for a time improve, but any exertion or excitement, either of mind or body, may suddenly produce a relapse or return of the complaint.

The principal cause of this form of the disease, and the various changes produced in the system, is a congestion or over-fullness of the blood-vessels of the womb. There may be a Chronic Inflammation of the Womb; Polypus of the Womb, Tumors of the Womb, and numerous other more or less serious diseases of the womb, and surrounding organs, which may cause excessive flowing, and of which diseases the flowing is a symptom.

The general symptoms, which are similar in all the forms of this disease, are great weakness, exhaustion, dragging and sinking, pain across the hips and loins, a dislike when sitting to rise up or to use any exertion, paleness of the face, headache, beating or throbbing of the temples, ringing in the ears, giddiness or swimming of the head, and frequently feverishness, irritability, and a deranged state of the stomach and bowels. In some women the nervous system is greatly affected, and the mind gloomy or depressed. In the more aggravated forms, there is much pain in the side, extending round the lower part of the belly; the headache is very severe; and the least noise or any unusual occurrence produces an effect on the nervous system, with feelings of great prostration, faintness, and change of countenance. Not infrequently this disease is accompanied by swelling of the feet and legs, and Diarrhœa.

The blood in this disease is altered and weakened; and this change or weakness predisposes to still greater Flooding. Among the causes producing an excessive flow of blood from the womb, are frequent and excessive indulgences, cold, over-exertion, mental emotions, frequent child-bearing, over-nursing, change of clothing from warm to cold, wet feet, atmospheric changes, over-heated rooms, or exposure at the period of the Menstrual Discharge.

From these various causes is frequently produced a relaxation of the passage, and the consequence is often a Falling of the Womb, or Prolapsus, and not infrequently Sterility, or Barrenness, and sometimes a predisposition to Abortion or Miscarriage.

In the cure of *Menorrhagia*, which means an immoderate flow of the Menses, the first step to be taken is, if possible, to remove the cause, for, without this, success cannot attend your efforts to cure it, however well-directed.

During the continuance of the discharge of blood, particularly if it be severe, the woman should be kept perfectly quiet in bed. The clothes should be light and loose; drinks cold, such as Lemonade, Cream of Tartar, or Tamarinds and Water, or Cold Water, or a few drops of Elixir Vitriol in a tumbler of water.

The woman's strength should be always supported with light, nutritious diet. During this period, occasionally, the moderate use of Port Wine will be of benefit to sustain her strength. A wineglassful of water with ten drops of the Tincture of Iron, which may be obtained at any drug-store, given three times a day, will be found a most valuable tonic or strengthening medicine, and will contribute greatly to a permanent cure, with moderate exercise, riding in a carriage, change of climate, sea-air and sea-bathing, where convenient, and change of scene by traveling; for the mind has great influence in assisting the remedies before mentioned. When this disease, or Flooding, takes place in women of debilitated constitutions, in whom every portion of blood discharged more than the usual quantity results in continued weakness and other diseases of debility, such persons ought always to resort to stimulants or tonic medicines. In persons of full habit of body, where Flooding does not go to too great an extent, in such cases it may be allowed to go on as a salutary relief. When, however, it becomes so free as to act directly upon the strength, it should be immediately attended to. In the event of the case being a severe one, blood and clots being passed away in quantity, the services of a competent physician should at once be secured. Women of a full habit of body ought, in such cases, to live on light, cooling diet, avoiding animal food altogether. Stimulants of all kinds should be avoided. Early rising, with active exercise, and the bowels being kept freely open with a teaspoonful of Epsom Salts, taken every morning in half a pint of water, with, if necessary, ten to fifteen drops of Elixir Vitriol, will be found greatly to relieve these profuse attacks of Menstruation.

The decline of Menstruation usually occurs about thirty years after its first establishment; the time, however, varies in different women, depending entirely on the constitution, habits, etc. This period is, and rightly is, regarded by females themselves as a critical era in their lives. With the cessation of Menstruation, the capability of Conception also ceases. Such an important change cannot take place without causing some constitutional disturbance. In some, it is comparatively trifling; in others, accompanied by affliction and illness; in some, from having lived a too luxurious life; perhaps, in others, from privation and over-work. Let this, however, be as it may, the health at this time should be carefully watched in all cases, and any symptoms of disease at once attended to. As might be expected, irritations of the nervous system, hysterical and hypochondriacal, and a variety of other disorders, are apt to occur during this change of woman's life. In the fat or corpulent female, it is attended by plethora or overfullness of blood, causing Headache, Apoplexy, Spitting of Blood, Piles, etc. And, lastly, Cancerous Diseases of the Breast and Womb not infrequently show themselves for the first time at the cessation of the Menstruation, or at this change of life.

In some, Menses may at first only be diminished in quantity and become irregular in their recurrence, gradually ceasing altogether, without constitutional disturbance; but such instances are rare; more frequently the flow is so scanty that giddiness or pain in the head, dimness of the eyes, and a sense of fullness of blood, render it necessary to abstain from food, and take purgatives, so as to open the bowels freely. In such cases, Epsom Salts are best, as they not only act as a purgative, but cool the whole system generally.

In other cases, the cessation is sudden, and after continuing thus for a few months, the discharge takes place so largely as to exhaust the strength, and requires to be stopped by cold applications and astringents, as before mentioned. The compound Colocynth Pill, which can be obtained at any drug-store, may be safely used with great benefit in such cases.

It is unnecessary to dwell further in this connection upon the frequent and various causes of this disease. In some females it is constitutional, and would seem to be hereditary, for in particular families all the females of successive generations seem to suffer more or less severely at their monthly periods. The pain in this form of disease is often acute and distressing in the highest degree, and especially in the back and loins. This malady, as well as that which has its origin from exposure to cold, is, in many cases, a Rheumatism of the muscular tissue of the womb and adjacent structures, and may be relieved by the treatment recommended in Rheumatic affections seated in other parts.

In closing my remarks on this important subject, let me urge upon you to aim at restoring the general health, and improving the digestive organs particularly, which, in cases I have described, will often sadly suffer; indeed there are no cases which more imperatively call for strict and unremitting attention to the general health.

All disorders of Menstruation are symptoms of trouble somewhere, and the sooner this is attended to the easier to cure, and the more permanent are the results. The cause must be ascertained and then removed.

Falling of the Womb.

The Womb is medically called the *Uterus*. This most important organ is situated in the pelvis, between the bladder and the rectum. It is in the shape of a common pear, a little flattened. Its length is about three inches, the breadth in the middle is about two inches, and the mouth about one inch. The upper part is called medically the fundus; the middle, the body; and the smallest, the cervix or neck. The fundus is the upper part. The cavity of the womb is small at the entrance, and gradually enlarges to the fundus or upper part, where it expands into a triangular chamber, out of which proceed the Fallopian tubes—two ducts, about three inches in length, which communicate with the ovaries. The internal surface of the womb is corrugated at the entrance, but smooth in the fundus or bottom. The womb is abundantly supplied with blood-vessels and nerves, and its walls always preserve the same thickness, both in Pregnancy and in the virgin state. The Fallopian tubes terminate in a kind of fibrous fringe, called medically the *fimbriæ*, or fringe. The womb is suspended by strong ligaments from the brim of the pelvis; but these often become relaxed or weakened in consequence of general debility and local irritation, when a Falling of the Womb takes place.

The affections to which the womb is liable originate more or less from Pregnancy, or some local constitutional inflammation, as Congestion of Blood, Enlargements, Tumors, and Polypus; and diseases of its neck, including Cancer, etc. It is also exposed to displacements from before or backward, or the reverse, and more frequently to a *falling down*, or, as it is medically called, *Prolapsus Uteri*. The latter occurrence is the most usual after the time of Child-bearing is past, particularly in women who have borne large families, and especially in those

who have neglected themselves, after their confinement, by getting up too soon. It is, therefore, a frequent complaint among poor women, who are often compelled from their circumstances to labor too soon. The Falling or Prolapsus of the Womb is permitted by a general laxity or weakness of the parts, but especially of the ligaments or elastic cords, which ought to retain it in its place. Pulling on the umbilical cord to aid in removing the Placenta is a common cause.

Falling of the Womb is a disease very often originating from the Whites, and generally occurs in women of delicate constitution and debilitated habits, although it may take place in the most healthy and plethoric. In its early stage it is accompanied only by a sense of bearing-down, with severe pain in the back, especially when standing or walking, which sensations are relieved by lying down. After a night's repose, the woman gets up in the morning quite well, but on the least exertion or walking, the pain and bearing-down again return, and the Whites make their appearance. Nervous and dyspeptic symptoms come on, with lowness of spirit, costiveness, and difficulty of making water, or frequently arising in the night and discharging the urine in small quantities.

The Falling of the Womb, in some cases, arises from accident, as a fall, or straining in lifting; from tight lacing, fatigue in walking or riding; not infrequently from distress of mind and various other causes which affect the nervous system. When there is a Falling of the Womb, the pain is generally severe in the lower part of the stomach, back, and hips; and not infrequently the bladder and bowels discharge, without power to control their contents.

If the Prolapsed Womb has fallen very low, so as to protrude externally, the woman becomes faint, and the nervous system is greatly affected. In Pregnancy, especially, the Falling of the Womb is often the result of permitting the bladder to become unduly extended, or over-full, so that, by its weight, it presses the womb out of its place. I knew a case of this kind in a lady who was confined on the cars for several hours, there being no convenience or room appropriated for this purpose, which resulted in a distended bladder, so that the womb became seriously affected. The Diseases of the Womb may, of course, develop with greater or less rapidity; some are sudden in their onset, and urgent in their symptoms; others arise almost imperceptibly, and go on slowly. In most cases, however, there is a sense of uneasiness and dragging weight about the parts, perhaps actual pain of more or less severity. Under severe circumstances, discharges of blood or matter may take place. The constitution may sympathize more or less, and Irritability or Fever may arise, or obstinate Vomiting or Dyspepsia, with excessive Nervous Irritability and Hysteria.

When symptoms like the above described show themselves, or if there is much pain, and especially any feverishness, the woman should at once rest in bed as much as possible, in a horizontal posture, with the hips elevated. If the pain increases, and especially the fever, Fomentations or Warm Bathing should be applied to the lower abdomen and birth-place. When the suffering is great, give ten to twenty drops of Laudanum in a little water, or give an injection, in which put a teaspoonful of Laudanum. At the same time always pay strict attention to regulating the bowels, so as to prevent their being costive or bound, by means of Castor Oil, or, in one of full habit, Salts and cooling Saline Medicines; but all preparations containing Aloes must, under all circumstances, be avoided. Injections of Cold or Tepid Water are often useful. The diet must be regulated according to the habit and constitution of the woman.

If the womb has fallen very low, it may be necessary to replace it by pressing it gently with the finger, upward and backward; but in performing this operation, which should be done with much care, the finger must be well greased or oiled, and the pressure gradual. In some cases, however, though very seldom, the whole womb escapes from the body and protrudes between the thighs. To replace it at once may be difficult, as the inflammation and swelling may prevent it. In such instances, Ice Water, and Cold Compresses may be applied until the pain and swelling subside, when it will be easy to replace the womb in its natural position by gentle efforts, made with the hands, previously greased or oiled, the woman being placed upon her back in bed, and the thighs being elevated. In such cases, the services of an experienced physician should be secured, as it may be necessary to empty the bladder by an instrument called a catheter, two or three times a day, and the bowels are to be attended to by injections. The woman, in such cases, should remain in bed for a week or more.

After the womb is replaced, great care should be taken for some time to prevent a relapse. If this disease has been of long continuance, or is apt, on walking, or by any fatigue to return and the womb comes down, which is frequently the case, much benefit will be found by the use of cold injections up the birth-place, or bathing regularly with Cold Water. Females will most generally experience much comfort from wearing what is called an Abdominal Supporter, which consists of a bandage made of elastic materials, with springs, straps, and pads, fastening around the body, which gives great support to the womb, and prevents it from slipping or falling down. This supporter can be procured at any of the surgical instrument makers in our various cities. In the weakly and debilitated, this supporter, especially if properly fitted, will, under most circumstances, afford great relief, and should be obtained without delay.

In some affections of the womb, it becomes absolutely necessary for a medical man to resort to means of examination, which, though they cannot fail to be highly repugnant to the feelings, no woman of truly delicate and pure mind would object to, when it has been fully explained to her by a professional attendant, in whom her confidence is placed, that such examination is positively required. It may have frequently occurred that these examinations have been unnecessary, or the physician been led, from his zeal in such cases, to disregard, perhaps, too much the feelings of women suffering from these peculiar diseases of the womb. It should, therefore, be the duty of every feeling and sensitive heart, in these delicate investigations, to exercise every tenderness which affection and modesty require, remembering that their own dear mothers, and sisters, and daughters, may be liable to similar afflictions.

In all cases of Falling of the Womb, it will be proper and beneficial to make use of astringent injections in the vagina, by means of a syringe. A weak warm solution of Permanganate of Potassium is a good injection; or a weak Salt solution may be used if the former cannot be obtained. Use the injection twice a day. If the womb will not keep its place, after being properly replaced, it becomes necessary to wear a *Pessary*, an instrument or rather support made for this special purpose; there are many forms of this supporter, and it

should be left to the judgment of the physician just which form is suitable in any particular case. They should not cause any great discomfort, and in case they do another size or shape should be tried. Of course it should be left for the physician to put it in proper place. With a properly-fitting Pessary, and the free use of injections or vaginal douches, as they are called, all but the most severe cases may be cured. Some few cases may require a surgical operation before relief can be obtained. If Inflammation of the Womb also exist, as is often the case, to some extent, make use of additional means, such as are recommended in "Inflammation of the Womb," as the case may seem to require.

One of the most valuable means of relieving the unpleasant symptoms that attend this displacement, and also of aiding the permanent cure, is the wearing of a properly made Perineal Supporter. Any woman who can properly fit a dress, can make it. First, make a bandage of strong drilling, eight inches wide, cut so as accurately to fit the hips and lower part of the abdomen, lacing up in front like a corset; putting in whalebone in front and behind to keep it from wrinkling; sew on buttons before and behind, six inches apart, to attach the perineal bands, which may be made of drilling, but good, strong elastic suspenders are better. Lace the bandage on, buttoning the suspenders on behind; bring them between the thighs, and button them sufficiently tight in front. Where they cross between the passages, sew on a pad half an inch thick, which will press up the Perineum, and give the needed support.

Inflammation of the Womb.

Inflammation of the Womb will be known by a continuous burning pain in the region of that organ, with the sense of weight; and often darting, or shooting pains extending out toward the sides of the lower abdomen. Sometimes even the whole abdomen becomes exceedingly painful, and not infrequently swollen, hot, and painful to the touch. The bowels are apt to become constipated; the urine suppressed or retained; the tongue dry and furred, and the pulse frequent and excited. There may be more or less of a discharge from the vagina.

Inflammation of the Womb may be caused by severe protracted labor during confinement; by retention of the Placenta or After-birth; sudden check of the Lochial Discharge, or of the Menses; by external injuries; cold; the use of ill-fitting Pessaries; by Falling of the Womb, and by Gonorrhœa.

Treatment.—One of the first things to be done in Inflammation of the Womb is to evacuate the bowels, by means of cooling Hydragogue Cathartics. A brisk and active purgative should be given, Epsom Salts, half an ounce, with a teaspoonful of Tincture of Cardamom, and a drop or two of Oil of Anise is, perhaps, the best, though any good Cathartic may be used. If the bowels are much constipated the action of the Cathartic should be aided, or at least the lower part of the bowel, or rectum, should be evacuated by means of repeated injections, such as Warm Water, with a little Salt in it, and a small portion of Glycerine; or anything calculated to remove the hard fecal matter, before the Cathartic begins to operate. After the Cathartic has operated, give a dose of Castor Oil and Spirits of Turpentine; a tablespoonful of the former and a teaspoonful of the latter.

Mustard Drafts, or Hot Fomentations of Bitter Herbs, should be applied to the lower abdomen, over the region of the womb. It is a good plan first to apply a large Mustard Plaster, and after it has remained as long as it can be borne, remove, and in a short time apply Warm Fomentations. Besides the Fomentations, hot vaginal douches should be given; the patient should lie on her back across the bed, so that her hips, which should be elevated upon a pillow, are at the edge of the bed. The pillow and edge of the bed should be protected from wetting by means of rubber cloth or oil cloth in such a manner that the water will all drain into a pail, on the floor beside the bed. The fountain syringe holding two quarts or more of water, which should be as hot as can be borne, and to which a little—a teaspoonful—of salt has been added, is then suspended near by at such a height as to give sufficient pressure; the stream is now allowed to run into the vagina. This douching should be repeated two or three times a day if the inflammation is very intense. A married woman should take such a douche two or three times a week whether she be perfectly well or not, simply as a matter of cleanliness.

The bowels are to be kept loose by repeated doses of the Hydragogue Physic—any good, active, Vegetable Physic, with a teaspoonful or two of Cream of Tartar—at least every second or third day; and as often a dose of Castor Oil and Turpentine should be taken, especially if the inflammation is severe; also continue the Fomentations.

If there is much general excitement, and fever, give occasionally, say every three hours, a dose (about ten grains) of Dover's Powder; and if there be a retention of the urine, or it is high-colored, the patient should drink freely of cooling drinks, or of plain cold water, and every hour or two take a teaspoonful of Sweet Spirits of Niter in a little Spearmint Tea. If the patient can sit up, the Warm or Tepid Hip Bath, for half an hour at a time, will be found serviceable.

Should it be found that the Warm Fomentations, after trying them for a sufficient length of time, do not afford the desired relief, change to Cold Applications, by applying cloths dipped in Cold Water. I have known the happiest effects produced by the use of Cold Water applications, in such cases. Renew the applications every hour or oftener, or as often as they become hot and dry.

A douche composed of a hot, mild solution of Bichloride of Mercury (one part in ten thousand of water) may be used instead of the plain water or Permanganate douche. All families should possess a douche bag or fountain syringe.

Chronic Inflammation of the Womb.

When Chronic Inflammation of the Womb exists, the warm Hip Bath daily is recommended, and the constant use of the hot vaginal douche, as above described. Usually, Chronic Inflammation of the Womb is more intractable than the acute form, and the only thing in some cases that will produce a cure is to scrape out the inside of the uterus, to remove unhealthy mucous membrane or any foreign material or discharges which may be present. This operation requires an anæsthetic, but in the hands of competent physicians is accompanied with little or no danger. Not only does this method of treatment promise complete cure, but also comparatively rapid cure, and in a majority of chronic cases of Inflammation of the Womb we highly recommend it. At the same time the bowels should be kept open by proper medi-

cines and by injections, technically called enemas, and also in most cases tonic medicines are required, such as the Elixir of Iron, Quinine, and Strychnia.

DISEASES OF THE FALLOPIAN TUBES AND OVARIES.

The Ovaries are two glandular organs about the size of small hickory nuts, lying on either side of the uterus or womb, and indirectly connected with it by the Fallopian Tubes. The Ovaries are the organs in which the ova or eggs are formed, and the Fallopian Tubes conduct these ova to the uterus.

Both Tubes and Ovaries are liable to Inflammations, Congestions, Abscess Formations, or Tumor Growths.

Inflammation of the Ovary.

INFLAMMATION of the Ovary is caused by abscesses in the tubes, by inflammation spreading from an already inflamed uterus, or other adjacent parts. The symptoms are pain on one or both sides of the abdomen, low down; this pain may extend down into the hip or thigh. It is intensified by standing or walking, and by an approaching Menstruation, and is more or less relieved when the flow is established. In the early stages, Menstruation is increased or prolonged; in the later stages, diminished or suppressed. Besides these, the general health is impaired.

The Treatment consists of rest in bed, Hot Fomentations over the lower abdomen, doses of Salts sufficient to produce a watery stool daily, aided with a Glycerine enema and, finally, hot vaginal douches. If the temperature is high, pulse weak and rapid, and there are symptoms of Peritonitis, an operation may be required.

Turpentine stupes may be used from time to time instead of the Hot Fomentations; the diet should be liquid.

Cysts and Tumors of the Ovary

Are more or less common, the causes being unknown which result in this formation and growth. Ovarian Cysts sometimes grow to be of great size. The treatment consists in removal by surgical operation.

Tuberculosis of the Ovary.

This disease usually exists in people of a Tuberculous family and tendency, so that a person of such tendencies suffering from symptoms of Inflammation of the Ovary has usually a Tuberculosis of the Ovary. The only treatment is to remove the diseased organ.

Abscess of the Fallopian Tube.

Pus in the Fallopian Tube is usually the result of Gonorrhœa, catching cold, excessive intercourse during Menstruation, Tuberculosis, or Syphilis. The symptoms are much like those of Inflammation of the Ovaries; there is pain on pressure over the lower part of the abdomen; if Menstruation occurs, it is usually profuse; there is slight fever. This is a common cause of Leucorrhœa. There may be some Peritonitis, indicated by distension of the abdomen. These symptoms may, with proper care and treatment, disappear, and there appears to be complete recovery. Sooner or later, however, possibly years after, upon exposure to cold, or indulging in sexual excesses, there will be a recurrence of the symptoms.

The successful treatment requires complete rest in bed; Hot Fomentations must be kept constantly on the lower part of the abdomen; Salts should be given to secure a watery movement of the bowels daily. After the worst symptoms have passed, hot Saline vaginal douches should be given, as described under the head of Inflammation of the Womb. Often permanent cure can be secured only after resorting to a surgical operation.

Extra Uterine Pregnancy.

Normally the ovum should develop into the fœtus, within the cavity of the uterus or womb. As the ova are made or formed in the Ovary, and must pass through the Fallopian Tube before they gain access to the uterus, they sometimes develop in the tube and grow too large to pass into the womb. While the fœtus develops in the tube, it produces a swelling and enlargement of the latter, the walls of which gradually become thinner and thinner, and finally rupture takes place, usually producing disastrous results unless immediately and properly cared for. The symptoms in association with those of Pregnancy — Morning Sickness and cessation of Menstruation — are an enlargement of the lower abdomen, but to one or the other side instead of in the center, as occurs in a normal pregnancy. When the rupture comes — it usually results from lifting or straining — there is sudden acute pain in the side; there is gradual or rapid weakness, caused by internal loss of blood, the amount depending upon the size of the hole in the tube; the lips become extremely white, as does the entire skin; the pulse is rapid and soft, and there are flashes of light and darkness and attacks of dizziness.

When such an attack occurs, the patient should at once be placed in bed, with the foot of the bed raised high on a chair; ice should be kept on the lower abdomen, and the extremities should be kept warm. The services of a surgeon should be secured as soon as possible, for the internal bleeding, as a rule, can be stopped only by means of an operation, and each minute lost represents the loss of so much more precious blood. Some few cases recover without an operation, but this question should be left to the discretion of the surgeon.

DISEASES OF THE VAGINA AND EXTERNAL ORGANS.

The Whites — Leucorrhœa.

THE WHITES, medically called *Fluor Albus* or *Leucorrhœa*, is a discharge from the womb or vagina, and is of a whitish fluid, resembling the white of an egg, which is sometimes thin and at others thick, and not infrequently of a yellow color. This disease is occasioned by a chronic sub-acute inflammation of the internal surface of the womb, which is in a sore red state. This extremely common and troublesome female complaint may and does occur in a variety of constitutional conditions and circumstances, but more generally it is associated with general debility, or weakness, and almost certainly so if it has continued profuse for any length of time. This

discharge, which is so common among married women, ought not, *as it is too often the case*, to be neglected, for not only may the constitution and general health and strength be seriously injured, but not infrequently the most serious diseases of the womb occur from such neglect.

Of all the diseases peculiar to women, this disease, the Whites, is the most common and troublesome; but few married women escape its attacks. It should be remembered that this disease is often the result of neglect, and that in the milder discharges of the complaint, a little attention and domestic management will often be sufficient to remove this unpleasant ailment. If allowed to go on, as before mentioned, either from mistaken delicacy or carelessness, it may end by undermining the powers of the constitution, and Dropsy, Consumption, and other diseases of debility may originate in consequence. In some women, the Whites is so mild, that it is often neglected or permitted to run on, until it produces great weakness and seriously impairs the health, though it might have been removed by cleanliness and early attention. This neglect is frequently the cause of inflammations of the womb, permanently fixing this troublesome complaint, Leucorrhœa or Whites.

In those of plethoric habit, by which is meant fat or fleshy women, especially in the middle periods of life, the inflammatory symptoms may be of greater severity, requiring more attention to soothe the internal parts by the use of Tepid Water or Cold Salt Water Hip Baths, etc. The bowels in all such cases require strict attention, and should be regulated by the cooling purgatives, such as Epsom Salts, Seidlitz Powders, etc., or by Cold Water injections. It must, however, be borne in mind, that, in all cases, the strictest cleanliness must be observed, by bathing in Cold Water; indeed, in this disease, the Whites, it is absolutely requisite, both as a prevention and cure. The neglect of cleanliness is one of the most frequent causes of this complaint. This disease generally makes its appearance just before, or after the Monthly Sickness, and women who are subject to a large flow of the Menses, are more apt to be afflicted with the Whites. In many this discharge is constant; in others, at times. When this disease is of long standing, it not only produces great weakness, but it likewise disorders the nervous and digestive systems. Dyspeptic symptoms are almost sure to follow, to a greater or less extent, when the disease is severe. The skin becomes pale; there is a darkness under the eyes, similar to that when a woman has her Monthly Sickness; also a want of muscular energy, and frequently pain in the back and loins, and a general delicacy of health, gradually undermining the constitution.

Leucorrhœa, or Whites, often follows from inflammation of the mucous membrane of the vagina and uterus, but more frequently, perhaps, from debility and weakness. It may, therefore, be produced by any causes that give rise to inflammatory action, or to general prostration. Among these may be enumerated deranged menstruation, cold, want of exercise and fresh air, late hours, exciting reading, company, and conversation, depression of spirits, vicious habits, too early or too late marriage, exciting food and drink, stimulants, excitements or excesses in venery, exposure to cold, damp weather, thin shoes, injury at childbirth, hard labors, thin clothing, and everything that weakens or debilitates the system. All large cities are the principal places to engender this and other female diseases. In the female, puberty is precociously developed, or she is a woman before her time, for exciting circumstances abound; and the daily habits of women, or, in truth, girls, are calculated to make them weak, and susceptible of cold from the slightest exposure, inducing a variety of other diseases.

In some persons, the Whites appear to be constitutional, and no doubt result in many instances from a Tuberculous taint. Certain temperaments are also apparently more disposed to it than others, particularly those of a nervous habit, light or reddish hair, a thin transparent skin, and who swell and puff up in the limbs from any slight exertion. The intimate connection between the uterine system and the great nervous centers, is also another source of this disease; hence it is often produced by sudden fright, continued anxiety, disappointment, grief, and passion. In short, everything that deranges, weakens, and diseases other parts of the system, will thus disease the womb, whose mysterious and extensive sympathies connect with every other organ in the body. The importance of these remarks may be imagined, when I state that the occurrence of this disease in its aggravated form, and the occasional consequences it then gives rise to, have been the means of raising unfounded suspicions of moral impurity; and of creating discord where it ought not to exist. Never ought such ideas to be entertained for one moment in the mind, still less expressed in words, except when based upon the careful examinations and opinions of more than one medical man. It may sometimes be mistaken for Gonorrhœa, the precise nature of this fluid being in many instances so similar, when of long standing, being very acid, or of a yellow color, as to deceive, in some instances, even the physician. The other disease, however, is a more inflammatory one, attended with more heat, scalding, and soreness in passing the urine or water, and the discharges of a very yellow color. A positive distinction between Gonorrhœa and Leucorrhœa can only be made by a careful microscopical examination of the discharge.

As long as the Whites continues, the ordinary function of Menstruation is more or less deranged; it is likewise symptomatic of disease connected with the womb, and Miscarriage is more liable to occur. Falling of the Womb is also often produced from the Whites, and so generally accompanying it that it may be proper to name it here. Moreover, when a family is desired, the wish is not likely to be accomplished as long as the discharge continues, because when this disease becomes habitual or well established, the womb gradually loses its powers of contraction and strength, the semen or fluid being discharged immediately in combination with this flow of vitiated mucus, the Whites. As before stated, it is associated with general debility, and almost certain to destroy the general health if it continues profuse for any length of time; but it may be quickly removed by rest, cleanliness, diet, bathing in cold water, and mild saline purgatives, such as Epsom Salts and Seidlitz Powders, occasionally taken, and by injections, with a syringe, up the birth-place, with Cold or Tepid Water, and in following the remedies hereafter named.

Remedies.—The first is cleanliness, by bathing freely with cold or tepid water, and injecting it up the birth-place three or four times a day with a female syringe, which can be purchased at any drug-store. Far better than the simple injection of water, is to make use of vaginal douches, described under the subject of Inflammation of the Womb.

In all cases the regulation of the diet will often produce a great improvement of the general health. Where the woman is of a full or plethoric habit, the food should be vegetables, or a light and nutritious diet; for the weak or debilitated,

more stimulating, such as Animal Food, Port Wine, Malt Liquors, or such tonics as strengthen the system generally. Due attention, in all cases, should be given to rest, or gentle exercise, regular hours of sleep, and nothing done to exhaust or lessen the strength. Warm Bathing or Cold, as it may be adapted to the constitution. The Shower Bath, used every morning, and the body well rubbed, immediately after, with a coarse towel, and a preparation of Rhubarb and Iron, given internally, in most cases, will check this disease quickly, and restore the general health in very delicate females.

Injection of Sugar of Lead forms one of the most cooling and astringent injections in this disease, in the commencement of the discharge, and should be injected two, three, or four times a day; this remedy will, in mild cases, be attended with much benefit, and in those of plethoric or full habit, this injection, with a dose of Salts occasionally, combined with the Bath, will be found very beneficial. The proportion of the injection is from 5 to 8 grains of Sugar of Lead, medically called *Aceti Plumbi*, to three or four tablespoonfuls of Rain Water; or an injection made with 5 or 6 grains of White Vitriol, medically called *Sulphate of Zinc*, to the same quantity of Rain or Soft Water; or an Alum wash in similar proportions to the last. Any one of these astringent articles, used as an injection, four or five times a day, will, if used regularly, remove the discharge, which few women, particularly if they are married, or mothers, escape completely, for, of all the diseases peculiar to the sex, there is none so common as the Whites.

Thirty or forty drops of Balsam of Copaiva, three times a day, or twenty or thirty drops of the Spirits of Turpentine, taken on Sugar, will be found an excellent medicine in this complaint; or a teaspoonful of Pulverized Cubebs in a tumbler of water twice a day, is likewise a good remedy. Either of those articles can be tried alternately, as they may be beneficial or afford relief.

Five grain doses of the Saccharated Carbonate of Iron may be taken three times a day, for a length of time; this will both strengthen the tone of the system, and allay the irritability of the uterus or womb.

Six grains of Dover's Powders, taken twice a day, night and morning, is one of the most valuable remedies to restore the proper action of the uterine vessels.

Griffith's Mixture, which can be obtained at any drug-store, is an excellent medicine for the Whites. The Sweet Spirits of Niter and Hoffman's Anodyne Liquor are often of great benefit, in doses of a teaspoonful.

When the discharge is so acrid as to create pain, and a scalding heat in making water, the following is one of the most valuable remedies and never fails to afford immediate relief: Take of Sweet Spirits of Niter, 1 ounce; Balsam Copaiva, ½ ounce; Sweet Almond Oil, 1 ounce; Spirits of Turpentine, ½ ounce; Pulverized Camphor, 10 grains, put into a four-ounce vial, and shake up well for a few minutes, and it is ready for use. Dose: one teaspoonful in a wineglassful of Slippery Elm Tea, made by pouring boiling water on the Slippery Elm Bark, and let it soak well until it becomes a mucilage, or thick, like syrup. In Inflammation of the Kidneys, medically called *Nephritis*, this will be found a most useful remedy.

Where there is much weakness, the patient must keep still; in fact, she must have perfect rest; defend the feet well from dampness, and use a generous diet and tonics to strengthen the system, such as the Muriated Tincture of Iron. Dose: from twenty to twenty-five drops in half a tumbler of cold water three or four times a day. Take through a glass tube, as the iron will otherwise injure the teeth. Or, take a little good Port Wine and Peruvian Bark. The bowels should be kept gently open by the use of Rochelle Powders, or Extract of Butternut or Aloes; or Seidlitz Powders, or small doses of Epsom Salts. Where there is much general weakness, the strength must be restored by the use of Quinine, Wine, the Mineral Acids, and the preparations of Iron, or such springs of water as contain Iron, which should be used whenever it is practicable to visit them. In Paris I obtained the following successful remedy: Tincture of Aloes, 1 ounce; Muriated Tincture of Iron, 2 drachms; mix. The dose is from thirty to forty drops three times a day in a little water. Inject up the birth-place, with a fountain syringe, the following wash, twice a day: Sugar of Lead, 1 drachm; White Vitriol, 1 drachm; put both these into 1 pint of Rain Water, shake up well, and use as directed.

Another valuable medicine, which in many cases will relieve, is the pill, made at any drug-store, as follows: Alcoholic Extract of Cubebs, 1 part; Solidified Copaiva, 2 parts; mix well together, and make in three or four grain pills. One or two of these are to be taken two or three times a day until relieved, or as they may agree with the stomach; but, as some persons dislike to take pills, the following remedies may be used instead: Commence by taking a gentle purgative, then use Cold or Tepid Water injections, after which the following medicines should be taken: Balsam Copaiva, 1 part; Sweet Spirits of Niter, 2 parts; Spirits of Turpentine, 1 part; Tincture of Kino, 1 part: these four articles above mentioned are to be mixed together and shaken up well. Dose: thirty drops in a wineglassful of Milk or Slippery Elm Tea, three times a day, on an empty stomach. While using this remedy, or shortly after, according to the severity of the discharge, or the general health being weak, you will find the following tonic preparation to give strength to the system, and in a short time relieve the disease: Elixir of Iron, Quinine, and Strychnine and Elixir of Ammonium Valerianate, equal parts, a tablespoonful three times a day before meals.

Usually there is an inflammation of the womb, or of the Fallopian tube, or of the mucous membrane of the vagina which causes the Leucorrhœal discharge; laceration of the neck of the womb, or of the wall of the vagina, or ulcerations in these localities may all cause Leucorrhœa; and as long as these conditions exist, all the drugs in the world and all the douches and injections, of whatever nature, will not have the slightest effect upon the discharge. I cannot urge too strongly the necessity for a thorough examination, to determine what is wrong; it is a false modesty, indeed, which prevents a woman from refusing such an examination and he is a false doctor, indeed, who will treat Leucorrhœa without first making a thorough examination. The cause having once been discovered, if removable, the disease can readily be cured. If there is inflammation of the uterus, it should be scraped out, this is not a very serious operation and is usually necessary. If there are lacerations or tears, they should be repaired and sewed up. If there are ulcerating sores, they require local applications and treatment. When the cause is once discovered and removed, the checking of a Leucorrhœal discharge is readily accomplished. Simple displacement of

the uterus is sufficient cause to produce Leucorrhœa, so that a misplaced uterus should be placed in proper position and held there by means of a properly fitting pessary. It is readily seen that many cases of Leucorrhœa can be cured only by means of a surgical operation, which in the hands of a skillful surgeon is accompanied with but little danger. Douches and a few medicines are necessary as secondary agents, but neither will they alone, nor will operations alone cure Leucorrhœa. there must be a combination of these. Of course there may be mild cases, of a catarrhal nature, which douches alone will cure.

In closing this important subject, let me advise always to keep the feet dry and warm, and the dress sufficient to prevent chills and colds. Gentle employment of the mind and muscular powers will greatly assist in the cure of this disease. Women in the country, who lead a more active life, who breathe the fresh air and live on plain food, are less liable to this complaint than those in cities. Women of a delicate make and inactive life, living amidst all the fashionable luxuries, which are great drains upon the body and mind, see the sure consequences in alterations of the functions of the body, which produce a weakness of the whole system, and shorten the natural duration of human life. The mutual relationship and constant interchange of action subsisting between our mental and corporeal natures, can scarcely have escaped even the most careless observation. Let the functions of either be disturbed, and more or less disorder will straightway be reflected to those of the other. The hardiest frame must suffer under the agitations and afflictions of the mind; and the firmest mind cannot long remain unharmed amid the infirmities and sufferings of the body. Few, we imagine, have formed any adequate estimate of the bodily ills which originate in the mind. Even the physician, concentrating his attention upon the physical, is very liable to neglect the mental causes of disease, and thus are patients sometimes subjected to the harshest medicines for relief, when the true origin of the disease originates and continues from some inward and rooted sorrow, which a moral balm alone can reach.

Many of the physical evils—the want of vigor, the inaction of the system, the languor and the hysterical affections—which are so prevalent among the delicate young women of the present day, may be traced to a want of well-trained mental power, well-exercised self-control, and to an absence of fixed habits of employment. Real cultivation of the intellect—earnest exercise of the moral powers—the enlargement of the mind by the acquirement of knowledge, and the strengthening of its capabilities for effort, for firmness, for endurance of inevitable evils, and for energy in combating such as they may overcome, are the ends which education has to attain. The power of the mind over the body is immense. Let that power be called forth; let it be trained and exercised, and vigor both of mind and body will be the result. There is a homely, unpolished saying, that "it is better to wear out than to rust out"; but it tells a plain truth—rust consumes faster than use. Better—a million times better—to work hard, even to the shortening of existence, than to sleep and eat away this precious gift of life, giving no other evidence of its possession. By work or industry, of whatever kind it may be, we give a practical acknowledgment of the value of life, of its high intentions, of its manifold duties. Earnest, active industry is a living hymn of praise, a never-failing source of happiness; it is obedience, for it is God's great law for moral existence.

Nymphomania.

This is simply an inordinate desire in the female for sexual intercourse, to such an extent that it becomes a disease. It is usually attended with more or less itching and burning pain of the external genital organs and in the vagina, pain in the bladder, with strangury and retention of the urine, and sometimes fainting and hysterical fits. It may be owing to various causes, as too frequent indulgence in sexual intercourse; Gonorrhœa, and consequent irritation of the genital organs; over-heated voluptuous imagination; idle and luxurious mode of living; Worms; Masturbation, or Self-pollution, and the like.

Treatment.—The most approved remedies are light, vegetable, and cooling diet, and, if need be, fasting; cooling lotions, as solutions of Sugar of Lead, Camphor, and Zinc, and applications of Cold Water to the genitals, and the free use of Camphor and Bicarbonate of Soda internally. Inject Cold Water frequently into the vagina. Bathe the external parts with a solution made of Sugar of Lead, 1 drachm; powdered Camphor, 1 drachm; Water, 1 pint. Take a pill, composed as follows: Gum Camphor, powdered, 2 drachms; Ipecac, 30 grains; make into 60 pills, with Extract Hyosciamus, and take one pill night and morning. Also take a teaspoonful of Bicarbonate of Soda, in a little water, once or twice a day. Sleep on a hard bed, with light cover; avoid lascivious thoughts and books; engage in some useful and laborious employment, that will give free exercise to all parts of the body, and call the mind off to other objects. Abstain from sexual congress as much as possible. A trip to a cold climate is recommended. For temporary use, 15 grains of Bromide of Potassium should be taken three or four times a day.

Pruritus.

Is itching of the external organs of generation. This itching, which varies in intensity in different individuals, and in accordance with the cause, is sometimes extremely troublesome.

It may be caused by irritating urine, as in Diabetes or Cystitis; it may be due to Eczema, to Parasites, to irritation or disease of the rectum.

The Treatment consists in the removal of the cause, so far as is possible. If due to irritating urine, the parts should be protected, with one of the following preparations: One part Carbolic Acid in ten of Benzoated Oxide of Zinc Ointment; or one part of Chloral or Menthol in ten or fifteen of Vaseline. Blue Ointment should be used in case of Parasites. Vaginal douches of two per cent. Carbolic Acid should be used. Leucorrhœa may be a cause of the itching, and should be properly treated as directed under that subject.

DISEASES OF THE BREAST.

Sore and Inflamed Breasts.

During the last two months of Pregnancy, the breasts should be washed twice a day and then touched with a piece of clean absorbent cotton, saturated with a mixture (equal parts) of Glycerol of Tannin and Water.

Sore Nipples are often caused by wearing a tight jacket, or by a too tight fitting dress. The mother should recollect that

when nursing her infant, her breasts are much larger than at other times, and also that the nipples, from constant nursing, are much more tender and easily irritated. Another and most common cause is neglect to properly dry the nipples after the child has nursed. The nipples should be well dried after each nursing, and a little Starch Powder, or powdered Magnesia, sprinkled on. Should they, however, become sore, use Olive Oil or an ointment composed of one per cent. Ichthyocol, or the ointment of Zinc Oxide may be used alone, or with ten grains of Iodoform to the ounce. If the breast becomes very sore and inflamed, suckling should be stopped, the Breast-pump being used to withdraw the milk, and the breast should be supported by firmly bandaging. Applications of Lead and Opium (a drachm of Laudanum to an ounce of Dilute Lead Water) should be constantly applied. It may become necessary to strap the breasts with surgeons' Adhesive Plaster. Sometimes the nipple is so sensitive that the contact of the gown or bed-clothes is painful. In such cases a breast-shield should be worn. If the above precautions are not taken, abscesses may form in the breasts. If an abscess once forms, the sooner it is opened the better. It should then be treated as an abscess in any other part of the body, *i. e.*, with moist Bichloride of Mercury dressings and bandages. I cannot impress too strongly the importance of bandages to support and hold the breasts firmly and with gentle pressure. Of course, the child should not suckle the inflamed or the other breast, and recourse must be had to modified cow's milk and the bottle.

To dry up the milk, stop nursing and apply a Belladonna Plaster, repeating as often as necessary, or until there is dryness in the throat, and disturbance of vision. This is usually sufficient to stop the secretion of milk.

Congestion of the Breast — Caked Breast.

Congestion, *i. e.*, excessive amount of blood, occurs in almost every woman on about the third day after delivery of the child. If this is not at once and properly cared for, inflammation and abscess may result, to be followed by chronic inflammation, which may, in later life, act as an exciting cause of Cancer. Fortunately, all this trouble can be readily prevented. On the evening of the second day following the birth of the child, half an ounce to an ounce of Epsom Salts with a drachm of Tincture of Cardamom and a drop or two of Oil of Anise and sufficient Hot Water should be administered. The milk must be thoroughly withdrawn at regular intervals, either by the baby's mouth or by means of the Breast-pump. Massage and rubbing will aid in evacuating the breast. Hot Fomentations or Hot Lead and Opium (a drachm of Tincture of Opium to an ounce of dilute Lead Water) should be used as constantly as possible. A mammary binder should be used by all means; this is a broad bandage so applied as to raise and support the breasts, and at the same time exerting a firm but gentle pressure. Flannel is the best material for the purpose.

VENEREAL DISEASES.

THE venereal diseases are Gonorrhœa, Soft Chancre or Venereal Ulcer, and Syphilis. They are all infectious and are usually contracted during sexual intercourse. The innocent may accidentally contract any of them.

Syphilis.

This is one of the worst forms of Venereal disease, and is very generally known by the more common name of *Pox*. It is, even in its mildest form, a wretched and disgraceful disease — one which is always to be dreaded, and with which the guilty sufferer — for he is generally guilty — is always ashamed to acknowledge himself afflicted. From six weeks to two months after the appearance of the first sore, various symptoms develop over the entire body and it is then termed, *constitutional*, giving rise to what are termed constitutional or secondary symptoms. It then becomes a loathsome and filthy disease, eventually undermining the constitution, destroying the general health, and sapping the very foundations of life, rendering the sufferer a mere wreck in both body and mind — disgusting to himself, and detested and shunned by all around him! How often does it happen that an amiable and virtuous wife, and sometimes, alas! innocent children are compelled to suffer what is often worse than death itself, from the effects of this loathsome disease, communicated to them — or to her and thence to them — by him whom they are compelled to call husband and father!

This disease is communicated by infection — that is, by actual contact with the specific virus — and is usually acquired by having sexual intercourse with one who has the disease at the time; there is one exception to this, however, and that is where it is communicated by a pregnant female, who has the disease, to the child in her womb — in which case the child will have the disease in the constitutional form from the start. It is, in its first or primary stage, located entirely in or upon the genital organs, and is therefore, at first, simply a local disease. The word Syphilis comes from the Greek word *Siphlos*, and means *Filthy Disease*.

It cannot be communicated by the breath, but the saliva of a syphilitic person is extremely poisonous, and the lover's kiss has often been the source of syphilitic infection; but if a person prick himself with an instrument on which there is some of the Venereal poison, or cut himself with a scalpel while dissecting the body of a person who died of the disease — as is sometimes done by medical students — he will be apt to take the disease.

Primary Symptoms.— The first symptoms of the primary form, when taken in the usual way, are the appearance of what are called Chancres, which makes their appearance on the genital organs — in the male, on or about the head of the

penis; in the female, on and sometimes a little within the external edges of the vagina, or labia, or on the mouth of the uterus or womb. They begin generally in the form of a small pimple, or vesicle, which soon enlarges, breaks, and ulcerates. They are generally single—usually two or three at most, and do not extend or enlarge much. The true Chancre is apt to assume a circular form, with excavated or hollow surface; raised, hard edges; indurated or hard base, and the matter which forms in it, is tenacious, and sticks close to the ulcer. The lymphatic glands in the groin swell some, but in Syphilis seldom become inflamed and form a true Bubo. This also occurs in Gonorrhœa, but in Soft Chancre, the true Bubo usually forms, the glands becoming greatly swollen and inflamed, usually breaking down and ulcerating. This is one way of distinguishing Syphilis from Soft Chancre.

As to the time which generally elapses after exposure to this disease until the first symptoms appear, this is usually within a few days—say from nine to twenty or more days; but sometimes, owing probably to some peculiarity in the person's constitution, the disease does not show itself for a much longer time, even for some weeks. Cases have been known where it did not exhibit itself for more than a month after exposure; but in the greater number of cases Chancres will appear, if at all, within nine to twenty days.

The Syphilitic disease, as has been said, is communicated by infection, or actual contact with the virus; it will be communicated to the system, or any part of it, by coming in contact with any sore, cut, or abraded surface; and may be, and often is, conveyed by the fingers after handling or touching the Venereal Sore, to the eyes, nose, lips, etc., or if there be any little sores on the fingers, the poison may be absorbed there, and produce the most alarming results. Physicians, therefore, as well as the patient, and every one who has anything to do with the treatment or handling of Venereal Ulcers, should be extremely careful in this matter, and make use of proper caution and cleanliness. Towels, cups, knives, forks, and many other articles have conveyed the infection.

Secondary Symptoms.—The secondary or constitutional symptoms at first make their appearance in the throat and on the skin. The primary Chancre, especially in women, may be entirely overlooked and the first knowledge of the presence of the disease, may be the development of secondary symptoms, but this is very seldom. They most usually follow the primary symptoms, where the disease has been neglected or badly treated, and generally not until some weeks after the appearance of the primary symptoms.

The first symptoms of the Constitutional Form are, generally, the appearance of ulcers in the throat, sore throat, soon followed by a breaking out on the skin of little red, scaly pimples at first, perhaps, which usually soon change to a copper color, often enlarging or running together; at first they are dry, the skin peeling off; and they may remain dry and scaly throughout, or change to a sort of ulcer, exuding a yellowish colored matter, if the disease is allowed to continue, gradually spreading over the face, body, arms, and head, giving the victim a most unsightly and loathsome appearance.

When the Venereal Virus attacks the throat or palate, the roof of the mouth becomes red and inflamed; patches ulcerate, and thence creep to the palate, destroying it, if not cured; then it communicates to the nose, destroying the cartilage or gristle which separates the nostril, when the voice becomes changed into a nasal twang, and a most offensive discharge is secreted. Sometimes the tongue, the inner part of the lower lip, and lower gums, are affected with these Venereal Ulcers; and last, the larynx or top of the wind-pipe, which destroys the voice, and the patient speaks in a low whisper. The nose is next attacked; an incrustation or scab forms in the nostril; after a short time, on blowing the nose, a quantity of blood, mixed with matter, is discharged, followed in a few days by similar incrustations, when ulceration takes place, and gradually lays bare the bone, and occasions it to exfoliate, when horrible deformity or loss of the nose is the result. All these secretions from nose and mouth contain the virus, and another person coming in contact with them is liable to contract the disease. By these means, may towels, cups, knives, forks, and a thousand and one articles in use in public eating and drinking-places be infected with the Syphilitic virus and innocent people using them contract the disease. A syphilitic should be careful not to spread the disease in this manner, and every one should be careful about using public articles, being sure that they are clean.

The last and closing remarks upon the symptoms of Syphilis, are on the bones, which do not escape the ravages of this hydra-headed pestilence; the joints enlarge, become painful, and the surfaces of the bones tumefy, forming what are called Nodes, while the interior yields to the process of absorption, or rots away, constituting what is called Caries of the Bones. The ligaments and tendons are also the seat of great pain, often depriving the person of sleep. It is extraordinary the length of time that some constitutions bear up against this horrible scourge of the human race; and the rapidity with which others sink under it. It is, therefore, important that no time be lost in seeking and adopting proper remedies. When the disease is suffered to proceed, and not counteracted by proper remedies, the unfortunate victim will, in the course of time, be afflicted with severe pains, but more particularly in the night-time; his countenance will become sallow and haggard; his hair fall off; lose his appetite, strength, and flesh; rest much disturbed at night, with slight fever, and a gradual loss of all the muscular energies.

On examining the Secondary or Constitutional Symptoms, I have found them increased to a fearful extent by drinking spirituous liquors, sexual intercourse, exposure, and excesses of various kinds, which have had more or less tendency to spread the disease while under the effects of this active medicine. With regard to the use of Mercury in this disease, I admit, when properly used, that great benefit may be derived from it; but the rash, indiscriminate, and unqualified abuse of it has been productive of infinite mischief, not only in the hands of quacks, but likewise where patients have endeavored to cure themselves by the use of the advertised nostrums, professing to be entirely vegetable and harmless, and yet composed of the most active compounds of Mercury, by which thousands have been mercurialized and their constitutions entirely destroyed. At one time Mercury was declared to be a specific in all Venereal disorders hence it was given in all cases and forms of Venereal affection, and pushed to a frightful extent in many instances.

At present, fortunately for those afflicted with this disease a more rational system is adopted. Mercury, though looked upon as a specific, is not pushed to the fearful extent it was

formerly. In all cases, Mercury, in some form or other, is indispensable, and must be used to remove the Syphilitic virus from the system; but Mercury alone cannot produce a complete cure. Tonics are just as essential as Mercury, and the most important feature of all is time. Mercury cannot completely eradicate the disease in less than three years; true, all symptoms may disappear in six months with proper use of Mercury, but stop then, or in less time than three years, the constant use of Mercury is to invite failure. No one suffering from Syphilis should marry until all symptoms have disappeared, and a three years' conscientious use of Mercury has been followed out.

Treatment.—The important part of the treatment of a Chancre, *i. e.*, the primary sore of Syphilis, is cleanliness. Do not burn or cauterize it, or use strong or irritating drugs; the best dressing is to dust it with Boric Acid. The sore will get well in the course of a few weeks without more treatment. By the time the sore makes its appearance the disease is already constitutional and cannot be stopped. It is almost impossible to distinguish a Chancre (positively) from a simple sore, or from Herpes, and no Mercury should be taken at this time for it is of the utmost importance to know to a certainty whether one has Syphilis or not, and taking Mercury will mask the other symptoms if one has Syphilis, and will do no good if one has got only a simple sore. A sore that spreads rapidly and ulcerates extensively is not a Chancre (primary sore of Syphilis), but is in all probability a venereal ulcer, and requires entirely different treatment from the Chancre.

The diet, in the meantime, should be light and mainly vegetable—avoiding Pork, Fat or Salt Meats, Liquors, Tobacco, and remain as quiet as possible. The bowels should be, and indeed must be, kept in a loose condition by the use of the proper kind of physic, and for this there is nothing better than the pill of Aloes, Belladonna, and Strychnia—do not use Calomel, or Mercury in any other form—two pills a day. When they begin to operate freely on the bowels, perhaps one pill a day will be enough.

Treatment for the Constitutional Form.—The way in which a constitutional taint occurs is by absorption of the poisonous matter from a Chancre, hence the necessity of keeping these sores well cleansed from the start. The Constitutional and Secondary Symptoms of this disease, as has already been stated, usually show themselves first in the throat and mouth, and on the skin. Syphilitic sore throat is very apt to occur to some extent in this disease, and is often mistaken for common sore throat. On looking into the back of the throat we see a dusky redness, and here and there circular or semi-circular patches covered with a whitish and very tenacious secretion; these patches often occupy the surface of each tonsil; they may remain indolent for a length of time, but sooner or later they ulcerate and form deep, irregular sores; in ordinary cases, the pain, inflammation, and swelling are much less than that we find in common sore throat. As soon as these spots or ulcers appear they must be attended to, and not allowed to spread, or the virus to be absorbed further, by being touched or burnt pretty thoroughly with Lunar Caustic (Nitrate of Silver) or Caustic Potash, and the throat and mouth well gargled and washed out several times a day with some proper gargle, such as I shall presently name.

When the skin becomes affected, which may be simultaneous with the ulcers in the throat, or soon after, and sometimes, though rarely, without any soreness of the throat, reddish and brownish spots appear here and there on its surface, and blotches of a copper color are dispersed over different parts of the body, on top of which there soon forms a thick scurf or scale, which falls off after a short time, then succeeded by another, which, occurring several times, and at length being cast off, leaves a deep spot, in which an ulcer or sore is formed, which discharges a thin acrid matter. When the Venereal poison is secreted in the glands of the throat and mouth, the tongue will often be affected, so as to occasion a thickness of speech; the tonsils, palate or uvula will become ulcerated, so as to produce a soreness and difficulty in swallowing, and likewise a hoarseness of the voice. If the disease affects the eyes, obstinate inflammation will also attack these organs. The matter sometimes falls on deep-seated parts, such as the tendons, ligaments, and periosteum, and occasions hard, painful swellings to arise, known by the name of Venereal Nodes. When this disease is permitted to go on, and is not counteracted by proper remedies, the patient will be afflicted with severe pains, particularly in the night-time. Hard swellings spring up upon the bones, which soften, ulcerate, and waste away. The skull bones, in particular, are apt to ulcerate and exfoliate in large pieces. The shin bones and the bones of the arms are covered with Nodes, or hard, painful swellings, which are always most painful when warm in bed. The flesh wastes away; the hair falls off; the strength and appetite fail; the sleep is disturbed and unrefreshing; and in the end all the symptoms of fever appear. In the worst forms of the disease, if allowed to run on, a universal rottenness pervades the flesh, skin, and bones. Next to the Confluent Smallpox, it is the most filthy, loathsome disease in the whole catalogue of human maladies.

In the treatment of this disease, it is always necessary to use Mercury internally or as an Ointment; in either case finally being taken up by the blood. The external application of Mercury, as in the Ointment, Black Wash, and the like, has the advantage of producing the least disturbance, as it does not go into the stomach, and can produce no disturbance of it unless very long continued, or used in too great a quantity, when it may, by absorption, affect the general system, while it neutralizes or destroys the poison by coming in direct contact with it. Salivation by Mercury, once thought to be absolutely necessary in order to cure this disease, is not only not necessary, but always injurious and to be avoided.

Special Treatment.—If there are ulcers in the throat or mouth, touch them occasionally with Caustic, and gargle with Borax and Alum solution. If the skin is affected, it should be kept well cleansed, by using Soap and Water. Occasionally use the warm Alkaline Bath, or Warm Water in which some Saleratus or common Salt has been dissolved, or common Lye added.

For Tertiary Syphilis we have a specific in Iodide of Potassium as we have for Syphilis, proper, in Mercury. There is nothing more satisfactory in medicine than the complete removal of a gumma or the healing of a syphilitic ulcer by means of Iodide of Potassium. This drug is at first given in comparatively small does (10 to 20 grains three times a day), but can gradually be increased so that the patient will tolerate larger quantities of the drug, which is necessary to success. Syphilis can positively be cured by Mercury; however, Mercury should not be used until all doubts about the diagnosis have been removed.

The diet must be mild, unstimulating, and mainly vegetable. Should the bones become affected, as with nodes, swellings, pains, and the like, and especially if much Mercury has been taken, the patient should take twice a day 5 or 6 drops of dilute Hydrochloric Acid in half a tumbler of water, or just enough to make the quantity of water pleasantly acid, like Lemonade. A strong solution of Sulphate of Copper is highly recommended by some as a wash for Sores in the throat, as well as for Chancres: to be made by adding 30 grains or an even teaspoonful, powdered, to an ounce or two of Water, in a vial; wash the throat and mouth with this by means of a swab or feather, two or three times a day. For nodes and swellings of the bones, rub them every night with Mercurial Ointment, or a Liniment composed of equal parts of Chloroform, Spirits of Hartshorn, Tincture of Camphor, and Laudanum.

Hereditary Syphilis.

A woman having Syphilis will early abort her first conception; the second will be aborted a little later; the third may run to full term, but will be still born; the fourth child may live, but will be unhealthy and may die soon. A syphilitic child always looks old and dried up and is unhealthy. Such children are a curse to themselves and to their parents, they should be treated with Mercury, preferably by inunctions or with Grey Powder.

Gonorrhœa.

This disease, more commonly known by the vulgar name of Clap, is simply an inflammation of the mucous or lining membrane of the urethra, or inner surface of the penis in the male, and of the vagina in the female. The person first experiences a slight degree of heat and itching in the urinary passage, and a feeling of scalding in the discharge of water; the edges of the opening swell, become red, and immediately after the discharge is observed a thin whitish or pale yellow matter, which gradually increases in quantity, and becomes thick and of a deeper yellow. It sometimes presents a greenish and even a bloody appearance, depending on the greater or less severity of the attack. You are enabled, therefore, from the color and appearance of the matter, to judge of the degree of inflammation present. If the disease is deep or involves the bladder, the neck of the bladder becomes irritable, producing a constant desire to make water. The foreskin of the penis will become so swelled, in some instances, as to prevent its retraction over the glans, and, in other instances, being retracted, it remains tight around it—the one called *Phymosis*; the other *Paraphymosis*. When proper attention is not paid to cleanliness, the end of the penis is very irritable; inflammation is apt to be severe; the under surface of the urinary passage becomes hard and feels like a cord; the penis is also frequently stiffened throughout the whole extent, and turned down, producing what is called *Chordee*, from the irregular contraction which occasions a curvature of its under part or side. This symptom is most frequently at night, when excited by the heat of the bed. In ordinary cases of Gonorrhœa, the peculiar inflammation of the urethra, which constitutes the disease, does not extend up the passage beyond two inches from its orifice; in slight cases there will be only a slight heat and scalding in discharge of water, and some little narrowness of the passage. If proper care and attention are paid to the disease it will get well in the course of four or five weeks; but, where it is neglected, it will continue for many months, and even years, producing Gleet, Strictures, Disease of the Kidneys, and accompanied by a general uneasiness in the loins, testicles, and bladder, which often affect the whole of the lower belly or pelvic region.

In women the disease is generally more mild, and not so apt to irritate the bladder, or to produce inflammation. The pain is commonly slight and soon disappears, the scalding more frequently absent, and the running soon terminates in a discharge of matter, which bears a close resemblance to the Whites, or Leucorrhœa.

No certain time can be fixed upon for Gonorrhœa to make its appearance after the infection has been received. in some cases the poison will lie dormant two or three weeks; but, in general, the disease will show itself in from four to seven days. This disease has no connection with that of Syphilis, and is but a simple, local, but peculiar inflammatory affection, communicated always by infection or actual contact with the specific virus, and affects no part of the system but the genital organs, and does not become constitutional, though often chronic. The disease admits of a certain and speedy cure, in ordinary constitutions, if properly attended to, or commencing in the early stages of the disease. In a great many cases, however, it is frequently rendered tedious and very painful, by a desire to conceal the malady, drinking spirituous or fermented liquors, improper diet, want of cleanliness, and sexual intercourse. If properly attended to, a cure may be effected in a week or ten days, or probably earlier; but when it is neglected, it will continue for many months. Another risk arising from a long continuance of the disease, is the taking place of Stricture, which may be known by difficulty and pain in making water; and, instead of being discharged in a free and uninterrupted stream, it splits in two, or is voided drop by drop. From neglect, it assumes a most serious and dangerous nature, as it not infrequently blocks up the urethra, or passage where the urine flows, and often a total suppression is the consequence. Warts on the glands or end of the penis sometimes appear. They should be nipped off with scissors, and their roots touched with Caustic. This is by far the best way of treating them. Sometimes their renewed growth is prevented by touching them with strong Acetic Acid. Gonorrhœa is often attended by considerable inflammation, extending to the glands in the groin, or to the testicles, which become swollen and extremely painful to the touch. In such cases of swelled testicle, bathe well in Warm Water, three or four times a day, and wear a suspension bag, which can be purchased at any drug-store.

Treatment.—A radical cure of this disease cannot be effected, so avoid all powerful injections. Throughout the course of the disease the bowels should never be allowed to become constipated in the slightest degree; a daily dose of Salts (Phosphate of Soda, is to be preferred) should be taken to prevent this. Some recommend the use of injections from the start; if they are used in the early stages, mild ones alone should be employed, such as five or six grains of Lead Acetate, or Zinc Sulpho-carbolate to an ounce of Water. The syringe should have a very blunt nozzle. The injection may be used two or three times a day, urinating first, and then grasping the penis back near the root, and pinching so as to prevent the injection from going back beyond this point; if

this latter precaution is not observed, the disease may be carried back into the bladder. In the early stages it may be well to add a drachm of Tincture of Opium to each ounce of injection. A syringe-full is a sufficient quantity to use at one time. To aid in preventing Chordee, five grains of Chloral, and ten grains of Bromide of Soda may be taken each night before retiring. Never "break" a Chordee, use Cold Water to make the erection go down. The following may be taken in teaspoonful doses, after each meal: Oil of Cinnamon, ten drops; Oil of Sandalwood, a drachm; Solution of Ammonium Acetate, half an ounce; add Water to make two ounces. Coffee, Tea, Alcohol, and sexual intercourse must be avoided. Tobacco must not be used in any form. The diet should be light, drinking plenty of water, especially the Alkaline Mineral Waters. Cotton should not be tucked in around the foreskin to catch the discharge, but a Gonorrhœa Bag (obtainable at any drug-store) should be worn. Rest, *i. e.*, bodily and mental, should be indulged in as much as possible. The penis should often be soaked in water as warm as can comfortably be borne, and if urination is painful, this will be much relieved by urinating while the penis is immersed. In the later stages stronger injections may be used, such as ten to twenty grains of Acetate of Lead or Nitrate of Silver, to an ounce of Water. Cleanliness of the parts is of the greatest importance. There are three dangerous complications of Gonorrhœa: Inflammation of the Testicles, Inflammation of the Bladder, and Gonorrhœal Rheumatism. A physican should be consulted in case any of them should develop, and, if possible, a physician should be consulted in all cases of Gonorrhœa, as he may prevent these serious complications.

Soft Chancre — Venereal Ulcer.

Venereal Ulcer is an infectious disease, usually contracted during illegitimate sexual intercourse. It usually makes its appearance upon the Genital organs a day or two after exposure, in the form of a small red spot or Ulcer, which rapidly increases in size, forming a discharging, unhealthy Ulcer, which tends to increase in size.

The cause is undoubtedly a germ, which has not yet been satisfactorily demonstrated. The disease seems to require filth for its development, yet occasionally it occurs amongst people otherwise clean.

For many years, Venereal Ulcer was confused with the primary sore (Hard Chancre) of Syphilis, producing disastrous results in treatment; for while Mercury causes Hard Chancre to heal rapidly, it has almost an opposite effect upon Soft Chancre. Soft Chancre is a purely local disease, *i. e.*, when the Ulcer is once cured that is the end of the disease; while in Syphilis, the Hard Chancre is only the local expression of a disease which affects every part of the body, and the disease is far from cured at the time the Hard Chancre heals. So long as Soft Chancre was supposed to be a form of Syphilis, it was supposed that Syphilis could be cured upon healing the original sore, and this without the use of Mercury, too.

That this mistake was made and for so long unrecognized is readily explained by the fact that Hard and Soft Chancres can and do occur upon the same person at the same time, and in association with some innocent sores, such as Herpes of the Genital organs, then confusion became even greater.

To distinguish between Hard and Soft Chancre, requires considerable knowledge, gained only by experience and reading, and when the two occur together, for some weeks the diagnosis is difficult in the extreme. I will attempt to point out the difference between a typical Hard Chancre and a typical Soft Chancre: Hard Chancre usually occurs single and makes its appearance from two to three weeks after exposure. It is usually small and painless, with a firm, almost hard base. The Bubo associated with Syphilis (Hard Chancre) is composed of a few small, painless lumps in the groin. Soft Chancre is usually not single, there are often a number, which may run together, forming one large ulcerating mass. Usually, Soft Chancre makes its first appearance twenty-four hours after exposure; though it may be small, there is a tendency to enlarge; there is more or less pain; it is a soft, discharging Ulcer. The Bubo associated with Soft Chancre early inflames, and is painful, usually breaking down and discharging pus.

Treatment of Soft Chancre.—Continuous immersion of the Ulcer in a saturated solution of Boric Acid as hot as can be borne, is, perhaps, the quickest and surest remedy; unfortunately, this is sometimes difficult of application; it usually requires a Sitz-bath, and it is difficult to keep up the required temperature. The top of the Ulcer should first of all be removed, and then it should be wiped dry and clean, after which Peroxide of Hydrogen may be poured over it and then, after wiping out, Powdered Boric Acid and Bismuth (equal parts) may be dusted over the surface; apply clean gauze. Ordinarily the foregoing treatment, repeated as often as the gauze becomes much soiled, in conjunction with rest and tonic, is sufficient to effect a cure.

Sometimes the Ulcerous process is extremely rebellious, and has a tendency to spread; then it is that the Continuous Bath must be resorted to, and Bichloride of Mercury (one part in four or five thousand of water) may be used instead of the Boric Acid. Iron tonics, such as Pills of Iron, Quinine, and Strychnia are required.

The Bubo usually has to be opened and treated in much the same way.

Treatment of Bubo.—A Bubo is a swelling of the lymphatic glands in the groin. It comes on with a pain in the groin, accompanied with some degree of hardness and swelling, which gradually increases until, at length, it becomes as large as an egg, which is attended with a pulsation and throbbing in the tumor, and great redness of the skin. No symptom is more difficult to manage than this. Early attention is necessary to prevent its breaking or coming to a head; this can generally be done by the application of some Discutient Ointment. Perhaps the best for this purpose is the Mercurial Ointment; the Iodine Ointment is also very good; they can both be had at the drug-stores already prepared. It should be applied two or three times a day, and rubbed in well. It might be well to use both of these ointments—using the Mercurial one day and the Iodine the next, and so continue to alternate for several days, or until the swelling and soreness disappear. Some persons are so easily affected by Mercury that even the continued application of Mercurial Ointment for a few days will salivate them. Should any symptoms of salivation appear, such as swelling and soreness of the salivary glands, a copperish taste in the mouth, soreness of the gums, and an increased flow of saliva, all of which are unmistakable symptoms of approaching salivation, both the Mercurial Ointment and the Blue Pill should be discontinued, if both are being used,

until these symptoms subside; and in their stead the Iodine Ointment and other purgatives can be used. The bowels must be kept loose, and once or twice a week a brisk Cathartic should be given. But it sometimes happens, notwithstanding the means that you employ, the pain, swelling, disposition of the glands to suppurate, or come to a head, will occur. This will be known by sharp pains darting through the Bubo, and a pulsating feeling in it—for when these occur the suppurative process has generally commenced. If the Bubo will advance in spite of all your endeavors to prevent it, you must then scarify it, or even make an incision into it, and keep Hot Bichloride dressings on it continuously (do not use any other kind of a poultice). When pus or matter is fully formed, the Bubo must be opened by a free incision of the lancet, kept perfectly cleansed with Castile Soap and Warm Water, the wound being afterward dressed as any other granulating sore. Complete rest is indispensable throughout every stage of this disease, and especially is it necessary in case of Bubo.

After the Bubo is once opened, in addition to cleansing it well once a day with warm Castile Soapsuds, it should be washed out and syringed well morning and evening, after using the Soap and Water.

DISEASES OF CHILDREN.

Infant-feeding.

The subject of Infant-feeding is one of extreme importance, especially when for some reason the mother is unable to nurse her child; in such a case Cow's Milk must be modified to resemble the mother's milk as closely as possible, and the amount at a feeding and the number of feedings must be strictly observed. I have taken without alteration from Dr. Holt's book on the "Diseases of Infancy and Childhood," the following tables and formulæ; personal experience has proven them to be as nearly perfect as possible:

SCHEDULE FOR FEEDING HEALTHY INFANTS DURING THE FIRST YEAR.

AGE.	NO. OF FEEDINGS IN 24 HOURS.	INTERVAL BETWEEN MEALS BY DAY.	NIGHT FEEDING (10 P. M. TO 7 A. M.).	QUANTITY FOR ONE FEEDING.	QUANTITY FOR TWENTY-FOUR HOURS.
		Hours.		Ounces.	Ounces.
3d to 7th day.	10	2	2	1 -1½	10-15
2d and 3d weeks	10	2	2	1½-3	15-30
4th and 5th weeks	9	2	1	2½-3½	22-32
6th week to 3d month....	8	2½	1	3 -4½	24-36
3d to 5th month.....	7	3	1	4 -5½	28-38
5th to 9th month..... ...	6	3	0	5½-7	33-42
9th to 12th month.....	5	3½	0	7½-9	37-45

There are three essential parts to milk, viz.: Fat, Sugar, and Proteids. Cream is almost pure Fat. Mother's milk contains these in different proportions at different periods of lactation, and the proportion is always different from what it is in Cow's Milk.

The following formula is to modify Cow's Milk so as to be a proper food for an infant from one to three months old:

CREAM (skimmed from good Sweet Milk) 6 ounces.
PLAIN UNSKIMMED MILK ....3 ounces.
MILK SUGAR (from the drug-store).....5½ even tablespoonfuls.
BOILING WATER.....27 ounces.
LIME WATER..... .....1½ ounces.

Dissolve the Milk Sugar in the Boiling Water, filter through cotton in a funnel, add the Milk and Cream, and mix all in a pitcher; then add the Lime Water and divide in nine bottles, stopping them with cotton. The bottles should be rapidly cooled by standing them in ice water for fifteen minutes, adding ice to the water as may be necessary. The food should now be kept on ice, to be used as required. It should be warmed by immersing the bottle in warm water before using. Every step should be followed out with the greatest cleanliness, and every utensil should be absolutely clean. A glass graduate holding six ounces will probably be required; it will also be best to get a regular set of nursing bottles, which are very simple and readily cleaned. A plain black rubber nipple with a hole sufficiently large to permit the milk to drop rapidly (not run in a stream) when the bottle is inverted should be used, and when not in use should be kept in a solution of Borax. Do not use rubber tubes and complicated nursing bottles, the simpler the better. As the child gets older, more Milk and Cream should be added to the above formula and less Water. This formula may not agree with all infants of this age, so that various modifications of it may be tried, as adding more Water, or more Cream, etc.

If the infant does not gain in weight as rapidly as normal, it is an indication that there is not enough Milk Sugar. Too much Sugar is indicated by attacks of colic, or thin, green, acid stools, or by eructations of gas from the stomach.

Excess of fat (Cream) is indicated by vomiting of food in small quantities, usually one or two hours after feeding; or by frequent but nearly normal passages from the bowels. Constipation, with dry, hard stools, indicates a lack of fat.

Excess of Proteids is indicated by the passage of curds in the stools. It may cause vomiting and colic.

The artificial feeding of infants is of great importance; many infants' lives may be saved by giving this subject

proper attention, and with proper care at this time, constipation and other bowel complaints in after-life may be avoided, as the foundations for these diseases are often laid at this time.

The Cry of Infants.

Crying is about the only way an infant can explain that something is wrong, and if mothers would but give this subject attention, they would soon notice the different kind of cries and learn what each one means. For example, there is the sharp, piercing cry of colic, indicating pain; the fretful cry, indicating fatigue; the restless, fitful cry, indicating the desire for change of position; the peculiar pathetic cry of Hydrocephalus; and so I might go on enumerating the various cries. I have, however, described enough, so that the watchful mother will understand and learn to interpret the peculiar cries of her own infant, which are always full of meaning.

SHORT TREATISES.

As the greater number of the Diseases of Children are mostly confined to the stomach and bowels, and as they usually arise either from the decomposition of the food, or the irritability of their nervous system, acted upon either mechanically, as in Teething, or by chemical causes, the great object is to render this part of their frame less susceptible of irritation, by counteracting the immediate circumstances which give rise to and aggravate this morbid state; these circumstances being limited, in a great measure, to the milk, food, and drink of infancy, and avoiding exposure. It then lies within the power of a mother, or nurse, by strict attention, to form a means of prevention without the use of much medicine, or at least by the most simple remedies, for in the management of the diseases of infancy, the more simple the remedies the better; and by attending to leading causes, as respects their food and drink, habits of nursing, sleep, and exercise, it would tend to lessen the excess of mortality of the human species, which takes place at this early age. Such innumerable deaths arising from the deviation from the paths of Nature, should at least direct our attention to a proper management, if we desire to give health, vigor, and comeliness to our offspring.

Retention of the Meconium.

During the time of Gestation, there gradually accumulates in the bowels a dark green substance, nearly black, medically called the *Meconium*. Nature has indued the first milk of the mother, which is always of a laxative quality, with power to remove it, and for this reason the infant should be applied to the breast as early as possible, or as soon as it shows an inclination to suck. The consequences attendant on its being retained in the child's bowels for any length of time, is frequently Colic or Spasms; therefore, if the mother's milk is not sufficient to carry it off, which it seldom fails to do, it should be removed by some gentle and very simple means, such as a small teaspoonful of Sweet Oil, or of Castor Oil, or a little Manna, or a little Magnesia will have the effect; and this may be known by the evacuation assuming the natural appearance. It seldom, however, requires such remedies, unless the secretion of the milk in the mother's breasts is rather slow.

Though the dislodgment of the matter be very essential, it must be effected by gentle and simple means. The importance of caution at this period cannot be too much insisted on. We must remember by what a frail thread the commencement of life is tied, and how the least cause or neglect may terminate an existence just begun — a result much too frequently seen. This is not the intention of Providence, but the result arising from our own mismanagement of the different means requisite to the attainment and establishment of health. This is more clearly perceived when children are born healthy, and show no marks of disease until they come into their attendants' hands. Early neglect in not attending to the infant's stools, to see if this accumulation of matter has been discharged, will often produce Colic, Bowel Complaints, etc.

Aphthous Stomatitis — Canker.

This is sometimes called Canker, or Baby's Sore Mouth; it is medically called *Aphthous Stomatitis*, and is very common in early infancy, affecting the mouth and fauces, or the back part of the mouth, the lining membrane of which, in this disease, appears as if sprinkled over with bits of milk curdle, produced by an excess of acid, which causes also irritation of the mucous lining of the bowels. It generally makes its appearance in the course of the second or third week. The small sores make their first appearance on the under lip, like little blisters, which soon spread so as to cover the inside of the mouth with a kind of whitish crust. When the disease is severe, this crust is of a brownish color, the child is fretful and drules a good deal, and suckling is painful. It likewise has a slight fever; is drowsy; and the stomach and bowels are out of order, and the discharges a greenish color. This disease is not generally serious, and usually passes off in eight or ten days. Simple remedies are required to assist Nature to throw off this acid state of the stomach and bowels. Inflammation of the mouth is frequently produced by feeding the infant with bread and other things unfit for its stomach.

Remedies.— The first thing to be done, when an infant is afflicted with Stomatitis, is to correct the acid state of the stomach, by a few grains of Calcined Magnesia — it is preferable to give it in the fluid form, or mixed with water, or if the bowels are loose, by Prepared Chalk, following either of these antacids by a mild dose of Castor Oil, repeated every second day. After a moderate operation of the infant's bowels, and the offensive irritating matter is removed, should the bowels be loose and griped, you will find the Chalk Mixture one of the best remedies. The Bicarbonate of Soda, in a weak infusion of Anise-seed, with or without the addition of a drop of Paregoric, as the case may require, is a valuable remedy in correcting the discharges and quieting the child. When this complaint makes its first appearance, applications will greatly assist Nature. If the spots are scattered, each one may be touched with Lunar Caustic; if they are numerous or run together, the mouth may be wiped out with a soft, clean cloth dipped in a solution of Nitrate of Silver (five grains of the Nitrate to an ounce of Water). As Nitrate of Silver stains whatever it drops upon a black color after exposure to light, it may be preferable to use a Boric Acid solution or a solution of Borax in Glycerine as mouth-washes,

which are nearly as good. The mouth should be washed out after each nursing. The regulation of the bowels by some mild aperient, or Castor Oil, and the wash I have mentioned, are the best remedies. When the case is mild, the child will be well in seven or eight days, and the mouth will heal if it be tenderly washed daily by the nurse. Children past infancy, or even adults, or grown persons, are sometimes affected with Aphthæ.

Galling or Chafing.

This is an inflammation which occurs generally in fat children, and is often produced by want of proper cleanliness, or by coarse napkins or cloths; it breaks out in the groin, between the legs, etc., and is often very painful and troublesome.

Remedies.— Wash the parts with Cold Water, and dust them with some good drying powder, as Boric Acid. When it is difficult to cure, make a wash of two grains of White Vitriol to three tablespoonfuls of Water, or you will find Lime Water, made weak, a good remedy. After washing the parts tenderly, apply a little Dry Powder, or Chalk, which heals the sores quickly, if you are careful in keeping the parts from being moistened or wet by the urine.

Dermatitis.

This disease is an eruption of small pimples on the face, and sometimes on the body and limbs, in clusters or large patches, and is most generally produced by the improper practice of washing the infant in Brandy or Whiskey, and using violent friction with Soap, in cleansing the skin of that slimy covering which nurses often hastily attempt to remove, when the water and oil used in the first gentle washing fail perfectly to cleanse it.

Remedies.— During the time these eruptions are on the body, exposure to cold should be avoided, and the bowels kept open by some mild medicine, as Manna, Magnesia, or Syrup of Rhubarb. If these eruptions suddenly disappear, and the child be made sick from its being driven in by cold or exposure, put into a Warm Bath, and afterward give a gentle Emetic of Syrup of Ipecacuanha, or some Warm Tea, as Catnip or Balm, so as to produce a determination to the skin, and throw the eruption out again. Or, give half a teaspoonful of the Calcined Magnesia, in a little Milk, or a teaspoonful of Castor Oil, which is generally all the medicine that is required. If the skin is hot and dry, bathe with Warm Water, and give Catnip Tea, to make it perspire. The eruption generally disappears in a few days.

Infantile Jaundice.

This is medically called *Icterus Infantum*. There is a yellowness of the skin, attended with sleepiness, languor, and sometimes a disinclination to nurse. It seldom occurs after the child is a month old. Like the Red Gum (Dermatitis), it continues only for a few days, and then goes off; it generally arises from the retention of the Meconium, which I have before explained, and is generally purged, or carried off, by the milk of the mother. It requires but little medicine.

Remedies.— Give some simple remedy to open the child's bowels, if the mother's milk is not sufficient for this purpose, such as a little Rhubarb, Magnesia, or Castor Oil, or Manna. Medicines which purge or drain the bowels are those only which appear to be of much service. Or if there is Diarrhœa or looseness of the bowels, which is sometimes the case, a little Paregoric may be used. Drugs are of little or no value, and ordinarily the skin clears up in a short time without any treatment, beyond the ordinary care of the infant.

Vomiting.

This generally arises from overloading the stomach either by nursing too long at one time, or at too frequent intervals, or both. Irregularity in nursing may disorder the stomach so as to cause Vomiting. Vomiting in children may be caused by eating improper articles of diet, or even things which were not meant for food at all. The onset of some of the acute fevers and other diseases is occasionally accompanied by vomiting.

Treatment.— The amount and frequency of nursing should be carefully regulated. The character of the food may require altering. If improper food has been taken, the vomiting is Nature's own remedy. If there is some fever, a cool Sponge Bath may be given and the child allowed to swallow small bits of ice. Bicarbonate of Soda and Rhubarb may be given, or if very severe, Cerium Oxalate, Bismuth, and Cocaine may be required. A Mustard Plaster over the stomach sometimes gives relief. It may be necessary to wash the stomach.

Milk Scab — Exfoliative Dermatitis.

These scabs or sores often appear upon the forehead and upper part of the face, in children otherwise remarkably healthy, which, however, seldom remain long, and pass off without leaving any scar or disfiguration, however long they continue. It is frequently produced from the milk of the mother being too rich, or sometimes it is from some irregularity of diet while nursing. Very little treatment is necessary.

Remedies.— Washing or cleansing the parts with Castile Soap and Tepid Water, and giving a few grains of Sulphur or other aperient, occasionally. It generally disappears entirely on the child's cutting a few teeth, or upon its being weaned. When it continues after this period, the food should be light, with a little salt in it, and the milk ever largely diluted with water, and gentle laxatives, such as Manna or Castor Oil, should be given occasionally until it passes off.

Scald Head — Infantile Eczema.

This complaint is very troublesome, and generally occurs in scrofulous children, or those whose health is feeble and frail. In its early stage it is purely local, having its seat in the glands of the skin, at the roots of the hair upon the scalp, and should be attended to early, or it will spread extensively over the whole head of the child, and may ultimately injure its constitution and general health.

Remedies.— Apply a little Sulphur or Brimstone, in the form of ointment, at the same time keeping the bowels open by some laxative medicine, such as Magnesia or Castor Oil. If the Sulphur Ointment does not heal it, then use a very diluted ointment of White Precipitate, and cautiously apply this every night. Cases of this kind, however, when they do not yield to the above treatment, require to be placed under medical treatment.

Cholera Infantum — Summer Complaint — Colic.

See articles under "DISEASES OF THE DIGESTIVE ORGANS."

Stoppage of the Nose.

Some children are liable to a slight catarrhal affection or cold, which nearly or quite prevents their breathing through the nose. It is commonly called Snuffles. The consequence is, that the moment they begin to suck they strangle, and soon throw their heads back, and appear to be unable to get their breath. This is a common complaint, but requires only the most simple remedies to relieve it in a few minutes. In some cases "Snuffles" is a symptom of a disease of the nose, resulting from hereditary Syphilis.

Remedies.— Cleanse the parts or nostrils with Tepid or Warm Water, and then use the Camphorated Olive Oil, rubbing it over the whole surface of the nose, at the same time be careful that it does not go into the eyes of the infant; rubbing may be repeated whenever necessary. It is more frequently required in the night than during the day-time. Or you may grease the nostrils with Sweet Oil or Vaseline, and keep the head warm and the bowels gently open with a little Castor Oil. Bathe the feet and legs of the child in Warm Water.

Croup.

CROUP is an inflammation of the windpipe. This is a dangerous and distressing disease, to which children are very subject, and requires early attention. Croup is most prevalent in cold, moist weather. In some few cases its attack is sudden; but generally it is preceded for a day or two by the symptoms of a common Cold, accompanied with Hoarseness and Cough. In the approach of Croup, the cough is rough, and has a peculiar shrill sound, like the crowing of a cock, or the barking of a dog. I have generally observed that this disease occurs mostly at night. The child, without awaking from its sleep, gives a very unusual cough, and in a short time it is repeated again, and again, followed by a great difficulty of breathing. As the disease progresses, the fits of coughing become more and more distressing; the child makes a great effort to breathe; the face is flushed, and the head is usually thrown back to escape suffocation. Upon the early application of suitable remedies, everything depends. The distinction between a serious attack of Croup and Diphtheria is rather scientific than useful, so that all cases of Croup should be considered as Diphtheria until proven not to be.

Remedies.— The best remedy which can be given to a child attacked with Croup is an Emetic. A tablespoonful of Mustard, in Hot Water, is usually to be obtained at most homes, and will answer the purpose of an Emetic very well. My practice, on first discovering the disease, is to give a quick Tepid or Warm Bath, bathing well the head, throat, and chest; then give the Emetic last mentioned, and apply a wet bandage, well wrung out, about the throat, the seat of the disease, and warm applications to the feet, so as to produce perspiration as quickly as possible — the body being wrapped in a warm blanket immediately after bathing, so as to prevent the slightest exposure to taking cold. The warm applications to the throat should also be renewed from time to time, as may seem necessary; and the bowels kept freely open, perhaps, with Castor Oil. A late *Medical Journal* says: "Cold Applications of Ice Water to the throat will speedily relieve this disease." I have, however, preferred warm applications; the cold may be tried, however.

The treatment outlined under the title Diphtheria should be followed in a case of Croup. The room should be cool, and there should be plenty of fresh moist air; it may be well to make a tent over the bed and turn the spout of a boiling teakettle underneath. The diet is necessarily light, but should be nutritious. If the child cannot breathe, it may become necessary to insert a tube in the larynx; this is termed Intubation; or it may be necessary to make an opening into the windpipe so as to admit the air. Antitoxin may have to be administered.

It may be necessary, in closing my remarks, to mention its prevention. Croup seldom occurs during the first year of infantile life — most frequently in the second year and upward. When it has once attacked a child, it is very liable to recur at any period before the thirteenth year of age. It is, then, very proper that the mother should be made acquainted with the means of prevention. They consist in being careful in protecting the child from cold or damp weather, particularly in the spring, or after heavy rains, or in cold, damp changes of the atmosphere; for Croup is then most prevalent. Croup is often produced by the child sitting or playing in a room newly washed out, when there is a predisposition to the disease. Then the child, every morning upon rising from bed, should be sponged all over with Cold Water, in which is put some Salt, and rubbed well with a coarse towel. The clothing should be warm; the neck and arms always well covered; flannel worn next to the skin, throughout the year, and the bowels kept regular.

Convulsions, or Fits.

This is a frequent disease of infancy, and particularly during the period of Dentition or Teething. These often occur suddenly and without any premonitory symptoms, but are commonly preceded by spasmodic twitchings of the hands and feet, during sleep. Overloading the stomach is one of the great causes. and most of the Convulsions of children are dependent upon the presence of some irritation, either in the stomach or bowels; the prepuce or foreskin may be tight, possibly with a collection of thick creamy material called smegma, underneath; this is a sufficient and common cause of Convulsions. Some of the acute Febrile diseases commence with a Convulsion, or are produced frequently by inflammation of the gums during Dentition; relief may be immediately obtained by the sudden escape of the tooth from its enveloping membrane, either by lancing the gum or otherwise. When infantile Convulsions are obstinate and long-continued in defiance of treatment, the brain may be suspected as involved, either primarily or secondarily; and one of the sad results in such cases is, that a repetition of the attack often follows, and Epilepsy may be the consequence, extending through youth and even to adult age. Indeed, Epilepsy and Insanity, during life, have often been the effect of infantile Convulsions. The attention of mothers should be particularly directed to the approaching symptoms, as more serious ones may be prevented by observing particularly the derangement of the system, or changes, which excite this nervous irritability.

Remedies.— An Emetic promptly given, either of Syrup of Ipecacuanha or Antimonial Wine, the Warm Bath, Mustard

Plasters to the arms and legs, with an opening injection to the bowels, will usually be found to afford early and effectual relief. The bowels should be kept open by small doses of Magnesia or Rhubarb. Relief will be obtained by immersing or placing the feet of the infant in Water as warm as can be borne, at the same time applying, over the head and temples, a piece of flannel wet with Cold Water, or sprinkling Cold Water in the child's face. This will often cut short the Fit. The gums should be looked to, and if they appear swollen or much inflamed and painful, lanced. I have known the most severe Convulsions to cease immediately after this operation. The prepuce must be examined, and if the previously described condition discovered, must be cleansed, and later the operation of circumcision should be performed.

The cause of the Convulsion should be ascertained as soon as possible and removed; if there is a rise of temperature and no cause to be found, an acute fever should be anticipated, and the Cold instead of the Hot Bath should be used.

The parental management of the infant, then, and by which much of the difficulty or danger of Convulsions or Fits may be removed, consists in a proper attention to cold sponging the infant's body, and friction, or rubbing it well, air, exercise, proper food, and attention to the bowels; for by duly regulating these, the system of the child will be less disposed to diseased action, and the recuperative powers of Nature will overcome any predisposition to this disease.

Infantile Remittent Fever.

This is a low grade of irritative fever to which young children are frequently subject, occurring most usually during the latter months of Nursing, or before Weaning, and generally at the time of Teething. There is always more or less irritation and excitement induced by the process of "cutting teeth," accompanied often with flushes of heat, redness of one or both cheeks at times, disorder of the bowels, fretfulness, loss of appetite, etc. When this state of things continues, and settles into a regular well-developed fever, with periods of exacerbation and remission, more or less marked, it is called Infantile Remittent Fever. It is probably what may be called purely an irritative fever — arising from the irritation caused by the process of Teething, or from Worms, or some other irritating cause in the system, as unwholesomeness of the food.

When the disease is fully developed, it will be marked with restlessness at night; a hot, dry skin, which continues till near morning, when the skin becomes moist, especially on the face and chest. During the forenoon the little patient is apt to be free of fever, but looks pale, and shows by its expression that it is evidently sick. It takes but little notice of things or persons about the house: seems sad, serious, showing no disposition to play, and has generally a very poor appetite, showing less disposition to nurse or take food than when the fever is on. The pulse is quick and wiry, or hard. In the afternoon there will likely appear a red spot on one of the cheeks, and after a little, on the other, as the first symptoms of the returning fever. The skin, by and by, becomes hot and dry again; the pulse quicker and stronger; the child is apt to be sick at the stomach, and vomit occasionally, especially if it nurses. The urine is scanty, high colored, and is passed at frequent or short intervals — induced by its scalding and irritating character. The child is now apt to be fretful and restless from this on until the fever remits again in the morning.

After the disease has continued for some days, the lungs are apt to become affected, attended with a cough, perhaps a rattling in the throat, caused by the secretion of mucus in the air passages. The bowels are always more or less out of order in this disease. The discharges are of an unhealthy or unnatural color — sometimes of a dirty brown, but more generally of a greenish color, or mixed, like scrambled eggs, or of a light color and curdled. They are very offensive. The disease is apt to become worse, as it continues, until the child lies a great portion of the time, when the fever is off, in a stupid, comatose state, showing that the brain has become affected. And this is the great danger in this complaint — the affection of the brain, or rather the membranes of the brain. Thousands of children die annually from Inflammation of the Brain, brought on just in this way. It is not always the case that the brain becomes affected; yet in a majority of cases it is probably true that the brain is more or less affected, if the disease continues to any considerable length of time; while in many cases, for the want of proper judgment and precautionary measures, the brain or its membrane is allowed to become so seriously implicated as to pass beyond remedy.

Treatment.— The disease may terminate favorably, of itself, without the use of medicines. In many cases it unquestionably does. In such cases it will generally run about twelve to fourteen days, where the child is of a robust and naturally healthy constitution, the mother at the time in a good state of health, and the child otherwise is properly taken care of — well clothed, well nursed, frequently bathed, kept clean, and from all undue exposure. If the disease is likely to terminate favorably, it will begin to decline, the paroxysms of fever growing lighter and of shorter duration, about the fourth to the seventh day, and gradually disappear at the end of about two weeks. But it is always best to make use of some safe and judicious remedies. In the first place, examine the gums closely, and if they are swollen at any point, and there is a clear indication that one or more teeth are about to appear, the gum may be cut freely, down to the teeth, with a gum lance, or sharp instrument, as the point of a small penknife. A physician, or some one who understands the matter, should be engaged to do it.

If the bowels are in a bad condition — as will generally be the case — some suitable medicine should be given. The diet, or if the infant is nursing, the condition of the mother's milk should be carefully attended to, and this perhaps is the most important part of the cure. Calomel may be used to advantage, followed by Bismuth and Paregoric.

Attention must also be paid to the skin. Very often a Warm Bath night and morning, rubbing the body well afterward; a moderate use of the Neutralizing Cordial, or Syrup of Rhubarb and Magnesia, and the Sweet Spirits of Niter, will be all that is necessary.

Worms.

There are three kinds which infest the intestinal canal, namely: The Round-worm, the Pin or Thread-worm, and Tape-worm. The Round-worm, varying in length, is from twelve to fifteen inches; the Tape-worm is from three to twenty feet in length; the Pin-worm is never more than an inch long. The Round-worm is of a whitish color, and chiefly infests the smaller intestines; they sometimes ascend to the stomach. In general there exists but two, though occasionally

as many as thirty or forty have been found. They are seldom met with in persons above fifteen years of age.

The Tape-worm is flat, half an inch or an inch wide, and is full of joints. I saw one of these worms which measured a hundred feet! This worm infests the upper part of the bowels, and feeds on the chyle. It produces a voracious appetite and great emaciation of the flesh; and this enormous desire for food which is never satisfied, is, no doubt, occasioned by the immediate consumption of the chyle, or the worm feeds upon the extracted nourishment of the food.

The last to be described are the Pin or Thread-worms; they are never more than an inch or half inch in length, move very quietly, and infest the lower end of the bowels, are of a yellowish white color, and frequently creep out of the fundament. These worms produce an intolerable itching, and in children are often the cause of Convulsions or Fits, and frequently produce fever, irritation, and many other serious disorders of childhood. Most Worms gain admission to the alimentary tract in uncooked meat or through filth and carelessness. The majority of intestinal Worms reach their final development in the intestinal canal of man, eggs are laid and passed in their fæces or stools, to be taken up by the lower animals, especially hogs, in which they partially develop to an embryonic state; pork containing the embryo of a Worm, called *Trichina Spiralis*, is said to be measly, and if eaten without being thoroughly cooked the embryos will develop into mature Worms, invade the muscles, and ultimately produce death as a rule.

One of the symptoms of Worms is a gnawing, uneasy feeling about the stomach, which is removed or diminished by eating. The appetite is deranged and variable, and often more than ordinarily voracious; the belly is hard and swelled, with frequent pains. There is picking of the nose, hiccough, disturbed or starting in the sleep, grinding of the teeth, and bowels costive. The child has a pale countenance, then again flushed; the eyes are sunken, and sometimes of a dark purple color underneath; the flesh becomes wasted, and the child is liable to convulsions. There is often great irritation of the nervous system. The grinding of the teeth, and talking during its sleep, or waking up screaming, a foulness or bad breath, and frequent pain in the bowels, and sickness of the stomach, are strong symptoms of Worms. If a child has any or most of the above symptoms the stool should be carefully examined each day to determine the presence of Worms, as finding the Worms is the only positive proof of their presence, the above symptoms indicating only the presence of an irritant which may be Worms or something else, hence until one is positive that Worms are present, do not stuff a child with Worm medicines, as they will do harm. If a Tape-worm is present, often sections may be found in the fæces which possess motion. In removing Tape-worms, it is necessary to secure the head, which is very small compared with the other parts; if this is not done, no matter how much of the Worm besides is expelled, nothing is accomplished, for more will quickly grow from the head.

The Round-worm and the Pin-worm mostly infest children between the time of weaning and that of puberty. The Tape-worm is more common to grown persons, but I have known them in my practice to affect children likewise.

We once had a patient in Louisville, Kentucky, a girl, fifteen years old, whose case was apparently hopeless, to whom I administered Turpentine and Caster Oil. She felt the motion of the Worm in her stomach immediately, but it was not discharged from the bowels until she had taken several doses, followed by Columbo Root Tea, when she passed it; it measured twenty-three feet. The dose given to her was half a tablespoonful of Spirits of Turpentine, mixed with an equal quantity of Oil, morning and evening. On the fourth dose, the medicine produced the desired effect and she was entirely relieved.

Remedies.— To get rid of Worms, two important remedies are necessary — poisons to kill the Worms, and purgatives to remove them when killed. Worm medicines are best administered upon an empty stomach, so that a patient should live on a little Milk and Bread for one day, the morning following taking the medicine, and abstaining from eating, if possible, until dinner-time.

For Round-worms, to a child two years old, ½ drachm to 1 drachm; to an adult, ½ ounce of the fluid extract of Spigelia and Senna may be given and repeated every four hours, until purging is produced.

For the Tape-worm, and also the Round-worm, the most powerful medicine is the Spirits of Turpentine; half a tablespoonful, mixed with Milk, may be given to a child between two and seven years of age, for a number of days in succession. Adults, or grown persons, may take one tablespoonful at a time, mixed with an equal portion of Castor Oil. A loaf of white sugar may be saturated in it, and taken at bed-time.

The Pin-worm, which infests the rectum or lower bowels, medically called *Ascarides*, which so greatly annoy young children and girls, may be destroyed by giving a dose or two of Aloes. An injection of Aloes, dissolved in warm water, will dislodge them. Aloes is a sure and certain remedy for this kind of worm; or an injection of Common Salt and Water will frequently have the effect to remove them.

Worms, as well as many other disorders of children, are frequently owing to the general deficiency of Salt in the food, and especially the very young — those under one or two years who are compelled to be fed. In their food you will always find abundance of Sugar, and very frequently no Salt, or a mere trifle. I have made it a common rule, when a child has to be fed, to tell the mother to *sweeten* the food with Salt, and add only a little Sugar to give it a taste, and always, I can say, with the happiest results. Every day unfolds some new remedy, and sometimes the most simple prove more efficient than active ones.

The fresh seeds of the common Pumpkin, in large doses of two ounces, pulverized, and taken every four or five hours, for four days in succession, have removed the Tape-worm. The root of the Male Fern, found so abundant in the country, in our pastures, has been employed with the same success. The diet of all children or persons affected with Worms, should be carefully regulated. Digestion should be promoted by the use of Stimulants and Bitters, and the bowels kept regular. The general system is to be strengthened by daily exercise in the open air; by the Cold Bath when the season permits, and by such Tonic medicines as will prevent the accumulation of these pests of the human family; use Quinine or infusions of Gentian, etc. By these means the system will be greatly strengthened, and the bowels regulated to their natural action, and the general health restored.

SURGICAL DISEASES.

WOUNDS AND INJURIES.

Wounds are divided into several kinds, according to the instruments or agents, generally, by which they are made; as—

1st. Incised Wounds, which are made with a sharp-cutting instrument.

2d. Punctured Wounds, which are made with a pointed instrument as a needle, a nail, or a bayonet.

3d. Lacerated Wounds, as when done with a rough or dull instrument, as a saw, or stone, or when torn and lacerated.

4th. Contused Wounds, which mean simply *bruises*.

5th. Gunshot Wounds, made by a ball discharged from a gun or pistol.

Besides the above, there are what are called Poisoned Wounds, such as are occasioned by the bite of snakes, and other poisonous reptiles.

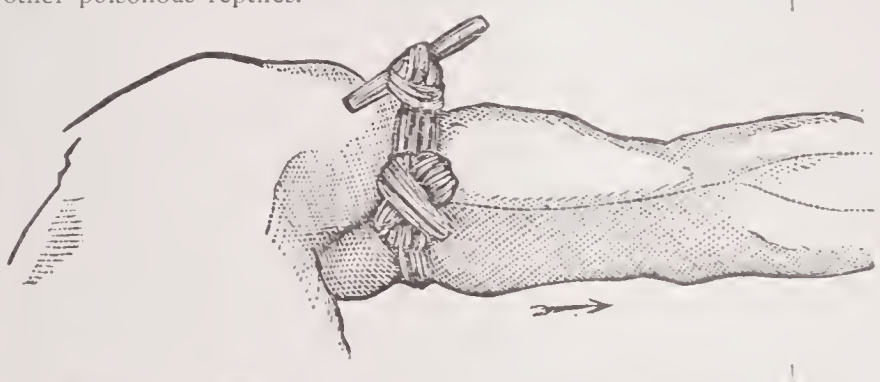


Fig. 39. Bandage Applied on Arm to Stop Bleeding.
The dotted line indicates the course of the artery.

Treatment.—The first thing to be done in the treatment of a wound after it has been thoroughly cleansed with soap, water, and a scrubbing brush, if necessary, especially where blood-vessels *are severed*, and there is much hemorrhage, is to *stop the bleeding*. If the bleeding is but slight, or there is no artery severed, the free application of Cold Water may be sufficient to check it; or Salt and Water, or a solution of Alum in Water, or simple pressure. If these fail, and the wound is open or lacerated, sprinkle on a portion of powdered burnt Copperas. Place over it a clean piece of gauze or other clean cloth—do not put cotton or lint next to the wound—and apply a bandage.

If an artery has been severed, which you will know by the blood being of a bright red color, and coming out in jets or spurts, the only certain way to stop it is to tie the artery. If the wound is upon either of the extremities, you can stop the flow of arterial blood until a physician can be brought, by tying a cord tightly around the leg or the arm, so that it be above the knee or the elbow, as well as above the wound. But if the wound is in some other part of the body, as on the trunk, the head, or neck, and the patient is likely to bleed to death, if the hemorrhage is not soon stopped, try pressure with the clean finger-tip; if this does not succeed, you must look for the artery, get hold of it, and tie it. Get hold of the artery either with a pair of forceps, or tweezers, or with your fingers; draw it out a little, and have some one to tie it with a silk or flax thread, which you will leave long enough for the ends to hang out of the wound, by which the thread can be drawn out when the artery sloughs off and the wound is sufficiently healed. If a large vein is severed, instead of an artery, the blood will be of a dark purple color, and will flow out in a steady stream. If you cannot stop it by other means, it must be tied, the same as an artery.

Incised Wounds.

Cleanliness is the first and most important part of the treatment of all wounds of the skin. Soap, clean water, and a brush should be freely used, even though it may be painful; after perfect cleanliness is secured, a clean bandage, dipped in a solution of one in five thousand Bichloride of Mercury, should be applied in such a manner as to bring the edges of the wound together; a layer of cotton is next applied, and then a bandage to hold it in place. It may be well, in some cases, to use a splint. In case the wound should become painful, of a throbbing character, and red, the dressing should be removed and the part "soaked" in a hot (one to two thousand) solution of Corrosive Sublimate (Bichloride of Mercury) for fifteen minutes; this should be repeated every two hours until the inflammation subsides, dressing the part between soakings as above directed. *Do not poultice.*

The Bichloride of Mercury can be obtained at any drug-store in tablets of such strength that one in a pint of water will make a solution of one in one thousand, so that a fourth of one in a little more than a pint of water will make, approximately, one part in five thousand of water. Remember, this is a deadly *poison* when taken internally.

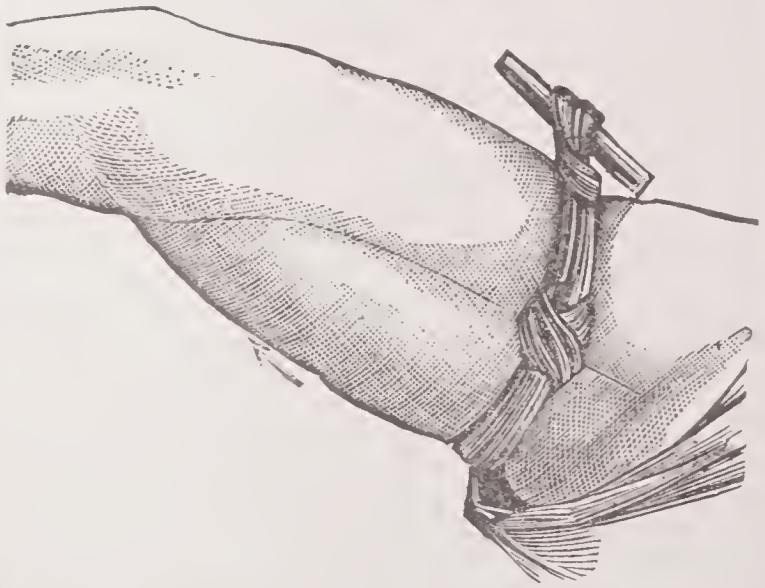


Fig 40. Bandage Applied on Thigh so as to Stop Bleeding from a Wound Below.
The black line indicates the course of the artery.

Punctured Wounds,

If very deep, should not be allowed to heal on the surface very speedily. If you have reason to believe that tendons

are injured by the wound, treat it as directed under the head of "Lockjaw." If the wound is of a serious nature and there is threatened inflammation, active Hydragogue Purgatives will be necessary, as Calomel, and the patient may also take a dose of Laudanum or Opium occasionally. The wound should be cleansed to the bottom, by injecting with a syringe, a one in two thousand solution of Corrosive Sublimate, and a piece of clean gauze dipped in such a solution should be stuck down to the bottom of the wound with a generous piece of it projecting beyond the surface.

Lacerated Wounds.

After you have checked the hemorrhage and cleansed the wound, bring the parted edges together as well as you can, and retain them by means of strips of clean gauze, moistened in a one in two thousand sublimate solution. Dress with cotton and bandage. Any Incised Wound, I care not how large it may be, and almost any Lacerated Wound, if not too badly mangled, may be made to heal without inflammation and suppuration by the judicious use of weak solutions of Bichloride of Mercury.

Contused Wounds — Bruises.

The best application that can be made to wounds of this character is a mixture of Lead Water and Opium, in the proportion of a drachm of the Tincture of Opium, to an ounce of dilute Lead Water (Lead Acetate).

Gunshot Wounds.

In case it is a bad one, or the ball has lodged in the body or part, of course it will be necessary to have a physician or surgeon. If the ball has passed through, and the wound is not serious, it can be treated as any other Punctured or Lacerated Wound. Unless the bullet can be readily located, probing should be avoided, as it simply adds to the irritation and seldom succeeds in locating the ball.

Poisoned Wounds.

I have already given, under the proper head, the treatment for "Snakebites." For the bites of other reptiles, and stings of insects, as spiders, scorpions, and the like, Sweet Oil is the remedy, to be taken internally, in quantities proportioned to the severity of the case, and applied externally. The application to the part of Aqua Ammonia is good for the sting of the wasp, hornet, bee, yellow-jacket, and the like.

Concussion of the Brain.

In Concussion of the Brain, which is caused by blows on the head, or falling with the head upon a hard substance, causing stupor, insensibility, and perhaps vomiting, bleeding at the nose, etc., give active Cathartics and Purgative Injections, with Cooling Applications to the head; bathe the feet in Warm Water, and then apply Mustard to them, over the stomach and between the shoulders. Do not bleed the patient without a physician's order to do so.

Wounds of Joints.

When a joint is wounded, as the knee, for instance, the limb should be placed in that position which will best allow the edges of the wound to come together; and then all motion or use of the joint, for the time, must be avoided. In other respects, treat as other wounds.

Proud Flesh — Granulations.

Sometimes in wounds that do not heal by the first intention, but inflame and suppurate, and become a running sore, there will occur a *fungous* growth, called usually "Proud Flesh," which will prevent the wound from healing. When this is the case, it may be burned off with Stick Nitrate of Silver, or cut off with a sharp pair of scissors.

FRACTURES AND DISLOCATIONS.

In all cases of fractures of bones or dislocations of joints, a physician should be sent for at once. If the injury is a compound fracture, by which is meant that not only the bone is broken, but that the skin and flesh are also separated and torn, so that the ends of the bones, perhaps, project, and there is much bleeding, proper efforts, such as have already been indicated for the purpose, should be made to check it, and, if need be, take up and tie an artery or vein. If the patient suffers much pain, he might also take a dose of Laudanum and a little Spirits. Absolute rest and cold applications may be employed until the physician comes.

In the case of dislocation, there should be constant applications made to the part of Warm Water, as hot as can be borne, by means of cloths, until the physician arrives.

It may be necessary to give Chloroform or Ether before a broken bone can be set, or a dislocated bone replaced, and as it is dangerous to give these substances upon a full stomach, the patient should avoid taking food and as little drink as possible until the doctor has done his work.

Absolute rest is essential to the successful treatment of fractures and dislocations. From six weeks to two months are required for a bone to properly and firmly unite. For some unexplained reason, even with the best of care, a bone occasionally fails to unite and a second operation may become necessary. The X-Rays are very valuable in the examination and study of Fractures.

ULCERS AND OLD SORES.

The Irritable Ulcer.

If an Ulcer is very sore to the touch, tender, and easily made to bleed; of a red, or dark purplish appearance, discharges but little matter, that of a thin, watery, or bloody character, and it may be very corroding and fetid; the granulations in it spongy, imperfect, and of a dark red hue; the Ulcer bounded by a sharp, over-hanging or shelving edge, sometimes ragged, or like fine saw-teeth; the parts around the Ulcer red and swollen, and usually hard — this is an Irritable Ulcer.

Treatment. — The treatment should be active. Sometimes a nerve projects into the Ulcer, causing an extremely tender spot. The nerve should be cut off with a clean scalpel, the Ulcer scraped out, and the fresh bed touched with a mild solution of Nitrate of Silver. Dress with Tincture of Myrrh or weak Sublimate solution.

If there are constitutional symptoms, the general system must be attended to. If the skin is dry and harsh, sponge and wash the whole body with Warm Water, in which a little Saleratus has been dissolved, once or twice a day. If the bowels are disposed to be costive, mild Cathartics must be given.

When the irritability and pain have been removed from the Ulcer, change your applications to simple dressings; Dusting Powders, as Boracic Acid, may be used, keeping the parts clean all the time.

The Indolent Ulcer.

This is the most common Ulcer to be met with, and is exactly the reverse of the Irritable Ulcer, in almost every respect. The edges of the sore are *everted*, instead of *inverted*; and are rounded, thick, glassy, and quite regular. The granulations in the Ulcer, instead of being red and sensitive, are quite insensible to the touch, of a dull pale appearance, and are generally located at the bottom of the excavation or sore, being, in short, of a fungous appearance and character. The secretion or matter, instead of being thin and watery, is thick, of a yellowish color, and adheres quite firmly to the base of the Ulcer.

Treatment.—The treatment of this class of Ulcers, is the very opposite of that of the Irritable Ulcer. Stimulating applications are to be made, the first effort being to change the sore from its sluggish, indolent character to a healthy activity.

The Ulcer should be scraped out thoroughly until it bleeds freely; then washed out with Clean Water, and touched with a solution of Nitrate of Silver. Dress with Tincture of Myrrh or mild Sublimate solution.

The next step will be to heal up with proper applications, such as Dusting Powders. At first, the wound should be dressed twice a day, washing with Sublimate solution before each application of the powder.

If any fungus or proud flesh appears, treat as previously described for Proud Flesh. It may be necessary to apply the Caustic Potash occasionally to the edges of the Ulcer, or to touch them with a piece of the Lunar Caustic. If tending to Gangrene, sprinkle on freely of Powdered Charcoal.

As a rule, never use Poultices, or Salves, or Ointments on Ulcers. Mercurial ointments may sometimes be used to advantage, which is an exception to the above rule.

Rest of the part may be essential to the successful treatment of Ulcers.

Constitutional treatment should not be neglected. Bathe the surface frequently; keep the bowels in proper condition, with Laxative and Alterative Medicine, occasionally giving an active Cathartic.

GANGRENE.

GANGRENE is death of a part of the body, while the balance or surrounding parts are in a more or less healthy state.

When Gangrene takes place, the pain in the parts, though ever so great, ceases; the inflamed part assumes a darker color, perhaps of a bluish purple, and becomes cold, flaccid or soft; the circulation in it ceases; serum exudes through the skin, raising the cuticle into blisters; the part finally changes to a dirty brown or black color. If the Gangrene is extensive, the patient becomes excessively thirsty, with dry tongue, and a cold sweat breaks out over the body; the pulse becomes quick and small, and sometimes irregular; the face flushed, with more or less irritative fever; great anxiety of countenance, prostration of strength, and perhaps Delirium, Hiccough, and Death.

Treatment.—The first and principal thing to be done is to arrest the spread of the disease; while at the same time the patient's strength must be upheld, and Nature assisted in separating the mortified parts from the living, so as to prevent absorption of the poisonous matter into the system. If the Gangrene is external, as of a wound, the most powerful Antiseptic Washes must be applied. The part should be thoroughly bathed with Tincture of Myrrh. Balsam of Peru may be added to the Tincture of Myrrh. As fast as the mortified flesh becomes loose, it should be removed, and the remedies applied again.

Internally, the patient, in order to support his strength, and also to counteract the Gangrene, should take Port Wine and Peruvian Bark, or a little Quinine.

Where the danger of Gangrene is internal, as from Inflammation of the Bowels, Cathartics must be taken internally; such as Castor or Sweet Oil and Spirits of Turpentine, in equal parts, or two parts of Oil to one of Turpentine, and taken in tablespoonful doses every hour or two for a while, till they operate on the bowels; then at longer intervals. The whole external surface of the abdomen should be bathed with Tincture of Myrrh. In most cases where Gangrene of the Bowels has not actually taken place, you can rely upon the Oil and Turpentine, to be taken freely. If Gangrene of the Bowels actually occurs, only a serious surgical operation can promise any hope of recovery for the patient.

When the Gangrene of a part has been checked, and the dead part is about to separate, a healthy circulation is again established, and a white or light red line, called the *line of demarcation*, appears along the edge of the living part, separating it from the dead. The mortified part then soon sloughs away, leaving a healthy granulating and suppurating surface, which is to be treated as any simple Ulcer, with Poultices and Healing Salves.

In all cases of Gangrene, amputation of the part beyond the affected part is the best, quickest and safest treatment. Gangrene is a common complication of Diabetes.

SPRAINS.

A SPRAIN, technically called *Subluxation*, or Partial Dislocation, is an injury of a joint—most commonly that of the wrist or ankle, caused by a severe twist or straining of the joint in any direction farther than its natural range of motion.

Treatment.—The first indication is to allay inflammation. If there is much swelling, frequent applications of Cold Water should be made. After thus reducing the inflammation and swelling somewhat, an excellent practice is to apply strips of Adhesive Plaster over the part in such a way as to make a complete rigid covering so as to secure absolute rest for the part. A plaster cast may be used instead of the Adhesive Plaster. These should be kept in place for two or three weeks, the part being used as little as possible.

POLYPUS OF THE NOSE.

POLYPUS OF THE NOSE is a soft, excrescent or fungous growth which forms in the nose. Modern physicians operate and

remove it immediately by the use of some instrument, and this is undoubtedly the best and quickest way of securing relief.

RUPTURE—HERNIA.

HERNIA, or RUPTURE, exists where some portion of the cavity of the abdomen has become ruptured from internal pressure, straining, or some other cause, so that a portion of the intestines or abdominal viscera protrudes, forming a tumor of greater or less size, inclosed beneath the skin in a sort of sack formed of a portion of the lining membrane of the abdomen, which is pushed out through the opening before the intestine.

Rupture most frequently occurs in one of the groins; though it may occur at the navel or umbilical region or any part of the lower abdomen.

Treatment.—The first object to be accomplished in Hernia or Rupture, is to replace the protruded parts into their natural cavity; and the second is to have them retained there. Some cases of Hernia seem to give but little trouble and inconvenience, and for that reason are apt to be neglected; *this, however, should never be done, for there is no telling how soon the case may become serious, if allowed to continue.* In recent cases, where there is no inflammation, the reduction, or returning of the parts, may generally be accomplished without difficulty. The best position for the patient to assume is the recumbent, or rather upon the sound side, with the hips somewhat elevated, and the thighs brought up toward the abdomen, so as to relax the muscles and parts about the Rupture. Then, either the patient himself, or the assistant, is to make use of manual effort, with the hands and fingers (which effort is medically called Taxis), by gently and moderately raising the tumor with one hand, and compressing it, while with the forefinger of the other hand he presses the protruded parts moderately and by degrees up and into the abdominal cavity, holding the returned part there, while with the next finger another portion is gently pushed in; and so alternating with the two fingers until all has been returned. In external Inguinal Hernia, the pressure is to be made upward and outward, that is, toward the upper point of the hip-bone of the same side; in Femoral Hernia, it is to be made downward and backward; while in Umbilical Hernia, the pressure is to be made directly backward. All violence must be avoided, and great care and tenderness used in handling the parts, so as not to cause pain or injury.

After the reduction has been accomplished, the parts are to be maintained in their place; and this is best done by means of a suitable instrument, called a truss. Hernia is strictly a surgical disease, and one which, unless of a very trifling character, should always be submitted to the direction and care of a physician. The truss should always be applied before the patient gets up from his bed in the morning and while the mass is reduced.

When the Hernia is of the strangulated kind, that is, inflamed, enlarged, causing a derangement of the functions of the bowels, and giving rise to a train of unpleasant or serious symptoms, such as usually attend in such cases, it will be absolutely necessary to employ a physician or skillful operator at once. In case of inflammation, Poultices must be applied to the tumor, and when there is constriction of the Hernial opening, as is generally the case in strangulated Hernia, relaxing medicines and applications must be employed.

After the inflammation has been subdued, and the constriction of the parts overcome sufficiently, reduction of the tumor or protruding parts is to be undertaken and effected in the manner already described, or as the attending physician or surgeon may think best; after which, a suitable truss, or other application, is to be applied, and the patient is to remain as quiet as possible until the danger is past.

If it is impossible to reduce the strangulated Hernia, it must be operated upon at once, and the sooner the better, for the patient rapidly becomes extremely weak.

In children, up to the fifth or sixth year, efforts should be made to cure the Hernia by means of trusses; after that time a perfectly healthy individual had better submit to the operative treatment, as absolute cure is almost the invariable rule; and a Hernia is a dangerous condition, as one can never tell at what moment it may become strangulated and produce death.

SHORT TREATISES.

Foreign Bodies in the Eye.

When small substances get into the eye, or under the lids (and none but small substances are apt to do so), they can generally and readily be removed by the proper use of the eye-lashes. For instance, if it gets under the upper lid, which is usually the case, take hold of the lashes of the upper lid, draw it up as far as you can, then shut the eye and pull down the upper lid over the under lid, hold it there and work it about with the fingers for a few moments and then with the eye-lids, and, with a clean, soft handkerchief, or something of the sort, wipe downward over the lashes of the lower lid. The idea is that the lashes of the lower lid will bring out the substance, whatever it may be, and the handkerchief will remove it from the lashes. If one trial does not answer, continue the operation; it will generally succeed. So, too, if the substance should be under the lower lid, use the upper in the same way to remove it. If it cannot be done in this way, then the next best plan is to use a small feather—the wing-feather of a bird or pigeon. Get some person to raise the lid a little, and, with the other hand, sweep round over the eye-ball and under the lid with the feather, and in that way brush it out. Any skillful person can, in this way, readily remove any substance that may get into the eye. A camel's-hair pencil brush may be used instead of the feather.

If hard, sharp substances get in under the lid, and stick fast in the eye, or the lid, then it is more difficult to remove, and it may be necessary to call in a physician or surgeon to perform the operation.

If inflammation arises, as will often be the case, apply Cold Water, and folds of muslin wet with Cold Water, or Boric Acid solution. The eye is a very delicate thing, and must be tenderly dealt with. A very small substance will soon start severe irritation and inflammation. Whenever you find that you cannot readily extract a substance from under the lid, you should, without delay, apply to a skillful physician.

Foreign Bodies in the Ear.

It is better, where it can be done, to remove foreign substances from the ear with the use of a small syringe than

with forceps. If an insect gets into the ear, deluge it with Sweet Oil—with a syringe, if you can get it; if not, pour in the Oil anyhow. If you have not Sweet Oil, use Lard Oil, or Melted Lard, or Turkey or Goose Oil. Every family should have a little glass or metal syringe.

If a solid substance gets into the ear, and you have no suitable syringe, and cannot extract it without, call in a physician or surgeon immediately.

Foreign Bodies in the Throat—Choking.

A substance lodged in the larynx generally stops at the narrowest part of that passage, which is just at the upper edge of what is called the cricoid cartilage—that round, hard ring of the throat, called sometimes Adam's apple. But it is not likely to remain there long, as the efforts of the subject, or others assisting him, will be apt to push it down further. The lodgment of a substance in the trachea, producing choking, may be a very serious affair. If the substance remains long, and the patient cannot swallow, life at once becomes endangered. Inflammation also will soon set in, followed by suppuration and ulceration. Or if the substance be very large, it may so press upon the trachea, or windpipe, as to prevent breathing.

Children are very apt to "choke" while eating, in endeavoring to swallow a substance too large for them. In such cases, a very common and generally successful mode of treatment is to strike the patient immediately several severe blows with the hand *on the back*. Almost all mothers know how to do this. If, however, you find it impossible by ordinary means to remove it, then seat the patient, throw his head back, and open the mouth as wide as possible; then pass your finger down the throat, regardless of his gagging, or efforts to vomit, that is all the better; search with the finger for the substance, and, if possible, *bring it up*. If the substance can be seen, and you have a pair of small forceps of the right size, use them. If, however, the substance has passed too low to be reached in this way, and the patient can swallow, give a Lobelia Emetic, if you have it, or a quantity of Tincture of Lobelia. Give it freely, to produce both vomiting and relaxation of the parts. And if he cannot swallow, the holding of a quantity of Lobelia Tincture in the mouth and throat awhile will itself often excite vomiting. If this does not produce vomiting, give the Lobelia freely by injection or enema, and have it retained. That will produce vomiting. If all these means fail, *send for a physician*, telling him at the same time what he is wanted for.

Foreign Bodies in the Nose.

The greatest difficulty in removing a substance from the nostril, that has been introduced there, will often be in not having the proper kind of an instrument for the purpose. If you always had that, you could generally do it, without the necessity of calling in a physician. A small scoop of suitable size is a good thing, and will often answer the purpose. Or an instrument may be made of some tough, flexible wood, as hickory, that will not break, that may answer. This, together with a small pair of forceps, if they can be procured, will generally be all that is necessary. The substance must be sought for, found, and, in the best manner possible, removed or brought out. It will be well, in the first place, however, to endeavor to cause the patient to *sneeze* as severely as possible. For this purpose, introduce into either or both nostrils a little Tobacco Snuff.

Foreign Bodies in the Windpipe.

To remove a foreign substance from the windpipe is an operation—if it has to be done by an operation—which should never be undertaken or thought of by any one but a skillful physician or operating surgeon. If the patient cannot throw it up by forcible exhalation, or expulsion of the breath, it will be necessary, most likely, to have the operation of Tracheotomy performed—which is to make an opening from the outside into the trachea or windpipe, and remove the substance in that way.

Corns.

All who have been so unwise as to wear tight boots or shoes have a painful appreciation of the sort of thing a Corn is. They are too well known to need any description here.

Treatment.—The callous part of the corn should be removed, being careful not to cut so deep as to bring any blood. The greatest cleanliness must be observed both with the knife or scissors and the hands and toe, as serious cases of blood poisoning have followed carelessness in this respect when trimming Corns. After the callous is removed, the following should be applied every two or three days until a cure is produced: Salicylic Acid, 1 drachm in 1 ounce of Collodion. Of course a cure cannot be secured if one persists in wearing shoes which do not fit properly, especially if they are too tight.

Bunions.

A Bunion is simply a corn on the big toe; or, more technically speaking, it is an enlargement and irritation of what is called in Anatomy the *Bursa* of the great toe. The cause is usually the same as that of common Corns, and it should be treated the same.

Warts.

Usually appear on the hands, and need no description.

Treatment.—To remove Warts, cut or prick the Wart a little, and touch it occasionally with Lunar Caustic, or a drop of Nitric Acid.

Felon, or Whitlow.

A FELON is often an exceedingly painful and troublesome inflammation of the thumb, fingers, or hand, and sometimes of the toes, and almost always suppurates. At first, a slight swelling is seen, accompanied with a deep throbbing and pricking sensation, frequently acquiring great intensity and affecting seriously the sinews and bones, resulting, perhaps, in a stiff joint, produced by the contraction of the former, and possibly a loss of a portion of the bones near the ulceration which has occurred.

Treatment.—The proper treatment of Felon—and the only treatment—is to open it; the incision should be a large one and made to extend down to the bone. The sooner this is done the better.

The finger should, of course, have been previously cleaned, and now it is wrapped in gauze, dipped in a solution (one in four thousand) of Bichloride of Mercury, a small piece of gauze being tucked down in the incision. The dressing should be changed every day, and for the first day kept moist with the Bichloride solution.

Goitre — Big Neck.

This is an enlargement of the thyroid gland, which is situated in front of the neck, or windpipe. The affection is also called Bronchocele, Big Neck, and sometimes Derbyshire Neck. Its cure is very difficult, slow and tedious, and perhaps can never be entirely removed by medical treatment; though it may generally be greatly relieved.

Treatment.—The chief reliance is upon external applications, in the form of Washes and Ointments. The best for this purpose is made as follows: Take Iodide of Potassium, 1 drachm; Iodine, 10 grains; Simple Cerate, or Lard, 1½ ounces; mix well into an Ointment; rub a little on the enlargement once or twice a day, and wear a flannel round the neck. If it should produce excoriation or soreness of the skin, omit it for a few days. At the same time the neck should be washed once or twice a day in strong Salt Water. The patient may also take the same articles used in the Ointment, in the following way: Take Iodide of Potassium, 1 drachm; add ½ ounce, or about two tablespoonfuls, of Water, to dissolve it; then add to it 1 ounce of Tincture of Iodine; commence by taking ten drops of this at a dose, once a day, increasing one drop every day until you get to twenty; and then continue at that till the whole is taken.

Tumors.

A TUMOR is any growth or swelling (not inflammatory) which extends beyond the normal outlines of the body or organs thereof, and are separated into two great classes, Benign and Malignant; the former class do not destroy life, and if once removed do not tend to recur; the latter class do tend to destroy life, and do tend to recur after removal.

The treatment of Tumors consists in their complete removal. The success of operations for Malignant Tumors depends upon their early recognition and removal.

Cancer.

This is one of the most fearful, and one of the most dreadful, diseases to which the human family is liable. While its formidable nature classes it with those which ought at once to be placed under proper medical care, the same reason renders it most important that its first symptoms should be known and attended to, while there is yet time to save life. Cancer usually commences as a hard tumor, unaccompanied with inflammation, and either *painless*, or the seat of intermittent shooting pain. It more frequently occurs in females than in males, and attacks the breast oftener than any other organ. In men the Genitals are more liable to be affected, as well as the chin, nose, and lips of old persons. Cancer seldom takes place in early life, rarely under thirty years of age. When from the nature of a tumor, its hardness, situation, or age of the patient, danger is feared, and particularly if there be any hereditary tendencies to this disease, attention should be given without delay; neither time nor expense should stand in the way of procuring that assistance which may not only preserve life, but save from a lingering and painful death. By permitting this disease to run on its course, the glands adjacent to the Cancerous affection become tainted, and then follows a gray-looking ulcer, discharging thin, fetid, watery matter, the seat of shooting and stinging pain. The edges of the sore are generally hard, thickened, and extremely painful. The flesh, which surrounds the ulcer, or sore, will present the appearance of the teeth of a saw.

A Cancerous sore has a peculiarly offensive smell. If you have ever seen one of these sores, or smelt this offensive odor, you can never afterward be mistaken in the disease. Cancers proceed, in general, from Scirrhous Tumors, Warts, Pimples, and other hardened swellings. Its first appearance usually is a hard, irregular lump, forming under the skin, in the breasts, and in the womb of women, and in the lips, face, tongue, palate, testicles, and cheeks generally of men. Any part of the body may be the seat of Cancer, although the glandular parts are the most subject to it. Remember, when a Scirrhous Tumor upon the breasts is attended with a burning, shooting pain, and the skin over it has become dusky, purple, or livid color, it is probably a cancer. The tumor sometimes grows to large size; it has an irregular, knotty appearance, the nipple sinks in, and there are seen purple veins running in every direction over it. Any one, who is predisposed, from hereditary taint, to Cancerous affections, should be extremely cautious in irritating any little Warts on the face, or other parts of the body, at particular periods of life, as by doing so they may become Cancerous. But if left alone, and not irritated, they will often be dormant during the whole life of a person.

Just before these tumors or lumps break out into an open Cancer, the skin around it will become contracted or wrinkled, and its surface will have a black and blue appearance. After it becomes an open sore, and the thin, watery, irritating fluid begins to run from it, the proud flesh will rise up above the skin, and often grow into large excrescences or lumps. The raw surface will often bleed and look angry. The pain at the same time increases, and the patient grows thin. In some Cancers, particularly of the breast, nearly all of the glands of the body will become affected. The skin and muscles, for a considerable distance around the Cancer, will become hard, stiff, and contracted. The axillary glands and arms frequently become stiff and swell, and the whole body, after a length of time, will partake of the disease. In some constitutions, the progress of Cancerous affections is slow and confined to one particular point, while in others it is rapid, and the declining health is daily perceived.

The Rose Cancer, medically called *Fungus Hematodes*, assumes a variety of forms, and attacks all those parts which are the seat of the true Cancer. In the commencement of it, it is only a soft tumor, or swelling of a part, very elastic to the touch, and often very painful. When it ulcerates, it spreads out into a form which resembles a red rose, rises considerably above the surrounding surface, and presents a large mass of bloody fungus or sponge-like substance. The same remedies which are employed in the treatment of the true Cancer, are employed in the cure of this.

Remedies.—The usual remedies heretofore have been to remove Cancer by a surgical operation. This, in Cancers of the lips, tongue, and face, will often effect a cure; but in the breasts, and other large glands, the operation is not so successful. The operation, however, will often delay the progress of this disease for a time. If a Cancer is removed soon enough, *i. e.*, before the adjoining lymph glands become involved, or before it becomes scattered over the entire body, the greatest hope for complete recovery may be entertained. Complete removal of the stomach which is Cancerous has been successfully done, so that now most any organ is accessible for an

operation and in so hopeless a disease as Cancer, most any measures which may have the faintest suggestion of hope are justifiably resorted to. Cancer cannot be said to be propagated by contact; but this should be avoided as much as possible — in the intimate relation of husband and wife especially.

The only positive way to distinguish a Cancer from a growth which is not dangerous is to have a small piece removed (painlessly by the use of Cocaine) and examined by a competent microscopist. The knife is the only thing at present which gives any promise of a cure. When a Cancer has progressed too far to remove it, and when it breaks down, it should be dressed with gauze dipped in a weak solution of Bichloride of Mercury or in Tincture of Myrrh. Permanganate of Potassium may be used, and it will aid in eradicating the odor. Morphine should be freely used whenever there is the slightest pain.

Ordinarily, Cancer produces death within two or three years from the time it was first discovered. There may be a slow growing Cancer which does not cause death in a number of years.

A form of Cancer known as Rodent Ulcer, which usually starts at the outside of the eye and does not form a Lump or Tumor, but simply ulcerates, may exist for many years before producing death. Mutilation is extensive in such cases.

Medical attention is being concentrated on the possibilities of a new and wonderful element called Radium in the treatment of this terrible disease. Interest has been aroused the world over by successful treatments and miraculous cures which have already been effected by the application of rays from one-tenth to one-fifth of a grain of this new substance. There are great hopes that at last has been discovered what may prove an effective check to this horrible scourge.

White Swelling and Hip Disease.

WHITE SWELLING most generally appears in the knee-joint; though it may, and sometimes does, attack other joints. The pain seems to be deep-seated, and on moving the joint becomes almost intolerable. The part around the joint becomes hard and callous, the swelling increases, until finally, if not checked, matter forms and discharges begin, perhaps, from several openings. When the disease is seated in the hip, the joint or socket is apt to fill up with osseous or bony matter, so as gradually to dislocate or displace the head of the femur or thigh-bone. When openings and ulceration take place, fleshy excrescences are apt to protrude through the openings or ulcers, and often small pieces of exfoliated or detached bone pass out. The flesh wastes away above and below the joint; the joint is likely to become permanently stiff, perhaps dislocated; the patient becomes thin, pale, emaciated, with Hectic Fever, Night Sweats, and great constitutional debility.

White Swelling is in fact Tuberculosis of the Joint.

Treatment.—When the disease is taken in its early stage, or commencement, it can generally be cured without allowing it to gather and break. Massage, *i. e.*, rubbing the entire body with the hands once or twice a day, is important. The diet should be palatable and nutritious, using good, rich milk freely. Cod Liver Oil and Syrup of the Iodide of Iron should be administered; five to ten minims of the latter three times a day. As the disease is tubercular, the treatment should be the same as for Tuberculosis of any other part of the body, in addition to which complete rest of the joint is essential, which is secured, besides by rest in bed, by means of a plaster cast being applied about the limb so as to completely immobilize the joint.

Boils.

A BOIL, called *Furunculus* in surgery, is a circumscribed inflammatory swelling, and very painful immediately under the skin. It seldom exceeds the size of a pigeon's egg, and has a central core.

Treatment.—In describing the treatment, it may be well to say first what not to do, viz.: Do not put on poultices or plasters; keep the parts clean, and apply gauze soaked in a solution of Corrosive Sublimate (one part of Sublimate in five or six thousand parts of water). Cutting the boil open early and using these applications may cut the course short. At no time squeeze a boil, for this simply tends to make it spread and adds to the pain. It may be necessary to have recourse to some suitable medical treatment. In such cases, the patient should commence by taking an active Vegetable Cathartic — a good dose, for instance, of the Compound Cathartic Pills; then follow with a dose or two of Sulphur and Cream of Tartar every day — say about a teaspoonful of each once a day. This will keep the bowels open, and at the same time cleanse the system; or a quarter of a grain of Calcium Sulphide may be taken three times a day. This course of treatment, properly pursued, will usually be all that is necessary.

Carbuncle.

CARBUNCLE is a species of malignant Boil, being a livid, red swelling with burning, smarting pain, which gathers, vesicates, and discharges matter, and tends rapidly to Gangrene. The tumor is often as large as a hen's egg, sometimes much larger, and generally has several fistulous openings, from which a thin, acrid, fetid matter exudes, with a large black core usually in the center. They usually appear on the back, loins, between or about the shoulders, and back of the neck. They are, of course, much more painful than ordinary Boils, and are usually attended with headache, more or less febrile symptoms, thirst, foul tongue, loss of appetite, languor, and restlessness. They occur mostly in persons past the middle age of life, and are owing to a vitiated and depraved state of the system. When they occur on the face they are very serious, and usually cause extensive mutilations.

Treatment.—In the early stage, at the commencement of the tumor, apply the gauze soaked in Bichloride of Mercury solution, as described under the subject of Boils, keeping the gauze constantly moist with the solution. If the entire surface is lightly scarified with a sharp knife, it will give the Bichloride a better chance to penetrate, besides letting some blood out, which will give relief. If Gangrene (Necrosis) starts, then a deep cross should be cut across the top of the swelling and the dressings continued as above. Cleanliness must be observed constantly. When it begins to heal, Tincture of Myrrh may be used instead of the Bichloride, and, finally, Dusting Powders, as Boric Acid, may be used. Do not use poultices.

It may also be necessary to give some tonic and strengthening medicine, to sustain the system, especially if the disease continues a good while.

MISCELLANEOUS TREATISES.

Bites and Stings.

BITE OF A MAD DOG.—The wound is to be immediately sucked either by the patient or another person. No harm can result if there are no abrasions or scratches upon the lips, and it is a very ready and effective way of removing the poison from the wound. Send at once for a medical man to cut or cauterize the wound. If none can be had within a few minutes, any person can cauterize the wound with Lunar Caustic, or, if none be at hand, the wound may be burned to the bottom by a small red-hot iron. The *bite of a dog not mad* is usually very painful, and is attended with considerable inflammation and swelling. Cloths wrung out of hot water may be applied. Later, a flax-seed poultice, with a half-teaspoonful of Laudanum sprinkled upon it, should be applied.

Snakebite.

The symptoms attending the bite of the venomous reptiles, as the Rattlesnake, the Moccasin, and the Copperhead, are such as not to be easily mistaken, and generally commence to exhibit themselves very soon after the bite. They are nausea and vomiting; swelling, commencing in the part bitten, and extending more or less rapidly over the whole body; full, strong, excited pulse; the eyes become bloodshot; sometimes there is bleeding from the nose, mouth, and ears; in extreme cases, a bloody sweat breaks out; great pain all through the body, and extreme suffering. These are the symptoms of a bad case. Some persons seem to be much less susceptible to the poison than others. In such the symptoms approach more gradually; and if the bite has been in the foot or hand, the swelling may not extend beyond the limb that is bitten. But the bite of the more venomous snakes, such as I have named, is always to be regarded as dangerous. The bites of the venomous snakes can be distinguished from the bites of non-venomous snakes, by the fact that the fangs of the venomous snakes are two in number, and consequently only leave two little spots side by side.

Treatment.—The first thing, if it can be done immediately after the bite, should be to draw a cord tightly around the leg or arm (if the bite has been on either), a short distance above the place bitten. The cord or ligature should be drawn tight enough to prevent the blood from circulating in the veins, which will tend to check absorption and prevent the poison from passing into the system. Then have some one suck the wound. This should be persisted in for some time. The venom of snakes does not affect the unbroken skin or mucous membrane, and is not poisonous when swallowed. The wound should, after being thoroughly sucked, be dressed with Bichloride of Mercury (a solution of one part in five thousand of water). It would also be well to open a vein near the bite, or at least below the ligature or cord, so as to let out as much of the poisoned blood as possible. This, you can readily see, is highly important. The blood which has been stopped by the ligature has, of necessity, become charged with poison by absorption; hence, if it is allowed to pass into the body, as it would do as soon as the ligature was removed, it would poison the whole circulation. Let it out if you can, but do nor remove the ligature so long as the patient can bear it, unless you see that the swelling has extended above and beyond it. In that case the ligature can do no more good.

Internally, give the patient *all the Whiskey he can drink.* From a quart to a gallon should be drunk in six or eight hours. No fear need be entertained of making the patient drunk. You may fill him with Whiskey, then let him swim in it, and it will not make him drunk, so long as the poison of the snake remains in the system. It is an antidote for Snakebite, if taken freely, and may be relied on in any and all cases. It should be drunk like water for a few hours, and continued at short intervals, until the patient gives signs of intoxication, when the quantity should gradually be diminished, as the disease is now beginning to recede. Keep him "under the influence of liquor," however, until you are sure he is out of danger.

The patient should also take a gill of Sweet or Olive Oil, once every two hours, until four or five doses are taken. It will hasten the cure and also act on the bowels. The Oil may also be rubbed over the swollen parts of the body. As soon as the swelling begins to go down, and the patient seems to be out of danger, or past the worst, give an active purge of Salts. You may rely on Whiskey and Sweet Oil to cure any Snakebite, or the bite or sting of any reptile or insect.

Anti-venoms are now made for the bites of some snakes, but at present their price is almost prohibitive.

Burns, Scalds and Frost-Bites.

In case of BURNS or SCALDS the parts should be protected from the air at once. If a quantity of white oil-paint is at hand, cover the burn at once by applying gently a very thick coat of the paint. In a little while another coat is to be given. If no paint is to be had, apply Olive Oil and cover with flour. If no Sweet Oil is to be had, lard will do. If no Oil of any sort is to be had, then cover the part with dry flour. The patient should be given a full dose of Laudanum or Paregoric, or Opium or Morphine. If the burn has been very extensive, a physician should now be sent for.

In case of FROST-BITE, the circulation must be slowly restored; hence great care should be taken not to bring the patient into a warm room. The frozen part may be rubbed with snow in a cold room, or immersed in very cold water, and kept there for two or three hours, until the circulation has been fully restored.

Suffocation.

SUFFOCATION takes place whenever the air is shut out of the lungs; this may be done by compressing the windpipe, as in *choking* or *hanging;* or filling the lungs with water, as in *drowning;* or with poisonous gases, as charcoal gas from burning charcoal, or by the escape of illuminating gas into the sleeping-room; or by the poisonous gas in mines and old wells.

In case of strangulation, as by *hanging*, the pressure upon the windpipe is to be instantly removed, and the bands about

RAT SNAKE AND COBRAS

the neck and body loosened. In the case of inhalation of a poisonous gas the patient is to be at once removed into the open air; while the *drowning* person is, of course, to be removed at once from the water, and movements made for emptying the water out of the lungs. The wet clothes should be stripped off and the body wrapped in a warm shawl, blanket or dry coat; no time should be lost in changing the clothing, but efforts at artificial respiration should be made at once, and the clothing can be gotten off while these efforts are in progress. Artificial respiration should be employed in all cases, whether of hanging, drowning, or suffocation by a poisonous gas. The following method of Marshall Hall is as good as any other:

1. Treat the patient instantly on the spot, in the open air, freely exposing the face, neck and chest to the breeze, except in severe weather.

2. In order to clear the throat, place the patient gently on the face, with one wrist under the forehead, that all fluid, and the tongue itself, may fall forward, and leave the entrance into the windpipe free.

3. To excite respiration, turn the patient slightly on his side, and apply some irritating or stimulating agent to the nostrils, as vetratrine, dilute ammonia, etc.

4. Make the face warm by brisk friction; then dash cold water upon it.

5. If not successful, lose no time; but, to imitate respiration, place the patient on his face, and turn the body gently, but completely, on the side, and a little beyond; then again on the face, and so on, alternately. Repeat these movements deliberately and perseveringly, fifteen times only in a minute. (When the patient lies on the thorax, this cavity is compressed by the weight of the body, and expiration takes place. When he is turned on the side, this pressure is removed, and inspiration occurs.)

6. When the prone position is resumed, make a uniform and efficient pressure along the spine, removing the pressure immediately, before rotation on the side. (The pressure augments the expiration; the rotation commences inspiration.) Continue these measures.

7. Rub the limbs upward, with firm pressure and with energy. (The object being to aid the return of venous blood to the heart.)

8. Substitute for the patient's wet clothing, if possible, such other covering as can be instantly procured, each bystander supplying a coat or cloak, etc. Meantime, and from time to time, to excite inspiration, let the surface of the body be slapped briskly with the hand.

9. Rub the body briskly till it is dry and warm, then dash cold water upon it, and repeat the rubbing.

Avoid the immediate removal of the patient, as it involves a dangerous loss of time; also, the use of bellows, or any forcing instrument; also, the warm bath, and all rough treatment.

Antidotes to Poisons.

It is very important to know what to do in case of swallowing Poison, as such accidents frequently occur, and may happen at any time. Thousands of persons die annually from Poisoning and other causes, who might be saved by the timely application of some simple remedy or antidote, if only known and properly used. There are various antidotes for Poison, and different Poisons frequently require different antidotes; but there is one simple and very common article to be found in almost every house in the land, which, as an antidote or remedy in case of swallowing Poison of any kind, should stand at the head of the list of remedies. It is nothing more or less than ground or powdered Mustard Seed. It is to be used as an emetic, and is preferable to other emetics, on account of its being instantaneous in its effects, and also, especially in cases of Narcotic Poisons, more certain. It should be used immediately, however, or as soon as possible after the Poison has been taken into the stomach—before it has had time to become absorbed, or to produce its specific injurious effects. The way to use it is to mix a tablespoonful of the Mustard with a tumblerful of Warm Water, and swallow it immediately. It acts as an instantaneous emetic, frees the stomach of its contents, and can be used with safety in any and all cases. Every family should—as most families do—keep a supply of good Mustard always on hand. In case of taking Poison into the stomach—whether it be vegetable, mineral, or animal—the Mustard remedy should be first used; after that, other remedies, such as are indicated by the particular Poison.

I will now give you the names of the ordinary or most common Poisons to be met with, and their best antidotes—such as are most readily obtained, and that may be used freely and with safety.

ARSENIC (*Including White, Yellow, and Red Arsenic; Paris Green; Fowler's Solution, and all Arsenical Preparations*).—Remedies: Give freely of Warm Water and Warm New Milk; and Emetic of Sulphate of Zinc (White Vitriol), about a teaspoonful, in a little Warm Water, equal parts of Red Oxide of Iron and Carbonate of Magnesia, mixed with Warm Water, giving freely; or scrape the rust from old Iron, mix with Warm Water, and give freely. Give Gruel and Flax-seed Tea; and injections of Gruel or Starch. A mixture of Sweet Milk, Lime-water, and the whites of Eggs, taken freely, is also good. Hydrated Peroxide of Iron is the specific antidote to Arsenic, in tablespoonful doses, every 5 or 10 minutes.

ANTIMONY (*Tartar-Emetic*).—Remedies: Tannic Acid; or a strong decoction of Green Tea; or of Oak Bark; or decoction or powder of Peruvian Bark. It will not be necessary to give the Mustard, or any other Emetic, as the Antimony will produce sufficient vomiting. Promote vomiting by giving freely of Warm Water and Sugar, Warm Tea, and the like; and as soon as the vomiting has subsided, give a grain of Opium or 30 or 40 drops of Laudanum, in a little sweetened Warm Water, and repeat two or three times every half hour.

MERCURY (*Corrosive Sublimate; Calomel; Red Precipitate; Vermilion Red, etc.*).—Remedies: A strong solution of Saleratus, in Warm Water, and the whites of Eggs—*followed* with a prompt Emetic of Mustard. Then give freely of whites of Eggs; Fresh Milk; Flour and Water mixed pretty thick; Flax-seed Tea; Saleratus Water, or weak Lye.

STRYCHNINE (*Nux Vomica or Dog-button*).—Remedies: Quick Emetic—Mustard the best. At the same time and afterward, give freely of Camphor; the Tincture or Spirits of Camphor, if you have not the Gum. Twenty grains of Camphor in powder given at a time, and repeated three or four times at intervals of 15 or 20 minutes. Administer Chloroform. Use injections containing ten to twenty grains of Chloral.

OXALIC ACID.—Remedies: Give freely of powdered Chalk and Water, or Magnesia and Water; also a mixture of

Lime-water, or any Oil that may be handy. Afterward, give an active Cathartic.

PRUSSIC ACID.— Remedies: It is seldom possible to afford any relief in case Prussic Acid has been taken. The antidotes recommended are, to inject into the stomach Chlorine; also the Oxide of Iron (for the person will not be able to swallow); and apply Cold Affusions to the spine; also Electricity. Cobaltous Nitrate, given freely, is a specific, if it can be obtained.

NITRIC AND SULPHURIC ACIDS (*Aqua Fortis and Oil of Vitriol*).—Remedies: Give freely of Calcined Magnesia in a little Water; or Chalk; strong Soap and Water is an efficient remedy, and is always on hand; also an Emetic. If nothing is better at hand, give freely of Wood-ashes and Sweet Milk. *Alkalies* are the remedies. When Sulphuric Acid has been taken, the use of much Water will be improper. Lime-water may be given.

COPPER (*Blue Vitriol, or Blue Stone; Verdigris, etc.*).— Remedies: The whites of Eggs to be taken freely, mixed with a little Water—take as much of the white of an Egg every two or three minutes until a dozen or so are taken; also Prussian Blue; very strong Coffee; Vinegar; strong decoction of Oak Bark, or Peruvian Bark; Saleratus Water. Give freely of Sweet Milk, Warm Water, and an Emetic.

NITRATE OF SILVER (*Lunar Caustic*).— Remedies: Give freely of Salt and Water; and afterward Milk, and Sweet or Castor Oil.

ALKALIES (*Caustic Potash, Ammonia, Lime, etc.*).— Remedies: Give freely of Vinegar and Vegetable Acids; and follow with Flax-seed Tea, Milk, and Sweet Oil, Lard, or Lard Oil.

LEAD (*Sugar of Lead, Red Lead, etc.*).— Remedies: Epsom or Glauber's Salts, or Plaster of Paris, Magnesia; an Emetic of Mustard.

OPIUM (*Laudanum, Morphine, etc.*).— Remedies: A prompt Emetic; then give very strong Coffee; strong Tea; Tincture of Nut-galls. If patient cannot swallow, the Stomach-pump must be used, and the stomach washed out and cleaned until free from the smell of Opium. An Emetic of Sulphate of Zinc should be given. *Motion* is very essential; the patient should be forced to *walk*, assisted by two persons and *kept awake*. Atropine in 1-100 grain doses, or Tincture of Belladonna, in 20 drop doses.

OTHER NARCOTIC POISONS (*Bane Berries, Wild Parsley, Nightshade, Poison Hemlock, Jimson Weed, etc.*).— Remedies: Give Mustard Emetic, large draughts of fresh Milk, plenty of Sweet Oil, strong Coffee; dash cold Water in the face, and over the chest; apply Mustard poultices, and keep the patient awake and *walking* as much as possible. For Belladonna poisoning, give Pilocarpine in ⅛ grain doses.

CANTHARIDES (*Spanish Flies*).— Remedies: Large doses of Sweet Oil; also Tincture of Spirits of Camphor; Sweet Milk; and injections of Starch Water and Camphor Water, or Spirits. Drink freely of Flax-seed Tea.

CARBOLIC ACID.— Remedies: Alcohol is a specific antidote for Carbolic Acid poisoning. It should be given somewhat diluted, or as Brandy or Whiskey, as soon as possible. Magnesium Sulphate (Epsom Salts) should be given if Alcohol is not at hand.

As a general rule, after poisons that cause vomiting, pain in the stomach and bowels, and purging, give Chalk. Magnesia, fresh Milk, the whites of Eggs (raw), Sweet Oil, or if not that, any other Oil that is handy, as Lard, Castor, or Linseed; Butter, Warm Water, and the like. After Acid poisons, give Alkalies, as Saleratus, weak Lye, Lime-water, and the like. After poisons that produce sleepiness, delirium, or raving, give Emetics and Stimulants, such as Camphor and strong Coffee, and keep the patient awake. When you don't know what to give—not knowing what the poison is—give Magnesia or Chalk, Charcoal, and Red Oxide of Iron, equal parts, mixed in Warm Water; also, plenty of Sweet Oil. Always remember that Sweet or Olive Oil is an antidote to all Vegetable and Animal Poisons, as well as to most Mineral Poisons. Give it freely.

Fainting.

The cause of *Fainting* is a lack of blood in the brain; hence, the patient, in case of a faint, should be placed in a position favoring the flow of blood to the brain. The patient should be laid at once flat down upon a bed, a sofa, or the floor, without any pillow under the head; then cold water can be dashed in the face, which will have the desired effect.

Sunstroke.

In case of *Sunstroke*, unfasten and remove all excess of clothing and dash pails of cold water over the head and chest of the patient. As soon as ice can be procured make an ice-cap of towels, and cover the head with ice broken in small pieces. This treatment of cold to the head is to be kept up for many hours, or even for days in some cases. A physician should be called as soon as possible, but treatment should go vigorously forward until his arrival.

RULES TO ADMINISTER MEDICINES.

Suppose the dose for an adult to be one dram:

A child under 1 year will require but one-twelfth, or 5 grains;
" " 2 years " one-eighth, or 8 grains;
" " 3 years " one-sixth, or 10 grains;
" " 4 years " one-quarter, or 15 grains;
" " 7 years " one-third, or 1 scruple;
" " 13 years " one-half, or ½ dram;
" " 20 years " two-thirds, or 2 scruples.

A person above 21 years, the full dose of one dram.

A person of 75, the inverse gradation of the above.

This is an excellent table for regulating the Doses of Medicines: a Mixture, Powder, Pill, or Draught, may be proportioned to a nicety by attention to the above rules.

To Measure Medicine Instead of Weighing.

A dram of any substance that is near the weight of water, will fill a common teaspoon level full. Four teaspoonfuls make a tablespoonful, or one-half of an ounce. Two tablespoonfuls, an ounce, and so on. On the same principle, one third of a teaspoonful will be one scruple, or twenty grains in weight.

The doses of medicines recommended for an adult, or grown person, may be varied to the age of the patient, according to the following rule:

Two-thirds of the dose for a person from fourteen to sixteen;
One-half " " " seven to ten;
One-third " " " four to six;
One-fourth " " " three years old;
One-eighth " " " one year old.

Liquid Measure.

A tablespoonful contains.....Half an ounce;
A pint " .....Sixteen ounces;
A teacup " .....One gill;
A wine-glass " .....Two ounces;
A teaspoonful " .....Sixty drops;
Four teaspoonfuls are equal to one tablespoonful.

Dry Measure.

A tablespoonful contains.....Four drachms, or ½ ounce;
A teaspoonful " .....One drachm;
A teaspoonful " .....Sixty grains.

Doses of Medicine.

The following scale has been established for the regulation of the doses of medicine in general:

If the dose for a person of middle age be one drachm, the dose for one from fourteen to twenty-one years of age will be two scruples, or two-thirds as much.

From seven to fourteen, half a drachm, or one-half.

From four to seven, one scruple, or one-third.

The dose for a child of four years will be fifteen grains, or one-quarter.

For a child three years old, ten grains, or half a scruple.

For a child two years old, eight grains; and for one a year old, five grains, or one-twelfth as much as for a person of middle age.

Women, in general, require smaller doses than men, owing to a difference in size and constitution.

Table of Doses for Children.

As a general rule, if the dose for a grown person is a teaspoonful of any fluid medicine, half may be given to a child seven years old; one-fourth to one from three to five years of age; one-eighth to a child of one to three years; and one-sixteenth to a child under one year.

In the same proportions it will be safe to give children any medicines which are in the form of powder. There are exceptions to this rule, however, a few of which may be named.

Calomel to a grown person is given as a purgative, in doses of ½ to 10 grains. To a child less than one year, 1-10 to 2 grains, which, it will be perceived, is in greater proportion. And so of Anodynes, such as Laudanum, Paregoric, Bateman's Drops, etc., *which require great caution in their use.*

Laudanum for grown persons.....5 to 20 drops.
For a child one year old.....1 to 3 drops.

Castor Oil is another example.

To a grown person, we ordinarily give one ounce or two tablespoonfuls. To a child two years old, half an ounce or one tablespoonful. To a child under one year, a quarter of an ounce or two teaspoonfuls.

The doses of Medicines should always be weighed or measured, not guessed at. It is always advisable to have in a family a graduated glass measure for liquids, which can be purchased at any drug-store, which gives the minims or drops, drachms, and ounces.

Sixty drops are considered equal to a drachm. A common-sized teaspoonful is considered equal to a drachm, and a tablespoonful to half an ounce. A set of apothecaries' weights should be kept for weighing powders; in the country where drugs cannot be readily procured, they are highly useful.

Medical Signs.

Twenty grains make one scruple, ℈j.
Three scruples, or sixty grains, one drachm, ʒj.
Eight drachms, or 480 grains, one ounce, ℥j, or oz.
Twelve ounces one pound, lb.

LIST OF MEDICINES AND DOSES FOR GROWN PERSONS.

FIRST CLASS—COMPRISING VEGETABLE SUBSTANCES.

COMMON NAMES.	PROPERTIES.	DOSES.
Aconite Leaves, Tincture of	Narcotic and Sedative	15 to 20 drops 3 times a day.
Aconite Root, Tincture of.	Narcotic and Sedative	5 to 8 drops 3 times a day.
Aconite Root, Fluid Extract of	Narcotic and Sedative	5 to 6 drops 3 times a day.
Aconite Root, Solid Extract of	Narcotic and Sedative	¼ to ½ grain 3 times a day.
Aloes, Socotrine, Powdered	Purgative	10 to 15 grains.
Aloes, Socotrine, Compound Decoction of	Purgative and Emmenagogue	2 tablespoonfuls.
Aloes, Socotrine, Pills of	Purgative	2 to 3 pills at bed-time.
Aloes, Socotrine, Tincture of	Purgative	3 to 6 drachms at bed-time.
Aloes and Myrrh, Tincture of	Emmenagogue	1 to 2 teaspoonfuls 2 or 3 times a day.
Aloes and Myrrh, Pills of	Emmenagogue	3 or 4 pills twice a day.
American Hellebore (See Veratrum Viride)		
American Colombo, Decoction of	Tonic	Tablespoonful 3 times a day.
Anise Seed, Oil of	Carminative and Aromatic	10 to 12 drops on sugar.
Anise Seed, Essence of	Carminative and Aromatic	1 teaspoonful.
Anise Seed, Infusion of	Carminative and Aromatic	1 to 2 tablespoonfuls.
Arrow Root, Bermuda	Nutritive and Tonic	As a gruel.
Asafœtida, Pills of	Anti-spasmodic	1 to 2 pills.
Asafœtida, Milk of	Anti-spasmodic	1 to 2 teaspoonfuls.
Asafœtida, Tincture of	Anti-spasmodic	30 to 40 drops.
Balsam of	Stimulant, Diuretic and Laxative	20 to 30 drops 3 times a day.
Balsam of Peru	Stimulant and Tonic	5 or 10 drops twice a day.
Balsam of Tolu, Tincture	Stimulant and Tonic	30 to 40 drops.
Balsam of Tolu, Syrup	Stimulant and Expectorant	2 teaspoonfuls.
Belladonna, Fluid Extract of	Narcotic, Diaphoretic and Diuretic	3 to 6 drops.
Belladonna, Solid Extract of	Narcotic, Diaphoretic and Diuretic	¼ to ½ grain 2 or 3 times a day.
Belladonna, Tincture of	Narcotic, Diaphoretic and Diuretic	15 to 30 drops.
Belladonna, Plaster of	Anodyne and Diaphoretic	Applied externally.
Belladonna, Ointment of	Anodyne	Applied externally.
Beth Root, Decoction of	Astringent and Tonic	Tablespoonful 2 or 3 times a day.
Beth Root, Fluid Extract of	Astringent and Tonic	25 to 30 drops 2 or 3 times a day.
Bitter Root, Decoction of	Alterative, Emetic and Diaphoretic	2 to 3 teaspoonfuls.
Bitter Root, Fluid Extract of	Alterative, Emetic and Diaphoretic	20 to 30 drops.
Bitter Sweet, Decoction of	Emetic and Narcotic	Wineglassful 3 times a day.
Bitter Sweet, Fluid Extract of	Emetic and Narcotic	30 to 40 drops 3 times a day.
Bitterbugle, Fluid Extract of	Astringent and Tonic	20 to 40 drops.
Black Drop	Narcotic	10 to 12 drops.
Black Cohosh, Decoction of	Narcotic, Diaphoretic and Diuretic	Wineglassful 3 times a day.
Black Cohosh, Fluid Extract of	Narcotic, Diaphoretic and Diuretic	20 to 30 drops 3 times a day.
Black Cohosh, Tincture of	Narcotic, Diaphoretic and Diuretic	Teaspoonful 3 or 4 times a day.
Black Hellebore, Decoction of	Hydragogue, Cathartic and Emmenagogue	2 teaspoonfuls every 3 or 4 hours.
Black Hellebore, Fluid Extract of	Hydragogue, Cathartic and Emmenagogue	10 to 20 drops 3 or 4 times a day.
Black Hellebore, Solid Extract of	Hydragogue, Cathartic and Emmenagogue	2 to 4 grains 3 or 4 times a day.
Black Hellebore, Tincture of	Hydragogue, Cathartic and Emmenagogue	20 to 40 drops 3 or 4 times a day.
Black Root (See Culver's Root)		
Blacksnake Root (See Black Cohosh)		
Blackberry Root, Decoction of	Astringent and Tonic	Wineglassful 3 or 4 times a day.
Blackberry Root, Fluid Extract of	Astringent and Tonic	Teaspoonful 3 times a day.
Blackberry Root, Syrup of	Astringent	Tablespoonful 3 times a day.
Blessed Thistle, Decoction of	Tonic and Emetic	Tablespoonful.
Blue Cohosh, Fluid Extract of	Diuretic and Diaphoretic	30 to 40 drops.
Blue Cohosh, Decoction of	Diuretic and Diaphoretic	Tablespoonful.
Blood Root, Tincture of	Emetic and Expectorant	30 to 60 drops.
Boneset, Infusion of	Stimulant, Sudorific and Emetic	1 to 2 tablespoonfuls 3 or 4 times a day.
Boneset, Fluid Extract of	Stimulant, Sudorific and Emetic	30 to 40 drops 3 or 4 times a day.
Buchu, Infusion of	Diuretic and Diaphoretic	Tablespoonful 4 or 5 times a day.

COMMON NAMES.	PROPERTIES.	DOSES.
Buchu, Fluid Extract of	Diuretic and Diaphoretic	Teaspoouful 3 or 4 times a day.
Buchu, Tincture of	Diuretic and Diaphoretic	1 to 2 teaspoonfuls 3 or 4 times a day.
Buchu and Uva Ursi, Fluid Extract of	Diuretic and Diaphoretic	Teaspoonful 3 or 4 times a day.
Buckthorn, Fluid Extract of	Hydragogue Cathartic	Teaspoouful at bed-time.
Burguudy Pitch, Plaster of	Stimulant	Applied externally.
Camphor, Gum	Anti-Spasmodic and Sedative	2 to 5 grains.
Camphor, Gum	Stimulant and Narcotic	5 to 10 grains.
Camphor, Spirits of	Anti-Spasmodic and Sedative	10 to 15 drops.
Camphor, Spirits of	Stimulant and Narcotic	20 to 25 drops.
Camphor, Water of	Anodyne and Sedative	2 to 3 teaspoonfuls.
Camphor, Compound Liniment of	Anodyne	Applied externally.
Capsicum		
Caraway Seed, Infusiou of	Aromatic and Carminative	Tablespoonful.
Caraway Seed, Oil of	Aromatic, Carmiuative and Laxative	4 to 6 drops.
Cardamom Seed, Tincture of	Aromatic aud Stimulant	Teaspoonful.
Catechu, Powdered	Astringent	15 to 25 grains.
Catechu, Tincture of	Astringent	1 teaspoonful.
Cayenne Pepper (Powdered)	Stimulant	5 or 6 grains.
Cayenne Pepper, Tincture of	Stimulant	10 to 20 drops.
Cayenne Pepper, Iufusion of	Stimulant	Gargle for Sore Throat.
Cayenne Pepper, Lozenges of	Stimulant	For Sore Throat.
Castor Oil	Purgative	1 to 2 tablespoonfuls.
Castor Oil, Emulsiou of	Purgative	2 to 4 tablespoonfuls.
Cinnamou (Powdered)	Astringent and Stomachic	5 to 10 graius.
Cinnamon, Oil of	Astringent and Stomachic	2 to 4 drops.
Cinnamon, Essence of	Astringent and Stomachic	20 to 30 drops.
Cloves (Powdered)	Stimulant, Aromatic and Carminative	10 to 15 graius.
Cloves, Oil of	Stimulant, Aromatic and Carmiuative	2 to 6 drops.
Cloves, Infusion of	Stimulant, Aromatic and Carmiuative	Tablespoouful every 3 or 4 hours.
Colombo Root. Decoction of	Tonic	Tablespoonful 3 times a day.
Colombo Root, Tincture of	Tonic	Teaspoonful 3 times a day.
Colchicum Root, Wine of	Narcotic, Diuretic and Sedative	10 to 40 drops 3 times a day.
Colchicum Root, Fluid Extract of	Narcotic, Diuretic and Sedative	10 to 20 drops 3 times a day.
Colchicum Root, Solid Extract of	Narcotic, Diuretic and Sedative	1 to 2 grains 3 times a day.
Colchicum Seed, Wine of.	Narcotic, Diuretic and Sedative	30 to 60 drops 3 times a day.
Colchicum Seed, Fluid Extract of	Narcotic, Diuretic and Sedative	10 to 20 drops 3 times a day.
Colchicum Seed, Tincture of	Narcotic, Diuretic and Sedative	30 to 60 drops 3 times a day.
Conium, Solid Extract of	Narcotic, Aromatic, Anti-spasmodic and Deobstruent	2 to 3 grains twice a day.
Coriander Seed, Infusion of	Carminative	Tablespoonful.
Cotton Root, Fluid Extract of	Emmenagogue, Parturient and Abortive	20 to 30 drops.
Cowhage	Anthelmintic	5 or 6 grains in a teaspoonful of Molasses, before breakfast.
Colocynth, Compound Extract of	Laxative	5 grains at bed-time.
Colocynth, Compound Extract of	Purgative	20 grains at bed-time.
Cubebs (Powdered)	Stimulant and Diuretic	20 to 30 grains.
Cubebs, Fluid Extract of	Stimulant and Diuretic	20 to 40 drops.
Cubebs, Tincture of	Stimulant and Diuretic	1 to 2 teaspoonfuls.
Cubebs, Oil of	Stimulant and Diuretic	10 to 12 drops on sugar.
Deadly Nightshade (See Belladonna)		
Dover's Powder	Diaphoretic	10 to 12 grains at bed-time.
Elaterium	Hydragogue Cathartic	¼ to ½ grain.
Ergot, Powdered (Fresh)	Astringent	15 to 20 grains.
Ergot, Fluid Extract of	Astringent	15 to 20 drops.
Ergot, Tincture of	Astringent	1 teaspoonful.
Ergot, Wine of	Astringent	1 teaspoonful.
Fennel Seed, Infusion of	Aromatic, Carminative	Tablespoonful.
Fennel Seed, Oil of	Aromatic, Carminative	3 to 6 drops.
Foxglove, Powdered	Diuretic, Narcotic and Sedative	1 grain 2 or 3 times a day.
Foxglove, Fluid Extract of	Diuretic, Narcotic and Sedative	2 to 3 drops 3 times a day.
Foxglove, Solid Extract of	Diuretic, Narcotic and Sedative	1 grain 2 or 3 times a day.
Foxglove, Tincture of	Diuretic, Narcotic and Sedative	10 to 20 drops 2 or 3 times a day.
Foxglove, Infusion of.	Diuretic, Narcotic and Sedative	Teaspoonful twice a day.
Gamboge, Powdered	Cathartic	2 to 5 grains.
Gentian, Tincture of.	Bitter Tonic	Teaspoonful 2 or 3 times a day.
Ginger, Powdered	Stimulant and Carminative	20 to 30 grains.

COMMON NAMES.	PROPERTIES.	DOSES.
Ginger, Tincture of	Stimulant and Carminative	1 to 2 teaspoonfuls.
Golden Seal (See Yellow Root)		
Gelseminum, Fluid Extract of	Narcotic, Sedative, Diaphoretic and Febrifuge	5 to 10 drops.
Gelseminum, Tincture of	Narcotic, Sedative, Diaphoretic and Febrifuge	10 to 30 drops.
Gum Arabic, Mucilage of	Demulcent	Tablespoonful every 3 or 4 hours.
Guaiacum Gum, Tincture of	Diuretic and Diaphoretic	Teaspoonful 2 or 3 times a day.
Guaiacum Wood, Decoction of	Diuretic and Diaphoretic	Wineglassful every 3 or 4 hours.
Henbane, Tincture of	Narcotic and Anodyne	1 teaspoonful.
Henbane, Fluid Extract of	Narcotic and Anodyne	20 to 25 drops.
Henbane, Solid Extract of	Narcotic and Anodyne	2 to 3 grains 3 times a day.
Hemlock Leaves (See Conium)		
Hemlock Bark, Powdered, Decoction of	Alterative, Diaphoretic and Sudorific	Tablespoonful.
Hydrastin (Active Principle of Yellow Root)	Astringent, Tonic, Stomachic, Anti-bilious	1 to 2 grains.
Indian Hemp (Foreign), Solid Extract of	Anti-spasmodic	½ to 1 grain 2 or 3 times a day.
Indian Hemp (White), Decoction of	Diaphoretic, Diuretic and Emetic	Tablespoonful 2 or 3 times a day.
Irish Moss, Infusiou of	Nutritive, Demulcent and Expectorant	Tablespoonful.
Ipecac, Powdered	Emetic and Diaphoretic	20 grains.
Ipecac, Fluid Extract of	Emetic and Diaphoretic	20 to 25 drops.
Ipecac, Wine of	Emetic and Diaphoretic	1 to 2 teaspoonfuls.
Ipecac, Syrup of	Emetic and Diaphoretic	Tablespoonful.
Ipecac, Syrup of	Expectoraut	Teaspoonful.
Jalap, Powdered	Cathartic	15 to 30 grains.
Jalap, Fluid Extract of	Cathartic	15 to 30 drops.
Jalap, Solid Extract of	Cathartic	10 grains at bed-time.
Juniper Berries, Infusion of	Diuretic	Wineglassful 3 or 4 times a day.
Juniper Berries, Oil of	Diuretic	5 to 8 drops.
Lactucarium	Anodyne	5 to 10 grains.
Laudanum	Narcotic	15 to 20 drops (adult).
Laudanum	Anodyne	10 to 15 drops (adult).
Leptandrin (Active Principle of Culver's Root)	Cathartic	5 or 6 grains at bed-time.
Liquorice Root, Decoction of	Demulcent and Expectorant	Wineglassful.
Liquorice Root, Spanish Extract of	Demulcent and Expectorant	At pleasure.
Lobelia Herb, Powdered	Emetic and Diaphoretic	10 to 15 grains.
Lobelia Herb, Infusion of	Emetic and Diaphoretic	2 teaspoonfuls.
Lobelia Herb, Fluid Extract of	Emetic, Diaphoretic and Expectorant	30 to 40 drops.
Lobelia Seed, Powdered	Emetic and Diaphoretic	5 to 10 grains.
Lobelia Seed, Infusion of	Emetic and Diaphoretic	1 to 2 teaspoonfuls.
Lobelia Seed, Fluid Extract of	Emetic, Diaphoretic and Expectorant	20 to 30 drops.
Lobelia Seed, Tincture of	Emetic, Diaphoretic and Expectorant	½ to 1 teaspoonful.
Lobelia Seed, Syrup of	Expectorant	1 teaspoonful.
May Apple Root, Powdered	Hydragogue, Cathartic and Emetic	15 to 20 grains at bed-time.
May Apple Root, Decoction of	Hydragogue, Cathartic and Emetic	Tablespoonful at bed-time.
May Apple Root, Fluid Extract of	Hydragogue, Cathartic and Emetic	20 to 30 drops at bed-time.
May Apple Root, Solid Extract of	Hydragogue, Cathartic and Emetic	5 to 10 grains at bed-time.
Manna	Laxative	1 to 2 drachms before breakfast.
Manna, Syrup of	Laxative	1 to 2 tablespoonfuls before breakfast.
Morphine, Sulphate of	Anodyne and Soporific	⅛ to ¼ grain.
Mustard Seed, Black, Ground	Stimulant, Diuretic and Emetic	½ to 1 teaspoonful.
Mustard Seed, White, Ground	Stimulant, Diuretic and Emetic	½ to 1 teaspoonful.
Mustard Plaster	Rubefacient and Vesicant	Applied externally.
Nux Vomica, Tincture of	Ec., Stimulant, Tonic and Diuretic	15 to 20 drops 3 times a day.
Nux Vomica, Fluid Extract of	Ec., Stimulant, Tonic and Diuretic	3 to 5 drops 2 or 3 times a day.
Nux Vomica, Solid Extract of	Ec., Stimulant, Tonic and Diuretic	1 grain 3 times a day.
Opium, Powdered	Narcotic and Stimulant	1 grain at bed-time.
Opium, Tincture of (See Laudanum)		
Opium, Camphorated, Tincture of (See Paregoric)		
Orange Peel, Tincture of	Tonic and Carminative	Teaspoonful 3 times a day.
Paregoric	Anodyne	½ to 2 teaspoonfuls.
Peppermint, Infusion of	Stimulant and Carminative	Wineglassful 2 or 3 times a day.
Peruvian Bark, Powdered	Tonic and Febrifuge	1 drachm 2 or 3 times a day.

COMMON NAMES.	PROPERTIES.	DOSES.
Peruvian Bark, Decoction of	Tonic and Febrifuge	Wineglassful 3 or 4 times a day.
Peruvian Bark, Fluid Extract of	Tonic and Febrifuge	50 to 60 drops 3 times a day.
Peruvian Bark, Solid Extract of	Tonic and Febrifuge	10 to 20 grains 2 or 3 times a day.
Peruvian Bark, Tincture of (Huxhams)	Tonic and Febrifuge	Tablespoonful 3 or 4 times a day.
Piperine (Active Principle of Black Pepper)	Tonic and Stimulant	1 to 3 grains.
Pink Root, Infusion of	Anthelmintic	Tablespoonful before meals.
Pink Root, Fluid Extract of	Anthelmintic	½ to 1 teaspoonful before meals.
Pink Root and Senna, Fluid Extract of	Anthelmintic and Purgative	Teaspoonful before meals.
Podophyllin (Active Principle of May Apple)	Drastic and Purgative	1 to 3 grains at bed-time.
Quassia, Infusion of	Bitter Tonic	Tablespoonful after meals.
Quassia, Tincture of	Bitter Tonic	Teaspoonful after meals.
Rhubarb, Powdered	Cathartic and Astringent	20 to 30 grains.
Rhubarb, Tincture of	Cathartic and Astringent	1 to 2 teaspoonfuls.
Rhubarb, Fluid Extract of	Cathartic and Astringent	25 to 40 drops.
Rhubarb, Syrup of	Cathartic and Astringent	2 to 3 teaspoonfuls.
Sarsaparilla, Decoction of	Alterative	Teacupful 3 times a day.
Sarsaparilla, Fluid Extract of	Alterative	Teaspoonful 3 times a day.
Sarsaparilla, Compound Syrup of	Alterative	Tablespoonful 4 times a day.
Scammony, Powdered	Cathartic	10 to 15 grains at bed-time.
Skull-cap, Infusion of	Nervine, Sudorific and Diuretic	Wineglassful every 3 or 4 hours.
Skull-cap, Fluid Extract of	Nervine, Sudorific and Diuretic	Teaspoonful every 3 or 4 hours.
Scutellarin (Active Principle of Skull-cap)	Nervine, Sudorific and Diuretic	1 to 3 grains.
Senega Snake Root, Decoction of	Expectorant, Stimulant and Diuretic	Tablespoonful.
Senega Snake Root, Fluid Extract of	Expectorant, Stimulant and Diuretic	20 to 30 drops.
Senega Snake Root, Syrup of	Expectorant, Stimulant and Diuretic	1 to 2 teaspoonfuls.
Senna, Decoction of	Cathartic	1 to 2 tablespoonfuls.
Senna, Fluid Extract of	Cathartic	1 to 2 teaspoonfuls.
Stramonium Leaves, Tincture of	Narcotic, Sedative and Anti-spasmodic	20 to 30 drops 2 or 3 times a day.
Stramonium Leaves, Ointment of	Sedative	Applied externally.
Stramonium Leaves, Extract of	Narcotic and Sedative	1 grain 2 or 3 times a day.
Thyme, Infusion of	Aromatic and Stomachic	Wineglassful.
Thyme, Fomentation of	Sedative	Applied externally.
Thorn Apple (See Stramonium)		
Uva Ursi Leaves, Decoction of	Tonic and Diuretic	Wineglassful 3 or 4 times a day.
Uva Ursi Leaves, Fluid Extract of	Tonic and Diuretic	Teaspoonful 3 or 4 times a day.
Veratrum Viride, Fluid Extract of	Arterial Sedative	5 to 6 drops every 3 hours.
Veratrum Viride, Norwood's Tincture of	Arterial Sedative	6 to 10 drops every 3 hours.
Wild Cherry Bark, Cold Infusion of	Tonic, Astringent and Sedative	Tablespoonful 3 or 4 times a day.
Wild Cherry Bark, Fluid Extract of	Tonic, Astringent and Sedative	30 to 40 drops 3 times a day.
Wild Cherry Bark, Syrup of	Sedative	Tablespoonful 3 times a day.
White Mustard Seed (See Mustard Seed)		

SECOND CLASS—MINERAL SUBSTANCES.

COMMON NAMES.	PROPERTIES.	DOSES.
Antimonial Wine	Emetic	2 to 3 drachms.
Antimonial Powder, (James')	Sudorific	3 to 5 grains.
Arsenic, Donovan's Compound Solution of	Alterative	5 to 15 drops 3 times a day.
Arsenic, Fowler's Solution of	Alterative and Febrifuge	2 to 10 drops up to a drachm 3 times a day.
Bismuth, Subnitrate of	Anti-spasmodic, Absorbative, Sedative	5 grains twice a day.
Blue Vitriol	Emetic	1 to 3 grains.
Blue Vitriol	Lotion	3 or 4 grains in 1 ounce of Water for external use.
Blue Mass Pills	Alterative and Sialogogue	1, 2, or 3 pills (5 grains each).
Calomel	Alterative	½ to 1 grain every second night.
Calomel	Purgative	⅛ to 10 grains.
Corrosive Sublimate	Anti-syphilitic	$\frac{1}{80}$ to $\frac{1}{12}$ grain 2 or 3 times a day.

COMMON NAMES.	PROPERTIES.	DOSES.
Iodine, Tincture of	Counter Irritant	Applied to Inflammations.
Iodine, Ointment of	Discutient	Applied to Scrofulous Tumors, etc.
Iron, Bromide of	Anti-scorbutic and Uterine	½ to 2 grains.
Iron, Carbonate (Rust) of	Tonic and Chalybeate	5 to 20 grains.
Iron, Citrate of	Tonic and Chalybeate	5 grains in Water 3 times a day.
Iron, Persulphate (Solution) of	Styptic	Applied externally to stop Bleeding, etc.
Iron, Persulphate Hydrogen	Tonic and Chalybeate	3 to 6 grains.
Iron, Prussiate of	Tonic and Febrifuge	3 to 5 grains 3 times a day.
Iron, Phosphate of	Tonic and Chalybeate	5 to 10 grains.
Iron, Pyrophosphate of	Tonic and Chalybeate	1 to 2 grains.
Iron, Syrup of Iodide of	Tonic, Alterative and Diuretic	20 to 30 drops twice a day.
Iron, Sulphate of	Tonic and Astringent	1 to 2 grains.
Iron, Tincture Muriate of	Tonic and Chalybeate	10 to 30 drops.
Kermes Mineral	Diaphoretic and Diuretic	1 grain.
Lead, Acetate (Sugar) of	Astringent and Sedative	1 to 3 grains every 3 or 4 hours.
Lead, Acetate (Sugar) of	Astringent and Anodyne Lotion	3 or 4 grains in 1 ounce of Water.
Lead, Goulard's Extract of	Sedative and Anodyne	1 ounce, diluted with 1 pint of Water, applied externally to reduce Inflammation.
Lead, Goulard's Cerate of	Sedative and Anodyne	Applied to Inflammed parts.
Mercury, with Chalk	Alterative	10 grains.
Mercury, Proto-iodide of	Alterative and Anti-syphilitic	½ to 1 grain twice a day.
Mercury, Deuto-iodide of	Alterative and Anti-syphilitic	$\frac{1}{18}$ to $\frac{1}{12}$ grain twice a day.
Mercury, Red Precipitate Ointment	Stimulant	Applied externally.
Mercurial Ointment (Blue)	Resolvent	Applied externally.
Nitrate of Silver (Crystals)	Astringent and Anti-spasmodic	¼ to ½ grain 2 or 3 times a day.
Nitrate of Silver, Mild Solution of	Stimulant and Detergent	Applied externally.
Nitrate of Silver, Lunar Caustic (Sticks)	Escharotic	Applied externally.
Potassium, Bromide of	Anti-scorbutic	4 to 10 grains.
Potassium, Iodide of	Alterative and Anti-syphilitic	2 to 10 grains 3 times a day.
Zinc, Acetate of	Astringent Lotion	30 to 60 grains in a pint of Water.
Zinc, Sulphate of	Emetic	20 to 60 grains.
Zinc, Sulphate of	Astringent Lotion	30 to 60 grains in a pint of Water.
Zinc, Valerianate of	Tonic and Anti-spasmodic	1 to 2 grains 3 or 4 times a day.

THIRD CLASS—SALINE AND EARTHY SUBSTANCES.

COMMON NAMES.	PROPERTIES.	DOSES.
Alum, Powdered	Astringent	3 to 10 grains.
Alum, Burned	Escharotic	5 to 10 grains, moistened with Water and applied externally.
Ammonia, Carbonate of	Stimulant	5 to 6 grains every 3 or 4 hours.
Ammonia, Muriate (Sal Ammoniac)	Stimulant	10 to 20 grains.
Ammonia, Water of (Spirits of Hartshorn)	Stimulant and Caustic	10 to 12 drops diluted with Water.
Ammonia, Aromatic Spirits of	Stimulant	15 to 20 drops diluted with Water.
Ammonia (Volatile) Liniment	Rubefacient	Applied externally.
Borax, Powdered	Nephritic and Detergent	15 to 30 grains.
Chalk, Prepared	Antacid and Astringent	10 to 20 grains in Mucilage.
Chalk Mixture	Antacid and Astringent	2 to 3 teaspoonfuls.
Chemical Food (Compound Syrup Phosphates)	Tonic	1 to 2 teaspoonfuls.
Chloroform	Narcotic and Sedative	30 to 60 drops in Mucilage.
Chloroform	Anæsthetic and Narcotic	As much as is required up to two ounces, inhaled.
Chloroform, Liniment of	Anæsthetic and Anodyne	Applied externally.
Common Salt, (Muriate of Soda)	Tonic and Stimulant	10 to 40 grains.
Cream of Tartar	Aperient and Refrigerant	Teaspoonful in Water.
Epsom Salts	Cathartic	2 to 3 teaspoonfuls before breakfast.
Glauber Salts	Aperient and Cathartic	1 to 2 drachms before breakfast.

COMMON NAMES.	PROPERTIES.	DOSES.
Lime, Hypophosphite of	Prophylactic	2 to 3 grains 3 times a day.
Lime, Hypophosphite of (Compound Syrup)	Prophylactic	1 teaspoonful 3 times a day.
Magnesia, Carbonate	Antacid and Laxative	10 to 30 grains.
Magnesia, Calcined	Antacid and Laxative	10 to 30 grains.
Magnesia, Solution Citrate	Purgative	8 to 12 ounces before breakfast.
Potash, Bicarbonate.	Antacid and Diuretic	10 to 30 grains.
Potash, Chlorate	Prophylactic	10 to 15 grains dissolved in Water.
Potash, Chlorate, Solution	Gargle or Wash.	1 to 3 drachms dissolved in 1 pint of Water.
Potash, Citrate	Refrigerant and Diaphoretic	20 to 25 grains.
Potash, Nitrate (Saltpeter).	Refrigerant and Diaphoretic	8 to 12 grains.
Potash, Prussiate	Anodyne and Sedative	10 to 15 grains in Water every 5 or 6 hours.
Rochelle Salts	Aperient	2 to 3 drachms before breakfast.
Soda, Bicarbonate.	Antacid	15 to 20 grains.
Seidlitz Powders	Aperient	1 powder before breakfast.
Spirits Mindererus	Diaphoretic and Diuretic	2 to 3 teaspoonfuls.
Sweet Spirits Niter	Diuretic, Diaphoretic and Febrifuge	20 to 60 drops.

DECOCTIONS.

DECOCTIONS are prepared by adding 1½ pints of Water to about 1 ounce of the vegetable and boiling down to 1 pint, and straining through linen.

INFUSIONS.

INFUSIONS are prepared by adding 1 pint of *Boiling Water* to 1 ounce of the vegetable, and allowing to macerate two or three hours in a covered vessel, then straining.

For Cold Infusions (such as Wild Cherry), use Cold Water.

SYRUPS.

SYRUPS may be prepared by adding 2 pounds of White Sugar to 1 pint of Infusion or Decoction, and dissolving by the aid of heat.

MEDICAL FLORA; or, VEGETABLE MATERIA MEDICA.

Aconite—(*Aconitum Napellus*), *Wolf's Bane, Monk's Hood.*—This is a narcotic poison, but, like many other narcotic vegetables, may often be employed to advantage as medicine, if used with care and in a proper manner. The root is said to be the most powerful part, but the leaves are also used.

MEDICAL PROPERTIES AND USES.—Aconite is mostly used in the form of a tincture, made by adding 1 ounce of the root or herb to 6 ounces of Alcohol, and letting it digest for two weeks; though it is also used in substance, and in the form of an Alcoholic Extract. It is by many considered a valuable remedy in Fevers and Inflammations of a high grade, in Nervous and Neuralgic Affections, and in Inflammatory Rheumatism and Gout. It is probably more beneficial in cases of Inflammatory and high Fevers than in any other complaints. Dose: to a grown person, from six to ten drops of the tincture three or four times a day, in a little water. It should not be continued more than two or three days at a time, unless given in much smaller doses. Add one drop of the tincture to an ordinary glass tumblerful of clean, pure water, and give a teaspoonful of this every one, two, or three hours.

ACONITE.

Allspice—(*Myrtus Pimenta*).—Allspice, which is a common article in almost every family, is the berries of a small tree that grows in Mexico, Jamaica and other parts of the West Indies, and in South America. The tree is an evergreen, and grows to the height of twenty or thirty feet. Most of the Allspice in this country comes from the Island of Jamaica. The berries are gathered a little while before they are ripe, carefully dried, and then boxed or put into bags, ready to be sent off. The Pimento Berries were supposed to combine the flavor of Cinnamon, Nutmeg and Cloves—hence the name of *Allspice*.

MEDICAL PROPERTIES AND USES.—As a medicine, it is mostly used in cases of Diarrhœa and Summer Complaint. Allspice, ½ ounce (or 2 tablespoonfuls); Cinnamon Bark, ½ ounce; Cloves, ¼ ounce; White Oak Bark, ¼ ounce; bruise all and simmer slowly in 1½ pints of Water, down to ½ pint; strain; then add 4 ounces of Loaf or White Sugar—bring it to the boiling point again to melt the Sugar, and then add half as much good Brandy as there is of the syrup, and it is ready for use. To be given cold, in doses of from a teaspoonful to two tablespoonfuls, according to the age of the patient, and repeated from three to six times a day, according to symptoms.

Aloes—(*Aloe Perfoliata—Aloe Spicata*).—This beautiful and valuable plant, or shrub, is a native of South Africa, where it grows in great abundance, and flowers most part of the year. It is cultivated also in the Islands of Barbadoes and Socotra. The article used as a medicine, usually called Aloes, is in the form of a gum or resin, and is made from the juice which runs from the leaves of the plant, when cut. The manner of obtaining it is to cut the leaves from the plant and place them perpendicularly by the side of each other in a suitable vessel, so as to afford an opportunity for the juice to flow out. It is afterward collected in a large, shallow vessel, and exposed to the rays of the sun, till it evaporates and becomes hard.

MEDICAL PROPERTIES AND USES.—Aloes is more used, perhaps, than any other one article of medicine, and is combined more or less with nearly every patent medicine in the country. It is a stimulating cathartic, acting chiefly upon the

ALOE.

lower and large intestines, it also possesses considerable emmenagogue properties, or acts on the womb, and promotes the Menses, or Courses. With its other powers, it has the property of slightly stimulating the stomach. It is, therefore, in small doses, an excellent remedy in habitual Costiveness, but it is more used to regulate the womb, and bring on a regular flow of Menses, than any other medicine, and enters into every patent medicine sold for this purpose. The medium dose of Aloes is ten grains; but as a laxative, or gentle purge, it will often operate in the quantity of two or three grains; and, when an active impression is required, the dose may be increased to twenty grains. In consequence of its exceedingly bitter taste, it is most conveniently administered in the shape of pills. A good and innocent pill to keep the bowels gently open, is equal quantities of Aloes and Rhubarb, a little Castile Soap, and a few drops of the Oil of Peppermint. Three or four of these pills, taken on going to bed, has a very fine purgative effect, and is valuable to those who are subject to Costiveness. On account of its direct action on the lower bowels or rectum, Aloes should not be

used in case of Piles, or where there is a tendency to that painful affection. But in all affections of the Stomach, Liver, Womb, habitual Costiveness, or Headache, it is an invaluable purgative. The dose is from five to fifteen grains, for a grown person, and from one to four grains for a child.

American Sarsaparilla — (*Aralia Nudicaulis*).— The Aralia Nudicaulis, or American Sarsaparilla, is a species of the Spikenard (*Aralia Racemosa*), resembling it somewhat in appearance, but has larger leaves, and does not grow so high. Its height is usually from one to two feet, having a large, long, soft, fleshy, and creeping root (which is the part used), of an aromatic and rather fragrant, balsamic odor, and a sweetish, aromatic taste. It bears two or three bunches of yellowish green flowers, followed by bunches of small berries, somewhat resembling the common Elder Berries. It grows in sandy, rocky, and rich upland soils, in the Northern and Middle States. Not common in the Western States.

Medical Properties and Uses.— It is alterative, and somewhat stimulant, and used in the form of decoction and syrup, as a substitute for the foreign or Smilax Sarsaparilla, and by many is considered fully as good. Useful in constitutional diseases, such as Tuberculosis, Syphilis, Skin Diseases, and wherever an alterative and purifying medicine is needed. May be used either alone, or in combination with other alteratives. Dose of decoction or syrup: half to a wineglassful three times a day.

Anise Seed — (*Pimpinella Anisum*).— The seed of the common Garden Anise.

Medical Properties and Uses.— The seeds are useful in Dyspepsia, and very much used for the Diseases of Children and Infants. For Flatulence, or Wind, Griping and Colicky Pains, etc., an infusion, or tea, made of the seeds, may be given. For Dyspepsia, the Oil dropped on Sugar is preferable. Anise has a fine aromatic smell, and a warm, agreeable, sweetish taste. The Essence of Anise, which is made by adding the Oil to Alcohol, in the proportion of 1 part of the Oil to 8 parts of Alcohol, is often used to flavor, or render more pleasant, other medicines and compounds. Dose: of the Oil, from two to ten drops; Essence, one to two teaspoonfuls. A tea, or infusion of the seeds, which is generally used for children, may be given in doses from a tea to a tablespoonful, or more, and repeated at pleasure. Found in all the drug-stores.

Arnica — (*Arnica Montana*), *Leopard's Bane.*— This is a small plant, of about a foot in height, and is found chiefly in the mountains of Northern Europe, and, for certain valuable purposes, is one of the most important articles in the Materia Medica. The flowers are the part used, and then in the form of tincture, which is made by adding 2 ounces of Flowers to 1 pint of Alcohol, and allowing it to stand two weeks. Arnica is also a poison, and therefore is never to be used in large doses.

Medical Properties and Uses.— It is mostly used as an external remedy, and in cases of Bruises, Contused Wounds, Strains, and the like, Tincture of Arnica is a remedy that every family should keep constantly in the house, and every person traveling should carry a vial of it with him. A little of the Tincture added to Alcohol, in the proportion of 10 drops to 1 ounce of Alcohol, is a splendid application in cases of Rheumatism of the Joints, and in Pains in the Feet or Ankles, caused by walking.

Arrow Root — (*Maranta Arundinacea*).— Arrow Root is an article found in the drug-stores, in the form of starch, and is made from the root of this plant, which grows in the West Indies. It is very good as a diet during recovery from Bowel Complaints, Fevers, and the like, both for grown persons and children.

Arnica.

Asafœtida — (*Ferula Asafœtida*).— This is the most powerful of all the fetid gums. It is obtained from the Asafœtida plant, which is a native of Persia. The drug, or gum, is the inspissated juice, obtained from the plant by scarifying it, and then evaporated in a similar manner to that of the Aloe juice. Asafœtida may be easily distinguished by its strong fetid smell, resembling very much that of Onions. The best article is of a clear, pale reddish color, variegated with numerous white specks.

Medical Properties and Uses.— Asafœtida is a most valuable remedy in many cases — especially in Hysterics, Flatulent Colics, and Nervous Affections. When used as an anti-spasmodic, it should be given in the form of a tincture, from one to two teaspoonfuls at a dose, for a grown person. In other cases, it is mostly used in the form of pills. Dose: from five to ten grains, and sometimes more.

Balsam of Copaiba.— Balsam of Copaiba is a light yellowish-colored fluid, about the consistence of fresh honey, and is obtained, like the other balsams, from a large tree growing in South America, especially in Brazil, and also in some of the West India Islands, called the Copaifera-tree.

Medical Properties and Uses.— Balsam Copaiba is mostly used for its diuretic properties, and its specific action on the mucous tissues of the Urinary Organs. It is also stimulant and slightly cathartic. It produces a sensation of heat in the throat and stomach when swallowed, and in large doses, acts as an Irritant. It is used mostly in Chronic Mucous Affections, as Chronic Gonorrhœa, Gleet, Leucorrhœa, Chronic Dysentery, Irritation of the Bladder, and in Chronic Bronchitis. It is an important ingredient in most of the compounds and recipes for Gonorrhœa, being usually combined with such articles as Sweet Spirits of Niter, Oil of Almonds, and Spirits of Turpentine, in about equal parts, and taken in teaspoonful doses three or four times a day. Balsam Copaiba is often a most effectual remedy for females in Leucorrhœa, or the Whites. Dose of the Balsam: from ten to thirty drops two or three times a day.

Balsam of Peru.—Is the resinous juice obtained from a large tree which grows in Peru and other parts of South America, and may be found in the drug-store.

MEDICAL PROPERTIES AND USES.—It is used mostly in Chronic Affections of the Lungs, in Coughs of long standing, in Gonorrhœa, Gleet, Leucorrhœa, and Chronic Mucous Inflammations of the Stomach and Bowels. It is also applied externally to old Sores, Wounds that do not heal readily, and, in the form of an Ointment, made by melting with it an equal quantity of Tallow, to Ringworm, Scald-head, and the like. The dose is from ten to thirty drops, to be taken the same as Balsam of Fir, or may be given, especially for Coughs and Lung Affections, in a little Solution of Gum Arabic.

Balsam of Tolu.—This is an article obtained from a tree found also in some parts of South America, and may be found in all the drug-stores, in substance, in tincture, and in syrup.

MEDICAL PROPERTIES AND USES.—Balsam of Tolu is useful in Chronic Catarrhs, or Colds and Coughs, and all chronic or long standing affections of the Lungs, Bronchitis, and the like. When combined with other articles, as a Cough Medicine, such as Syrup of Squills, it may be in equal proportions—say 1 ounce of each. The dose of the compound would be one teaspoonful once every hour or two. The dose of the Balsam alone is from ten to twenty grains. It is seldom used alone.

Belladonna—(*Atropa Belladonna*).—Known also as Deadly Nightshade.

MEDICAL PROPERTIES AND USES.—Belladonna is a narcotic poison; and when taken in large doses, it exerts a powerful influence upon the brain and nervous system, producing a dilatation or an enlarging of the Pupils of the Eyes, tending to Dimness of Sight, Vertigo, Deafness, Confusion of Mind, with Thirst, Dryness of the Mouth and Throat, Difficulty of Swallowing, Sickness at the Stomach, and often a sort of Eruption on the Skin, like the Measles; and in excessive doses, Delirium. It is a valuable medicine, when used carefully, and in proper doses. In cases of Spasms, Convulsions, Epilepsy, Neuralgia, Mania, Night Sweats of Consumption, Palsy, Gout, Rheumatism, Painful Menstruation, Amaurosis, and all Nervous Affections, it is often used with great advantage. It is mostly used in the form of an extract, which can always be had in the drug-stores. Dose of the powdered leaves: from one to three grains; of the extract, from half a grain to two grains—once or twice a day. The dose may be gradually increased each day, till double the quantity or more can be taken with safety; but it should always be used with caution, and the symptoms carefully watched. *Atropine* is the active principle of Belladonna; it is a powerful drug, given in doses of from 1-150 to 1-100 of a grain. It is often combined with Morphine to overcome the binding action of the latter upon the bowels. Atropine is used for all the purposes that Belladonna is used for. It is sometimes administered hypodermically, and is a direct antidote to Opium and Morphine.

BELLADONNA.

Black Pepper—(*Piper Nigrum*).—Black Pepper is the product of a vine or creeping plant, which grows in the East Indies, and is cultivated in Sumatra, Java, Borneo, the Philippines, and other neighboring islands. The supplies for the United States are chiefly derived from Sumatra. This article is so common on our tables that a further description is unnecessary.

MEDICAL PROPERTIES AND USES.—Black Pepper is stimulant, tonic, and astringent. It yields its virtues partially to Water, and entirely to Alcohol, or Spirits, and may be used as a substitute for Cayenne, when that article cannot be obtained. In Flatulence, Indigestion, Nausea, or Sickness of the Stomach, and Want of Appetite, it may be usefully employed.

Buchu Leaves—(*Diosma Crenata*).—These are the leaves of a small shrub, a native of the southern part of Africa. The leaves are the parts used, and may always be found in drug-stores.

MEDICAL PROPERTIES AND USES.—Buchu is mainly used for its diuretic properties, that is, for its favorable action on the Urinary organs. It is also somewhat stimulant and tonic, as well as anti-spasmodic. It is a useful medicine in all cases of Inflammation or Irritation of the Kidneys, Bladder, or Urethra; in the disease known as Gravel, and in cases where there is an excess of what is known as Uric Acid, which forms in the Urinary organs, and often leads to Gravel. It is good where there is a deficiency, also, of the secretion of urine, or any difficulty in passing it. The best way to use this article is in infusion or tea. One-half ounce of the leaves to 1 ounce may be added to 1 pint of Boiling Water, and after steeping a few minutes, may be taken in broken doses, or say half a teacupful at a time, so as to take the pint during the day, and may be repeated for two or three days, if necessary. In tincture, the dose is from one to two teaspoonfuls, three or four times a day.

Burgundy Pitch.—This is the concrete juice or turpentine, hardened and purified, which runs from the Norway Pine (*Abies Excelsa*), called also Norway Spruce Fir. A pure article, it is believed, is seldom met with in this country.

FRANKINCENSE.—The resinous exudation which runs from this tree, and forms in concrete *tears* or *lumps*, as you often see upon the Wild Cherry-tree and Peach-tree, is the Frankincense of commerce, and the same, no doubt, as that spoken of in the Scriptures, as one of the precious gums. It is mostly valued for its agreeable odor when burned.

MEDICAL PROPERTIES AND USES.—Burgundy Pitch is used mostly as a plaster, or an ingredient in plasters. It is good for Pains, Rheumatic Swelling of the Joints, Pains in the Chest; and in Whooping-cough, it is very good applied over the breast and stomach of children. To form a plaster, it is to be melted and spread thin on soft, thin leather, and as it cools, thin, smooth, and spread it out with the warm blade of a case-knife, or spatula. To derive any decided effect from these plasters, they should be made large, so as to cover the breast, back, stomach, abdomen, side, or whatever part they may be applied to. A small Pitch Plaster is of but little account. They are to be worn for several days at a time—or as long as they will stick.

Butternut—(*Juglans Cinerea*).—Known everywhere as the White Walnut. The inner bark of the tree is the part used, and is an excellent cathartic or purgative, mild, yet efficient, and leaving the bowels in a healthy condition. During the Revolutionary War, it was used extensively by the army physicians as a substitute for other cathartics. The way to use it is to boil down a lot of the bark, and reduce it to a thick, soft extract, and then make into pills for use, by mixing, if necessary, a little of any kind of powder that would be suitable to thicken or harden it sufficiently, as powdered May Apple Root, or even Flour will do. Dose: as a purgative, three or four ordinary-sized pills; as a laxative, in Costiveness and Dyspepsia, one or two pills a day. It is one of the safest and best purgative medicines known.

Camphor—(*Camphora*).—Camphor is a peculiar gum, or concrete substance obtained from an evergreen tree, called the Laurus Camphora, a native of China, Japan, and the East Indies. The Camphor of this country is mainly brought from the city of Canton, in China, and generally in a crude state, having to be purified before it is fit for use. The Camphor tree is highly aromatic, all parts of it yielding Camphor, the grains of the gum being found lodged in all the cracks and vacant places in the tree.

Medical Properties and Uses.—Camphor, in moderate doses, is sedative, anodyne, diaphoretic, and anti-spasmodic. In overdoses, it is an irritant narcotic. It is also a stimulant to the Nervous System, and in Wakefulness, Delirium, and those sudden jerkings and startings in low stages of Typhoid Fevers, it is a valuable remedy. Camphor has a strong, invigorating smell, and a hot, acrid taste. It is exceedingly volatile, and by exposure to the air soon loses its virtues. The Spirit or Tincture of Camphor is made by adding 1 ounce of the Gum to 1 pint of good Spirits. Camphor is very vivifying. The smell of it will relieve Faintness; and when taken into the stomach, in the dose of eight or ten grains, it restores the powers of life. In Spasms, Convulsions, Hysterics, and Nervous Affections Camphor is a powerful sedative. In these diseases, it should be given in a dose of ten grains every three or four hours. In small doses, in such cases, it has but little effect. Camphor is given in Typhoid Fever, and in all diseases of Debility, to support the powers of life. Taken in the ordinary dose of ten grains, repeated every two or three hours, it will cure the most obstinate Headache. The Tincture of Camphor is an excellent application to rub on the parts affected in Pains and Soreness of the Flesh and Bones. Applied to an Inflammation upon the surface of the body it will resolve it, in many instances, better than any other medicine. It enters into many of the embrocations and liniments for Pains, Rheumatism, and the like, as well as into some valuable compounds for internal use. Spirits of Camphor is an article that should always be kept in the house. Gum Camphor, rubbed with an equal amount of Chloral, forms a thick liquid, which is a good liniment.

Caraway Seeds—(*Carum Carvi*).—Caraway is a garden plant, common to most of our gardens.

Medical Properties and Uses.—Caraway Seeds are excellent for flatulent Colic of children, in the form of an infusion. They are also used to correct or improve the taste of other less agreeable medicines. They also stimulate the Digestive Organs. The Oil of Caraway (*Oleum Carui*) is also used for the same purpose. Dose: of the seeds, in powder, the same as Cardamom Seeds; of the oil, from two to ten drops, according to age, on a little Sugar; or for nursing infants, one drop on a little Breast Milk.

Cardamom Seeds—(*Alpinia Cardamomum*).—Cardamom Seeds are obtained from a plant or shrub, which grows from six to ten feet high and is a native of Malabar, a country on the west coast of British India. They possess a fragrant odor, and warm, pungent, aromatic, and pleasant taste. May be found generally in the drug-stores.

Medical Properties and Uses.—Cardamom Seeds promote the process of Digestion and strengthen the Stomach. They are chiefly used for Flatulency, or Wind Colic, either in infusion, tincture, or in substance. They are also used along with other medicines and compounds to render them more agreeable to the taste. They are often chewed for their pleasant taste and odor, and to destroy a bad breath. Dose: of the powdered seed, from twenty grains to a drachm, and of the tincture, from one to two or three teaspoonfuls.

Castor Oil—(*Oleum Ricini*).—This is an oil made from the seeds or beans of a large, rank herb called the *Ricinus Communis*—known most commonly as the Castor-bean. It is a native of India, but is extensively cultivated in this country. Castor Oil is to be found in all the drug-stores, and is too common to need a description.

Medical Properties and Uses.—Castor Oil is a simple, mild, but certain cathartic, and may be given to persons of all ages and conditions. It is a very valuable cathartic, because of the mildness of its action, being suited to infants, delicate females (especially during Pregnancy), and to certain conditions of the patient, where more active or drastic purgatives would be injurious, such as in Piles, Rupture, Inflammation of the Bowels, advanced stages of Dysentery, and the like. Dose: for a grown person, about 1 ounce, or two to three tablespoonfuls; for an infant, from one to two teaspoonfuls; three parts Castor Oil and 1 part Oil or Spirits of Turpentine, given in tablespoonful doses, every three to six hours, is an excellent remedy in Dysentery or Bloody Flux.

Catechu—(*Acacia Catechu*).—This gum is obtained from a small tree (the *Acacia Catechu*) which grows in the East Indies, especially in Hindustan. The extract will dissolve readily in Hot Water, and in Alcohol or Spirits. It may be found in any of the drug-stores.

Medical Properties and Uses.—Catechu is a pure and very powerful astringent, and is mostly used on that account. It is a good remedy in Chronic Diarrhœa, and copious Watery Discharges from the Bowels. On account of its powerful astringent properties it is used as a local application, to dry up the Ulcers of Aphthous Sore Mouth, and for contracting the uvula or palate when it becomes elongated, or is "down." For these purposes, it may be applied in strong solution. It is good to harden the gums, when they become soft or spongy; also good to apply in strong solution or tincture to old, indolent, and foul Ulcers. An infusion is also good snuffed up the nose, to stop Bleeding at the Nose. In all cases where a pure and powerful astringent is wanted, Catechu may be relied upon, in almost any form. Dose: of the powder, from ten to thirty grains, or half a teaspoonful, repeated every hour or two, according to the urgency of the case; of the tincture, from a tea to a tablespoonful, repeated frequently.

Cayenne Pepper—(*Capsicum Annuum*).—Cayenne Pepper is said to be a native of South America; it is extensively cultivated in Jamaica, and other West India Islands, and is often to be met with growing in the gardens of this country.

Medical Properties and Uses.—Cayenne is one of the strongest, purest, and best stimulants known; it is also tonic and diaphoretic. It is very important to get the pure article, as there is a vast deal that is adulterated. In the West Indies, particularly at Barbadoes and Jamaica, they use it to help Digestion, in Debility of the Stomach, Colic, Pains of the Womb, obstructed Menstruation, Quincy, all Diseases of the Throat, and Dropsical affections; made into a plaster with Honey, they apply it for Rheumatism, Pain of the Joints, Gout, Swellings, etc. Outwardly, as a liniment, mixed with any kind of oily substance, and applied warm or hot as it can be borne, it is a fine remedy in Rheumatism. I have used the Cayenne gargle with great success in Scarlet Fever. Dr. Stephens asserts that he employed it also in about four hundred cases with surprising success. He also says that the ulcers in the back part of the mouth, soon cast off their sloughs, and began to heal; a genial, pleasant warmth was diffused throughout the system, and the vital powers soon assumed a more healthy condition. It was prepared in the following manner: 3 teaspoonfuls of Common Cayenne Pepper, and 2 teaspoonfuls of fine Salt; mix them together; pour upon them ½ pint of Boiling Water; strain, and add ½ pint of good Vinegar; when cold, give from half to a tablespoonful to a grown person, every half hour, or hour, reducing the dose in proportion to the age, and gargle the throat frequently with it. In sudden colds, a tea made of Cayenne Pepper is an excellent remedy; or one teaspoonful of Cayenne, mixed with Molasses or Honey, and taken in broken doses, is a valuable remedy in Coughs.

Cayenne Pepper.

Charcoal—(*Carbo Ligni*).—Carbo Ligni, or Wood Charcoal, is a valuable medicine in certain cases. The Charcoal of sound, hard wood, such as Hickory, Ash, or Sugar-tree, should always be preferred for medicinal purposes. It can generally be found in the drug-stores, already powdered.

Medical Properties and Uses.—A good antiseptic and absorbent, and highly valuable in Dyspepsia and Sour Stomach, and especially where there is Fetid or Bad Breath. It is also extremely valuable in Chronic Dysentery. Dose: in powder, from one to two or three teaspoonfuls, in a little water, repeated according to the urgency of the case. In Acidity of the Stomach, Sour Belchings, Constipation of the Bowels, and in Nausea and Vomiting attending Pregnancy, from a half to a teaspoonful, once or twice a day, will be found highly beneficial. It is also good externally, applied to foul and gangrenous Ulcers, either by sprinkling it on, or combining it in, poultices. Charcoal is also a good Tooth Powder, and may be used either alone, or in combination with equal parts of powdered Cinchona and Orris Root. A little of this, applied once a day with a brush will keep the teeth white and the gums in a healthy condition.

Cinnamon—(*Laurus Cinnamomum*).—Cinnamon Bark is found in all the drug-stores, and in country stores and groceries. It is the bark from a tree called the *Laurus Cinnamomum*, which grows in some parts of India, and in the islands of Ceylon, Borneo, etc. The bark is stripped from the small limbs and shoots, carefully scraped and dried for exportation. The best Cinnamon comes from Ceylon.

Medical Properties and Uses.—Cinnamon is stimulant, carminative, and astringent. It is an important astringent in Dysentery, Diarrhœa, Summer Complaint, or Cholera Infantum, either alone or in combination with other articles, as Cloves and Allspice, in the form of decoction or syrup. A tea of Cinnamon is good for ordinary Colic, Cramp or Pain in the Stomach, and to check Vomiting and allay Nausea or Sickness at the Stomach. A strong infusion, or the tincture, is often serviceable, given in moderate doses, repeated every ten or fifteen minutes, in checking Hemorrhage from the Uterus, and in severe and painful Menstruation. Dose: of the powder, from ten to thirty grains; of the tincture, from a half to a teaspoonful; of the decoction, from one to two or three tablespoonfuls.

Cloves—(*Caryophyllus*).—Cloves are the dried buds or unexpanded flowers of a beautiful evergreen tree, called the *Eugenia Caryophyllata*, which grows in the East Indies, and other tropical climates, rising to the height of fifteen or twenty feet. The flower-buds are collected during the fall months, before they expand, and carefully dried in the shade. Cloves yield a highly aromatic essential oil, and contain also Tannin, and a resinous gum, which renders them a useful and agreeable astringent.

Medical Properties and Uses.—Cloves are a stimulant and aromatic astringent, and useful to allay Nausea and Vomiting, to relieve Flatulent Colic, to improve Digestion, as a healthy stomachic, and as an astringent; are also valuable as an ingredient in compounds for the cure of Diarrhœa and Dysentery. A little of the powdered Cloves, or of the Oil, is often combined with other medicines to prevent them from griping, or producing sickness of the stomach. Dose: of the powder, from ten to twenty grains; of the oil, from one to five drops.

Colchicum—(*Colchicum Autumnale*).—This is an annual plant, known most commonly by the name of Meadow Saffron, being found in meadows and low rich lands. It is indigenous to Europe, and grows plentifully throughout England. It has a bulbous root, and both the root and seeds are used for medicine. Alcohol, Wine, and Vinegar extract its virtues; and it is most generally used in the form of what is called Wine of Colchicum, or in the Acetic or Vinegar Tincture.

Colchicum.

Medical Properties and Uses.—Colchicum should never be used in large doses, as it acts, in such cases, as an acrid narcotic poison. It is seldom used for its cathartic effects, and never should be, but mainly in small doses for its diuretic and alterative effects, in cases of Rheumatism, Gout, Dropsy, and Palpitation of the

Heart. The Wine of Colchicum is mostly used, and can generally be had at the drug-stores. The dose is from twenty to sixty drops, two or three times a day, and to be continued for several days. You should commence with twenty drops, and increase three or four drops each day, till you reach sixty, or a moderate sized teaspoonful. The Vinegar Tincture is made by adding 1 ounce of the bruised root (or seeds) to 1 pint of good Vinegar, and let stand for two weeks. Dose: the same as the Wine Tincture. Useful in Chronic Rheumatism, Gout, and Dropsy. The dose of the powdered root is one grain, increased gradually up to six or eight grains, three times a day.

Collodion.—This is a thick solution of what is called Gun-cotton (Pyroxyline), made by dissolving it in Ether. It is only used for surgical purposes, that is, for applying to small Wounds, Injuries, and Abrasions of the Skin, Burns, and the like, where it becomes necessary to shield the exposed flesh. It is sometimes called Liquid Cuticle, because, when applied to any part of the surface of the body, as where a bit of skin has been knocked off the back of the hand, fingers, or in case of a Burn, the Ether almost immediately evaporates, leaving a solid, flexible, transparent crust or artificial skin adhering, impervious to air and water, and which will, if the article is good, remain for several days. If the first coating is not thick enough, additional layers can be applied as soon as the previous one has become dry. As fast as one has become broken or worn off, renewed applications should be made, and in this way the injured part may be protected till healed up, and a new skin is formed. It is a very convenient and serviceable article for purposes of this kind. May always be had at the drug-stores, put up in small bottles ready for use.

Colocynth.—This is the fruit of the *Cucumis Colocynthis*—a sort of trailing vine, somewhat resembling the Melon vine.

COLOCYNTH.

It is sometimes called the Bitter Cucumber and Bitter Apple. The fruit is about the size and shape of an ordinary-sized Pomegranate, or Orange, of a yellowish color when ripe. It is a native of Turkey, Western Asia, and some portions of Africa. The inside or pulpy portion is that which is used as medicine, and may generally be found in the drug-stores in a dried condition, of a light grayish color, spongy texture, and about the size of a hen's egg; also in the form of a fine powder.

MEDICAL PROPERTIES AND USES.—Colocynth is a powerful hydragogue cathartic, producing copious watery discharges from the Bowels. It has a tendency to produce severe griping, and in large doses, or if continued too long, will produce inflammation of the mucous coat of the Bowels, and painful, bloody discharges. It should, therefore, be combined with other agents, when given as a cathartic, such as the powder or oil of Cloves, or Peppermint, to prevent griping; and a solution of Gum Arabic or Elm Bark, to prevent its drastic action on the mucous surface of the Bowels. Colocynth is a valuable medicine, however, and among the best cathartics in cases of Dropsy, as it tends to draw off the watery accumulations. It is also a valuable cathartic, especially if combined with a little Podophyllin, or powdered May Apple Root, in cases of Effusion, or Congestion on the Brain, on account of its powerful revulsive effect. In such cases it acts promptly, and generally gives immediate relief. It is good also to rouse the Liver, in cases of congestion or torpor of that organ. Its principal use is in what is called Passive Dropsies, Affections of the Brain, and inactive conditions of the Liver and Digestive organs. It may, however, be used in all cases where a purgative is needed. Dose: of the powder, from five to ten grains; of the extract, and compound extract, from three to six grains.

Colombo African—(*Cocculus Palmatus*).—This species of Colombo, which is that usually found in the drug-stores, is a native of South-eastern Africa, where it grows abundantly, and is called *Kalumb* by the natives.

MEDICAL PROPERTIES AND USES.—It is useful in Dyspepsia and Weak Digestion, in convalescence from Fevers, and in all weak and debilitated conditions of the system. It is also a good tonic in Chronic Diarrhœa and Dysentery. It is said to be very good to counteract the vomiting which troubles some females during Pregnancy. It is used most generally in combination with other tonics and aromatics. Dose: of the powder, from ten to twenty grains; of the tincture, one to two teaspoonfuls; of the infusion or bitters, from a half to a wineglassful, two to three times a day.

Colombo American—(*Frasera Caroliniensis*).—This is the American Colombo, a native of the Western and Southern States.

COLOMBO AMERICAN.

MEDICAL PROPERTIES AND USES.—The Colombo Root, which is the part used, is a simple, mild, but very good tonic. It is most commonly used in the form of Restorative or Tonic Bitters, in combination with other articles, such as Gentian Root, and the like. It may be used in powder, in doses of twenty grains to a teaspoonful, two or three times a day, and in infusion, in doses of a half to a wineglassful three times a day, as a tonic and stomachic.

Conium—(*Conium Maculatum*).—Known as Poison Hemlock and Poison Parsley. This plant is a native of Europe, but is found growing in many parts of the United States.

MEDICAL PROPERTIES AND USES.—The leaves and seeds

are used, but mostly the extract, made from the leaves, and found in drug-stores. Conium is a narcotic poison, and, although a valuable medicine in certain cases, is to be used in

CONIUM.

small doses, and with caution. It acts specially on the Nervous System, quieting the nerves, inducing sleep, and decreasing the action of the heart. It is, therefore, considered a valuable agent in Enlargement of the Heart, in Palpitation, and Inflammation of that organ, by allaying the excitement and reducing the action. It is principally used in cases of excited condition of the Nerves, or increased action of the Heart and Arteries. Dose: of the alcoholic extract, one to two grains, and may be repeated in three to six hours; of the ethereal extract (which is much the best), from one-fourth to half a grain. The common water-extract of this article is of no account. Either the alcoholic or the ethereal extract, or that made of the expressed juice, should be used. They are of a dark, rich green color, and can seldom be had except at first-class drug-stores.

Coriander Seed — (*Coriandrum Sativum*). — Coriander is a small annual plant, a native of Italy and Southern Europe.

MEDICAL PROPERTIES AND USES. — The seeds only are used, and are stimulant, aromatic, and carminative. Used mostly to improve or disguise the taste of other medicines. They are also used by some to season meats, and are very good in Sausages. Dose: from twenty to forty grains, or a teaspoonful of the tincture.

Cotton Plant — (*Gossypium Herbaceum*). — This is a plant which produces the Cotton of Commerce, the great staple of the Southern States, as well as of some other parts of the world.

MEDICAL PROPERTIES AND USES. — The bark of the root is emmenagogue — that is, it promotes the Menses, and will bring them on when they are obstructed. It is also considered a valuable Parturient, to facilitate Parturition or Childbirth; said to be equally as efficient, more reliable, and much safer than Ergot. It will also produce Abortion, and, it is said, was extensively used by the slaves of the South for that purpose. It is used mostly in decoction — about 4 ounces of the bark of the root being boiled in 3 pints of Water down to 1 pint. As an emmenagogue, this quantity should be taken in the course of the day, in divided doses; as a parturient, it may be given in doses of about an ounce, or half a wineglass, every twenty or thirty minutes. It is a good remedy in Dysmenorrhœa, or Painful Menstruation. As an emmenagogue, its use should be continued daily, until the desired effect is produced; and this may often be hastened by taking at night an active cathartic — say three or four pills, composed of 2 parts Aloes and 1 part of Podophyllin, or Extract May Apple Root.

COTTON PLANT.

Croton Oil — (*Oleum Tiglii*). — This oil is imported from the East Indies, where it is made from the seed of a tree called the *Croton Tiglium*. It is the most powerful purgative in use. One drop will operate on the bowels severely in about forty minutes. It has a hot, burning taste, like the juice of Red Pepper; a drop taken upon the tongue will often move the bowels. This is a valuable medicine, and is

CROTON OIL.

used in obstinate obstructions of the Bowels; as in cases of severe Colic, and in cases where all other means have failed to procure a passage from the Bowels. It is a powerful medicine, and should be used with caution. The dose is from one to three drops, on a little Sugar, and may be repeated every two hours till it operates. But in most cases

one dose, even one drop, will be sufficient. On account of the smallness of the dose, it is well adapted to cases where a large dose of medicine cannot be given, or where the patient cannot swallow, as in extreme Coma or Stupor, Mania, and the like. In such cases, a drop or two upon the tongue will generally be sufficient. It is applicable to cases where the Bowels are very torpid and inactive, in comatose conditions, and as a hydragogue cathartic in Dropsy. It is often used externally as a Rubefacient, or to produce Irritation and Vesication, instead of the ordinary Blister Plaster. A few drops rubbed on will be sufficient. It should never be used without a physician's prescription or order.

Cubebs—(*Piper Cubeba*).—Cubebs, which may always be found in the drug-stores, are the berries or fruit of a climbing herb, or vine, which grows wild in the woods of the East

CUBEBS.

Indian Islands. They are also called Java Peppers. The berries are gathered before they are ripe and dried; when they are of a dark color, and about the size of the berries of the common Black Pepper. You will generally find Cubebs in the form of powder in the drug-stores.

MEDICAL PROPERTIES AND USES.—Cubebs are an excellent diuretic; also mildly stimulant, carminative and expectorant. They seem to act specifically on the mucous surfaces, and tend to check mucous discharges, especially from the Urinary Organs; hence they are a great remedy in Gonorrhœa and Gleet, and are often used with benefit in Leucorrhœa or Whites. They speedily moderate the inflammation and discharge in Gonorrhœa, and in a majority of cases will cure it in less time than almost any other remedy. A teaspoonful of the powdered Cubebs, three times a day, in a tumbler of water, is generally sufficient in this disease, at the same time keeping the bowels freely open with Epsom Salts, together with rest, and a very low and cooling diet. In some cases, but there are very few of them, Cubebs occasion a flushing of the face, burning heat in the palms of the hands and soles of the feet; the head and stomach being more or less affected. When this is the case, reduce the dose one-half. This medicine should always be given in half a tumbler of Cold Water, stirred up well to make it mix. Flax-seed Tea, drunk cold through the day, will be found a great assistant in the cure of this disease. In Gleet and the Whites in women, Cubebs will be found highly beneficial, when used with cold Slippery Elm Tea. There is also an Oil of Cubebs, to be had at the drug-stores, which may be given instead of the powder. The dose is from fifteen to thirty drops, three times a day, in a little syrup or mucilage. Also an Extract of Cubebs, which may be used in the form of pills, generally in combination with as much Solidified Copaiba, giving two or three pills three times a day. A little Podophyllin or Extract of May Apple Root, sufficient to act gently on the bowels, will render them still better in Gonorrhœa.

Digitalis—(*Digitalis Purpurea*).—Known also as Fox-glove. It is an elegant plant, growing from two to four feet high, with a spike or top of beautiful bluish-purple flowers. It is a native of the southern portions of Europe, but is cultivated in gardens in this country.

MEDICAL PROPERTIES AND USES.—In large doses, Digitalis is an irritant narcotic poison, and capable of producing Vomiting, Purging, extreme Prostration, slow and feeble Pulse, Delirium, Convulsions, and Death. It must be used with care, if used at all. In moderate or proper doses, such as to bring the system safely under its influence, it increases the flow of urine, reduces the action of the heart to about fifty beats in a minute; attended usually with languor, slight nausea, dull pain in the head, and sometimes giddiness, confusion of the mind, and dimness of sight. When these attendant symptoms appear, the medicine should be discontinued for a few days. Digitalis is given in substance, that is, the powdered leaves, and in tincture. Dose: of the powder, from one to three grains; of the tincture, from ten to fifteen drops. The dose (of either) to be repeated two or three times a day, and should be gradually increased each day till the system is sufficiently brought under its influence. It is a sedative diuretic, and is most serviceable in cases of Hydrothorax, or Dropsy of the Chest, connected with Disease of the Heart or Kidneys. It is also used for Palpitation of the Heart, in severe Inflammatory Fevers, Mania, Epilepsy, and Spasmodic Asthma. It must always be used with great care, and the symptoms closely watched. Whenever its effects begin fully to appear, it should be stopped. In case of an overdose of Digitalis, or too great a sedative effect, the remedy (after giving an emetic, if any of it is supposed to remain in the stomach) is Brandy, Wine, and other stimulants, and the Mustard Drafts to the Stomach, Wrists, and Ankles.

DIGITALIS.

Ergot—(*Secale Cornutum*).—This is simply what is known as Blasted Rye; sometimes called Spurred Rye, from its resemblance to the spur of a cock. It is in grains, usually, as found in the shops, of a dark brown color, hard and brittle, from half an inch to about an inch in length, and about a fourth of an inch in diameter. It may be gathered at any

time in the rye-fields, about harvest time, and can always be found in the drug-stores.

MEDICAL PROPERTIES AND USES.—It is a powerful Parturient and Abortive, and should never be used until the child is expelled, and is then used for the purpose of causing the expulsion of the Placenta, or After-birth, and producing a firm contraction of the uterus, which prevents Hemorrhages; as a rule, it is best not to give the Ergot until the Placenta is also expelled. It should always be given with caution, and the physician or midwife should first be certain that no mechanical obstacle to its use exists, for it generally acts speedily and efficiently. After Delivery, if the Placenta, or After-birth, does not come away, and the uterus seems indisposed to expel it—especially if there is Hemorrhage—it may also be given, and generally with advantage. The way to administer it is to put from one to two teaspoonfuls of the powdered Ergot into a teacupful of Boiling Water, stirring it, and after it has infused for ten or fifteen minutes, give of the infusion tablespoonful doses about every ten minutes, until Labor Pains are induced and the desired effect is produced; or a dose of fifteen to twenty grains may be given at once, first steeped in Hot Water. It acts very promptly, and usually in ten or fifteen minutes. Ergot has also been recommended in cases of Diarrhœa, Dysentery, Gleet, Leucorrhœa, Hysteria, and some other diseases; but it should never be taken by pregnant females, except as a Parturient, as it produces Abortion or Miscarriage at any stage of Pregnancy, especially if continued, or taken in doses of one or two teaspoonfuls.

OIL OF ERGOT.—There is an oil obtained from the Ergot, now considerably in use, and may be used for the same purposes. The dose is from twenty to thirty drops, given in warm Herb Tea, and repeated the same as the infusion, until the desired effect is produced. There are also preparations made so that it can be administered hypodermatically, so as to secure immediate action in case of a bleeding relaxed uterus.

Fennel-seed—(*Feniculum*).—The stock of the common Fennel, or *Feniculum Vulgare*, grows from two to four feet high, and is cultivated in our kitchen gardens. The seeds are used both as medicine, and for flavoring confectioneries and meats.

SWEET FENNEL.—There is a kind called Sweet Fennel, also cultivated in this country, very similar to the common Fennel, except that it is considered sweeter and more agreeable.

MEDICAL PROPERTIES AND USES.—Fennel-seeds have a fragrant, agreeable odor, and warm, sweetish, aromatic taste, and are carminative and stimulant. Used medically to relieve Flatulent colic, Griping, and the like, mostly in children. Also combined with other medicines to render them more agreeable. Used mostly in infusion or warm tea. Dose: of the powdered seed, from ten to thirty grains.

Gamboge—(*Gambogia*).—Gamboge is a sort of resinous gum, hard, brittle, and of a deep yellow or orange color. It is not very well settled as to what it is derived from, but it is supposed to be from a tree (the *Hebradendron Gambogioides*) which grows on the Island of Ceylon. It may always be had at the drug-stores.

MEDICAL PROPERTIES AND USES.—It is a drastic, hydragogue cathartic, acting very powerfully, producing Nausea, Griping, and Copious Watery Discharges from the Bowels—on which latter account it is often used in cases of Dropsy. It is seldom used alone, however, being too drastic and severe. Combined with other purgatives, as Aloes, Podophyllin, Colocynth, and the like, its action is much modified. The dose is from two to six grains, in powder or pills.

GAMBOGE.

Gentian—(*Triosteum Perfoliatum*).—This is a well-known plant, growing wild in most of the States, in dry, rich soils, in the woods, and around the edges of hazel thickets. It is sometimes called Feverwort, Horse Ginseng, and, on account of its berries, Yellow Gentian.

MEDICAL PROPERTIES AND USES.—Gentian Root is an excellent bitter tonic and restorative, laxative, somewhat stimulant, and in large doses cathartic. It is used mostly as bitters, along with other articles, and in the form of extract and pills. Useful in intermittent fevers, especially as a restorative tonic after the Fever and Ague have been broken. The ripe berries also make excellent bitters, tinctured in Whiskey or in Gin. Dose: of the extract, from six to ten grains. Seldom used alone. It is used as a vehicle for most dyspepsia prescriptions, such as the compound tincture of Gentian.

Ginger—(*Zingiber Officinale*).—This is the root of a plant said to be a native of Southern Asia, but is cultivated extensively in both the East and West Indies. It is to be found in all the grocery and drug-stores.

MEDICAL PROPERTIES AND USES.—Ginger is useful in Flatulent Colic, Pains in the Stomach and Bowels, in Weak Digestion, in Colds, in Stoppage of the Menses from taking cold; to be taken freely in warm tea or infusion, generally on going to bed. It is very useful in Diarrhœa and Bowel Complaints, in combination with astringents, especially in Cholera Morbus. A syrup made of Ginger, Rhubarb, and Geranium, is also very good for Summer Complaint. The infusion is made by adding 1 pint of Boiling Water to ½ ounce of the powder, or bruised root. It should never be boiled, as it injures its strength and destroys its aromatic flavor. From a teacupful to half a pint or more of the infusion may be taken at once. Dose: of the powder, from twenty grains to a teaspoonful, owing to the purity and strength of the article.

GINGER SYRUP.—This is made by bruising 2 ounces of Ginger Root, and covering it with 1 pint of Boiling Water; let stand twenty-four hours, then strain, and add 2 pounds of White Sugar and dissolve with a gentle heat, so as to form a syrup. It is used to give a pleasant flavor to Drinks, and also to destroy the taste of unpleasant Medicines.

GINGER BEER.—Popularly known as Ginger Pop. Take of White Sugar, 2 pounds; Cream of Tartar, 2 ounces; bruised Ginger Root, 2 ounces; add two gallons of Boiling Water and 1 teacupful of Hop Yeast; let stand twenty-four hours, and then bottle for use.

Golden Seal—(*Hydrastis Canadensis*).—Called also Yellow Root and Yellow Puccoon.

GOLDEN SEAL.

MEDICAL PROPERTIES AND USES. — Golden Seal is a pure and very excellent tonic. It is not only a powerful tonic and restorative, but exerts an especial and healthy influence on the Mucous Tissues — is extremely valuable in Aphthous and other kinds of Sore Mouth, in Ulcerations of the Stomach and Bowels, in Chronic Dyspepsia. Dose: of the powder, from ten to twenty grains, once or twice a day; of the tincture, one to two teaspoonfuls; and may be used freely in Bitters, along with other bitter tonics.

HYDRASTIN. — This is the concentrated preparation made from the Golden Seal. It is in the form of a fine, crystalline yellow powder, and can generally be found at the drug-stores. Dose: from half a grain to one or two grains. Used for the same purposes as the root, and especially in combination with Quinine in the treatment of Bilious and Intermittent Fevers, or with Leptandrin in Chronic Dysentery, or Flux.

Gum Arabic. — *Acacia Arabica* is the name of a small tree, growing in Arabia and other parts of Asia, from which the article known as Gum Arabic is obtained, and is to be found in all the drug-stores. It dissolves readily in cold or warm water, but much quicker in warm, forming a mucilage, more or less thick, according to the quantity used.

MEDICAL PROPERTIES AND USES. — Gum Arabic is a nutritious, innocent, and excellent demulcent; valuable in all irritations and inflammations of Mucous Surfaces, Bowels, and Urinary passages. Also good in Coughs, Hoarseness, and affections of the Bronchial Tubes. It is especially serviceable in irritating and inflammatory Diarrhœa and Dysentery, and in inflammation of the Bladder, Strangury, Gonorrhœa, and Tenesmus. It is to be given in mucilage, and can be taken freely. Take 1 or 2 ounces of the gum, dissolve in 1 pint of Boiling Water, stir occasionally, and take at pleasure, cold. It will dissolve much quicker if powered. The mucilage is often mixed with other medicines, especially with Cough Mixtures; and is often used in the manufacture of pills, to make the mass harden and stick together better.

Gum Guaiac — (*Guaiaci Resina*). — This is a gum resin, or concrete juice, obtained from a tree called *Guaiacum Officinale*, but more commonly, perhaps, *Lignum Vitæ*, which grows in the West Indies, especially in Hayti and Jamaica. It is found in the drug-stores, in hard, black or dark greenish lumps, or large cakes; is brittle, easily pulverized, and readily dissolved in Alcohol or Spirits.

MEDICAL PROPERTIES AND USES. — Guaiac is a great Rheumatic remedy. It is a hot stimulant, something like Cayenne; opens the pores, increases the flow of urine, and warms up the system generally. It is usually taken in tincture, in doses of one to three or four teaspoonfuls, two or three times a day. A very good way to use it for Rheumatism, is in the form of bitters — that is, say 1 ounce of the gum, powdered, put into 1 quart of good, old Rye Whiskey, and taken in ordinary-sized doses, three or four times a day. The dose of the powder is from five to twenty grains.

Gum Myrrh — (*Balsamadendron Myrrha*). — This is a resinous gum, brought from the East Indies, and is obtained from a small, shrubby tree, growing in the countries about the Red Sea.

MEDICAL PROPERTIES AND USES. — It is a tonic, emmenagogue, and powerful antiseptic, as well as somewhat stimulant and expectorant. It is valuable in Malignant Fevers and conditions of the system, and in all cases where there is a tendency to Gangrene. It is also a valuable tonic emmenagogue, or for stoppage of the Menses, especially in what is called Chlorosis or Green Sickness — a disease which afflicts young females, on account of the stoppage or imperfect development of the Menses. In such cases it is generally combined with other articles, as Aloes and Carbonate of Iron, or Muriated Tincture of Iron; but it is good alone. Generally given in tincture, which is made by putting from 2 to 4 ounces of the gum, powdered, into 1 quart of good Spirits. Dose: from one to three teaspoonfuls, three times a day. Dose of the powder: ten to twenty grains. It is highly valuable as a local application in all spongy and gangrenous conditions of the Flesh, in Bleeding Gums, Aphthous Sore Mouth, Gangrenous Ulcers, and in Wounds and Injuries where there is danger of Gangrene — as a wash, or mixed in a poultice. Tincture of Myrrh and Aloes is one of the best applications in the world for fresh Cuts and Wounds.

Hops — (*Humulus Lupulus*). — The Hop plant, or vine, is well known, being more or less cultivated in all parts of the country.

MEDICAL PROPERTIES AND USES. — Hops are tonic, sedative, and nervine, and when applied externally, exert a very soothing influence. They are often used as a fomentation; that is, boiled in Water and Vinegar, either alone or with other Bitter Herbs, and applied as warm as can be borne to the stomach, abdomen, or other parts of the body to relieve Internal Pain and Inflammation, and are extremely good for such purposes. A pillow stuffed with Hops, it is said, will induce sleep, when other things fail. The Tincture of Hops, or of Lupuline (which is the fine yellow, granular powder, contained within the leaves or scales of the Hop-heads), is an excellent anodyne, preferable to Opium in many cases, and is said to be extremely valuable to relieve After-pains, in Childbirth; and in Wakefulness, Nervous Inquietude, Anxiety, Delirium Tremens, and the like, because it may be taken freely without injuring the stomach, or producing Constipation of the Bowels. A strong tea or infusion might be used instead of the tincture. The tincture of Hops (or Lupuline) may be given in doses of two to four or five teaspoonfuls, and the tea in ordinary quantities.

HYOSCYAMUS.

Hyoscyamus — (*Hyoscyamus Niger*). — Called also Black Henbane. It is generally used in the form of extract, which can always be had at a drug-store.

MEDICAL PROPERTIES AND USES.—It is one of the narcotic poisons, and when used at all must be used with caution. In proper doses, it is anodyne and anti-spasmodic, and is given to relieve pain, to quiet nervous excitement, induce sleep, overcome spasms, and the like, being preferable to Opium in cases where you wish to avoid constipating the bowels, as it has rather a laxative effect than otherwise. It generally agrees with the stomach better than Opium. It is applicable in Neuralgia, Rheumatism, Nervous Coughs of long standing, Spasmodic Affections, and irritable and inflamed conditions of the Urinary Organs. Dose: of the powdered leaves, five to ten grains; of the tincture, from thirty to sixty drops, or a teaspoonful; of the alcoholic extract, from one to three grains, which may be increased gradually up to ten grains.

Iceland Moss — (*Cetraria Islandica*).— This is a small plant, only growing one or two inches high — a sort of Moss, of a grayish or light brown color — a native of Iceland, and some of the more Northern countries of Europe. It may also be found in our drug-stores.

MEDICAL PROPERTIES AND USES.— It is a tonic demulcent, and also nutritious. As a demulcent and soothing remedy, it is given in Coughs, Bronchial Affections, and Consumption; and, in low and exhausted conditions of the system, it is valuable also as a nutriment. It is good in Dyspepsia, on account of its tonic properties. The way to use it is in mucilage, which is made by covering a handful of the Moss with from 1 pint to 1 quart of Boiling Water; let stand two or three hours; then strain, and sweeten with honey or molasses, adding a little Lemon Juice, if you like, and a bit of the Lemon Peel — to be used freely, at pleasure.

Indian Hemp — (*Apocynum Cannabinum*).— This is one of several species of plants called Indian Hemp.

MEDICAL PROPERTIES AND USES.— It is diuretic, cathartic, emetic, and diaphoretic. It is seldom, however, used as an emetic, but mostly for its diuretic and cathartic effects, in Dropsies, in which it is a most admirable remedy. It acts as a hydragogue cathartic, producing copious watery stools, and also greatly increases the secretion of the Kidneys, and a flow of Urine. The best way to use it for these purposes, is in the form of a decoction. One ounce of the powdered or bruised (dry) root may be steeped for an hour or two in 1 pint of Water, and the patient take of the decoction from two to four tablespoonfuls three or four times a day. It is also used in extract, the dose of which is from three to six grains, once or twice a day. In Dropsy, it is to be continued for several days at a time.

Ipecacuanha.— Commonly called Ipecac. It is a small shrubby plant, indigenous to Brazil and other parts of South America, growing usually in rich, moist, shady soils. The root is the part used, and may always be found in our drug-stores, either in fine powder or in the crude root.

MEDICAL PROPERTIES AND USES.— In large doses, that is, thirty to forty grains, it is emetic; in small doses, of three or four grains, repeated every hour or two, it is diaphoretic and expectorant; and again, in still smaller doses, said to be tonic. It is one of the best and safest emetics we have. From ½ to 1 teaspoonful in ½ pint of Hot Water, taken two or three times, within ten to twenty minutes, is a good, thorough, and easy emetic. In Fevers and Inflammatory diseases, Ipecac, given in diaphoretic or small doses — from one to three grains — is of great service. In Inflammation of the Bowels, Stomach — indeed any of the internal organs — it will be found an excellent agent, given in small doses, on account of its sedative and diaphoretic effects. In still smaller doses —

IPECACUANHA.

from ½ to 1 grain, two or three times a day — it is said to be good in Dyspepsia, acting as a tonic, increasing the appetite and improving the digestion. I have found minute doses, of half a grain or less, very efficient in checking Vomiting, given at intervals of an hour; and in Dysentery, a powder composed of 1 grain, each, of Ipecac and Leptandrin, ½ grain of Podophyllin, and 1-6 grain of Morphine, given every four to six hours, will be found an admirable remedy. After three or four of these powders have been given, the Podophyllin should be left out, and the others continued. The Wine of Ipecac, or the tincture, which can always be had at the drug-stores, is an excellent ingredient in Cough Mixtures. It is one of the constituents of Dover's Powder.

Jalap— (*Ipomœa Jalapa*).— Jalap will generally be found in the drug-stores in the form of a fine powder. It is the powdered root of a plant, or rather sort of vine, which grows wild in Mexico, principally in the State of Vera Cruz, and near the town of Jalapa, from which it takes its name.

JALAP.

MEDICAL PROPERTIES AND USES.— It is used mostly as a hydragogue cathartic, in Dropsical conditions, and in Fevers where it is desired to lessen the quantity of the circulating fluid. Dose: of the powder, as a cathartic, from twenty to thirty grains; of the tincture, from two to four teaspoonfuls. Where the full hydragogue effect is desired, add a heaping teaspoonful of Cream of Tartar to the dose. Jalap is not so much used now as formerly, the May Apple Root, which is very similar in its action and probably better, and its concentrated extract, Podophyllin, having nearly superseded it.

Jessamine—(*Gelseminum Sempervirens*).—This is the Yellow Jessamine, growing abundantly in many of the Southern States, and known also by the names of Woodbine and Wild Jessamine.

MEDICAL PROPERTIES AND USES.—The root is the part used, and then in the form of tincture. It is considered a most valuable anti-fever remedy; and one of the most powerful relaxing and anti-spasmodic medicines known. Many physicians consider it the most valuable and certain remedy ever yet discovered to subdue and break up a Fever, no matter what kind of Fever it is, which it generally will do in from six to twenty-four hours; equalizing the circulation, producing perspiration, and allaying nervous excitement, seeming, indeed, to regulate the operations of the whole system. It may be given at any stage of the disease, and along with or after any other treatment. Its usual effects are general relaxation, even to complete prostration sometimes, double-sightedness, and, perhaps, inability to open the eyes for a time; but these effects will soon pass of, leaving the patient refreshed, free from fever or pain. The dose of the tincture is from ten to thirty drops, and even as high as fifty drops, or a teaspoonful, have been given at once in high grades of Fever, and to be repeated every two hours till the proper effect is noticed—that is, relaxation, double vision, and falling of the eyelids, and perspiration—when it is to be discontinued. It may be given in a little Water; and always, in case of Fever, from 3 to 10 grains of Quinine are to be combined with the first two or three doses. Two or three doses are generally all that will be required, if moderately large. The Gelseminum Tincture is principally used in Fevers, but has been found efficacious in Nervous Headache, Pneumonia, Leucorrhœa, St. Vitus' Dance, Toothache, and in all forms of Neuralgia or Nervous Excitement and Irritability, and Tetanus, or Lockjaw. In this latter affection, as well as in all cases of Spasm or Muscular Contraction, it may be relied on as infallible, if given to complete prostration. Care must be taken, however, not to carry it too far, or give too much, or continue it too long, as danger, in such case, might occur.

Juniper Berries—(*Juniperus Communis*).—These are the berries of an evergreen shrub, or bush, native of Europe, though found growing in some parts of this country. The berries, when dried, are black, somewhat shriveled and about the size of a small pea. May be found in all the drug-stores.

MEDICAL PROPERTIES AND USES.—Both the berries and the oil, which is obtained from the berries, are used, and are diuretic, carminative, and moderately stimulant. The berries are mostly used along with other articles, in the form of infusion, or bitters, to render them more diuretic, or to modify the action of more powerful diuretics. As a diuretic, the oil is mostly used, and is considered valuable in Dropsy; also in Affections of the Bladder, as well as some other affections, such as Scurvy, Skin Diseases, and, in combination with the Oils Copaiba and Cubebs, in Gonorrhœa, Leucorrhœa, and the like. Dose: of the oil, from three to six drops, in Mucilage, Spirits, or Mint Tea.

Kino.—This is a dark red, brittle gum, obtained from a large tree which grows in Hindustan, called the *Pterocarpus Marsupium.* Gum Kino may be found in all the drug-stores.

MEDICAL PROPERTIES AND USES.—It is useful in Diarrhœa, Dysentery, in Hemorrhage from the Womb, and in Leucorrhœa; also good as an injection in Leucorrhœa, and as a gargle in Sore Throat and Mouth. It is mostly used in the form of tincture, or dissolved with other preparations for Diarrhœa and Looseness of the Bowels. It is a pure and innocent astringent, and may be combined with any preparation for Bowel Complaints. Dose: of the powder, from ten to thirty grains; of the tincture, from one to two teaspoonfuls.

Liquorice—(*Glycyrrhiza*).—The Liquorice plant is a native of Southern Europe and Asia. The root is the part used in medicine, and can generally be found in the drug-stores—either the root or the extract, which is just as good, and in many cases better. It is of a peculiar, rather pleasant, sweetish, demulcent taste, and generally liked by children.

MEDICAL PROPERTIES AND USES.—Liquorice is a demulcent expectorant, and very much used in Coughs, and Affections of the Lungs, Bronchial Tubes, as well as in cases of Mucous Irritation of the Bowels and Urinary Organs. It is most usually given in combination with other medicines, as it serves to give them a sweet and agreeable taste, as well as to aid in their medicinal action. A decoction of the root may be made, and used either alone or with other medicines; or the extract may be dissolved in Warm Water, which amounts to the same thing. The extract is very good, used as a Cough Candy, to allay Coughs and Mucous Irritation of the Lungs. It can be used freely. It is an excellent laxative, used as the Compound Liquorice Powder.

Lobelia—(*Lobelia Inflata*).—Called also Indian Tobacco, Wild Tobacco, Emetic Weed, Colic Weed, Eye Bright, etc.

MEDICAL PROPERTIES AND USES.—Lobelia is emetic, relaxant, expectorant, anti-spasmodic and sedative. In small doses, it is nauseant, producing a sort of burning, prickling, disagreeable sensation in the throat; and if the doses are continued or sufficiently increased, produces relaxation of the muscular system, languid pulse, perspiration, and for a time oppressive prostration. In sufficient doses, say of twenty to thirty grains of the pulverized seeds or leaves, it is a prompt, safe, and very efficient emetic, followed usually by general relaxation of the system, and often more or less complete prostration; but always without danger, the patient often dropping into a sweet slumber, awaking shortly after greatly refreshed, and not unusually with a desire for something to eat. It is unquestionably the best, most efficient, and safest emetic known. In Acute Pleurisy, it is an admirable remedy. As an emetic, it may be used alone, or combined with an equal portion of Ipecac. A heaping teaspoonful of the powder is to be put into a cup or bowl, with half a pint of hot water (near the point of boiling, but not quite scalding, as scalding injures its strength), and after standing fifteen or twenty minutes, it is ready for use. It may be given then in half-teacupful potions, at intervals of five or ten minutes. The Lobelia should be continued till

LOBELIA.

the patient has vomited two or three times thoroughly; after which, some thin Gruel should be taken. The tincture can also be used as an emetic, and this is generally the best to use for children. The dose of the tincture for a grown person, as an emetic, is from one to two tablespoonfuls, repeated as before directed; and for children, about a teaspoonful — always using freely some Warm Tea. In sudden attacks of Croup, there is nothing like the Tincture of Lobelia, given in doses of ten or twenty drops to a teaspoonful, and repeated till relief or thorough vomiting is obtained. It can be given in Syrup or Honey. The throat and chest may also be bathed with the Tincture, or with Spirits of Turpentine. In Asthma, there is nothing to compare with it. When the Spirit Tincture is used, give commonly a teaspoonful in a wineglass of water, and repeat every half-hour during the paroxysm, or till sickness or vomiting is produced. No apprehension need be entertained of its acting deleteriously; it may, therefore, in all cases of Oppressed Respiration, or Apparent Suffocation, especially when of the Spasmodic character, be fearlessly administered till full vomiting be produced, when the desired benefit is usually obtained.

TINCTURE OF LOBELIA — HOW PREPARED.— Take of the pulverized Leaves, ¼ pound; Water and Alcohol, equal parts, 1 quart; infuse, or soak, for ten days in a closely-stopped bottle.

TINCTURE OF THE SEEDS.— Take of the pulverized Seeds, 4 ounces; Water and Alcohol, equal parts, 1 quart; infuse, or soak, for ten days.

TINCTURE OF THE GREEN HERB.— Collect the Herb when in blossom, before the leaves begin to fade; pound in a mortar, till reduced to a pulpy mass; add Malaga, Madeira, or Native Wine, sufficient to cover it; infuse, or soak, for a week or ten days, and strain and press out.

Male Fern — (*Aspidium Filix Mas*).— There is an ethereal oil obtained from it, by distilling in Ether, which is the form in which it is now mostly used, and which can generally be had at the drug-stores.

MEDICAL PROPERTIES AND USES.— It is only used as an anthelmintic, or Worm medicine, and then only for the Tape-worm. It is said to be the best remedy for this species of Worm that is now known. The proper way of administering this Oil, in such case, is to give from twelve to twenty drops at night in a little sweetened Mucilage or Syrup, and the same quantity again in the morning; two or three hours after the second dose, give a purgative of Castor Oil, or other active cathartic. Should it fail, the doses, somewhat increased, are to be repeated.

Manna.— Manna is known in Botany as the *Ornus Europæa*, and also by the common name of Flowering Ash.

MEDICAL PROPERTIES AND USES.— It is a mild and gentle laxative. The dose, as a cathartic, is from one to two ounces for a grown person, and from a drachm to half an ounce for children.

May Apple Root — (*Podophyllum Peltatum*).— Called also Mandrake, but known all over the country by the common name of May Apple. It grows probably in all the states.

MEDICAL PROPERTIES AND USES.— The root is the part used, and is a certain, powerful, and very valuable hydragogue cathartic. In small doses, the May Apple is an excellent Liver Medicine, acting as a stimulant to the Liver, as well as the whole Glandular system. The dose of the powdered root, as a cathartic, is from thirty to sixty grains, or from half to a teaspoonful, and it should be accompanied with ten or fifteen grains of powdered Cloves, or Pepper, or Spearmint, or five or six grains of Cayenne, to prevent griping and sickness at the stomach; and if you wish to have the fullest hydragogue effect, as in Dropsy or local Inflammation, give along with it double as much Cream of Tartar. The dose of the extract, as a cathartic, will be five or six grains; and it should be made into two or three pills, adding a little Cayenne Pepper, or powdered Cloves, and perhaps some Rhubarb, or any other suitable powder, to render

MAY APPLE.

it thick enough to form pills. The addition of the Cayenne makes it act much quicker. As a pill, take pulverized Lobelia Seed, 20 grains; Ipecac, 20 grains; Leptandrin, 20 grains; Sanguinarin, 10 grains; Cayenne, 10 grains; Extract of May Apple, enough to form into pill mass. Dose: as an alterative, and to act on the Liver, one pill every night, or once a day; as a purgative, three or four pills. This is an excellent and Anti-bilious Pill, suitable in all cases where a laxative or cathartic is needed.

PODOPHYLLIN.— This is a fine dark-yellow or greenish powder, the concentrated preparation made from the May Apple Root. The dose of the Podophyllin, as a purgative, is about two to three grains. Given alone, it is rather slow in its action, but combined with as much pure Cayenne, it will operate in half the time, or less. It is always best to combine a little Cayenne, Cloves, or Ginger, with it, to prevent nausea and griping; and if you wish the full hydragogue effect, as in Dropsy, internal or local Inflammation, give also along with it a teaspoonful of Cream of Tartar; and if you add as much each of Ipecac and Cayenne, and make the whole into pills with Extract of Dandelion, so as to have half a grain of each in a pill, you will have one of the best pills known for torpid Liver, Bilious conditions of the system, Dyspepsia, and the like. One pill to be taken daily, or every other day; and as a purgative, three or four pills at a dose. If you will take 20 grains Podophyllin and 10 grains Cayenne, and make into ten pills, with a very little Mucilage Gum Arabic, or soft Extract of May Apple Root, you will have one of the best and most active purgatives known. One pill will operate in an hour.

Mustard.— There are two kinds of Mustard common in this country, the Black and the White, technically called *Sinapis*

Nigra and *Sinapis Alba*. The seed is the part used, and both kinds are about the same — the Black Seeds, perhaps, being a little the stronger.

MEDICAL PROPERTIES AND USES.— Mustard Seed is a very good stimulant, and is often used with advantage in Dyspepsia and Weak Digestion. In large doses, that is, two or three teaspoonfuls, it is a very quick, prompt emetic, and useful in case of swallowing poison. When the seeds are used as a remedy for Dyspepsia, they should be swallowed whole; and when thus taken in small doses, say a teaspoonful two or three times a day, it promotes an appetite, and gives a pleasant feeling to the whole system, acts on the liver, and gives a beautiful appearance to the skin. In Palsy and Chronic Rheumatism, it is given to quicken the circulation and promote the vital actions. The Ground Seed makes an excellent poultice to relieve Rheumatic Pains and to relieve Internal Pain and Inflammations of any kind.

MUSTARD.

Nutmeg — (*Nux Myristica*).— Nutmeg is a well-known article, to be found in all the drug-stores and grocers' shops in the country. It is the kernel of the fruit of a tree cultivated in the West Indies and other warm latitudes. The outside, or covering of the nut or kernel, constitutes the article known as Mace.

MEDICAL PROPERTIES AND USES.— Nutmeg is an aromatic stimulant and stomachic, and often used along with other articles in Diarrhœas and Dysentery, especially in syrups and the like. It is also used extensively to flavor articles of diet and drinks for sick and convalescent persons, and is very grateful and pleasant. Both the Nutmeg and Mace are said to possess narcotic properties, and should not be taken in doses of more than twenty or thirty grains at a time.

Nux Vomica.— These are the seeds of a tree which grows in the East Indies, called *Strychnos Nux Vomica*. They are of a brownish color, hard, nearly flat, and round, about as large as an ordinary-sized coat button, and are often called Dog Buttons, from the fact that they are often used as a poison to kill dogs.

MEDICAL PROPERTIES AND USES.— Nux Vomica is a powerful and deadly poison, if taken in sufficiently large quantity, and, when used, it must always be with caution. You should never take it except by the direction of a physician. It is from this article that *Strychnine* is made — one of the most deadly poisons known. In poisonous doses, it produces Convulsions, Asphyxia, and Death. Nux Vomica, in whatever form it is used, is always to be taken in very small doses; it then acts as a nervous tonic, and is mostly used in the treatment of Paralysis, or Palsy. It is also used, and by some highly recommended, in St. Vitus' Dance, Mania, and Neuralgia; also in Dyspepsia, Habitual Constipation. Rheumatism, Chronic Dysentery, and Chronic Inflammation of the Spleen. The dose of powdered Nux Vomica is from one to three grains, for a grown person, three times a day, as a tonic; of the extract, which is the best form in which to use it, about one-twentieth of a grain three times a day. The extract is usually powdered and mixed with other articles, suitable to the case, so as to have one grain of it in about twenty pills; one pill to be taken two or three times a day. In cases of Paralysis, as much as half a grain to a grain of the extract may be given at a dose, and may be gradually increased until some unpleasant symptoms begin to manifest themselves. The tincture, which is also kept in drug-stores, is used in doses of five to six drops, three times a day, gradually increased up to thirty drops.

Strychnine is one of the best heart tonics and stimulants we have; it is given in doses of 1-60 to 1-12 of a grain, and can be administered hypodermatically. It is used in shock and collapse; also in all forms of heart failure. The value of all forms of Nux Vomica depends chiefly upon the contained Strychnine, which is the active principle of the drug.

Opium.— Opium is the concrete juice of the White Poppy, medically called *Papaver Somniferum*. The Poppy is a familiar plant to most persons, and contains a milky juice, which on becoming thickened or hardened, constitutes the Opium found in the drug-stores. The Opium of commerce is obtained mostly from Turkey, China, and neighboring countries, where the Poppy is extensively cultivated. This is the king of drugs of all kinds, and the one of all others which we could least readily dispense with.

MEDICAL PROPERTIES AND USES.— Opium is a powerful narcotic; also sedative, anti-spasmodic, and diaphoretic, while

OPIUM.

at the same time it checks the operation of the Bowels, and the action or secretion of the Mucous Membranes. No medicine has ever been discovered that can compare to it for moderating and relieving Pain, or in promoting Sleep. Its sedative virtue resides in a principle called Morphia, or Morphine. A grain of Opium taken into the Stomach produces remarkable composure of the mind, followed by languor and drowsiness; the pulse becomes slower, fuller, and softer; all the secretions are, in the first instance, diminished; the motion of the Bowels is retarded; the thirst increased, and the mouth dry. The heat of the body is increased, and the

senses rendered dull. In the course of three or four hours a perspiration, or sweat, is produced.

The narcotic effect of a dose of Opium lasts generally about eight hours; and in general, a full dose of it cannot be given with safety oftener than three times in twenty-four hours. In cases of great pain and distress, however, it can be given much oftener, and in larger doses, than in others. In too large a dose, it produces a comatose state, and Death. The medium dose of Opium is one grain, in the form of a pill. It is often, however, given in doses of three grains; but in such cases there must be great pain to require such heavy doses. Opium operates differently upon different constitutions. Upon some persons, half a grain will have as much effect as a grain or a grain and a half upon others. In almost all diseases attended with Pain, Distress, and Loss of Sleep, Opium, as the powdered drug or as Morphine, Laudanum, or Paregoric, is more or less used. In Dysentery, Diarrhœa, Cholera Morbus, Colic, Epilepsy, Lockjaw, Spasms, Hypochondria, Gravel, Asthma, Consumption, Wounds, Hemorrhages, Fractures, Dislocations, Toothache, Tic Douloureux, and threatened Abortion, Opium, in one form or another, is found of great service. It is, perhaps, used more frequently in the forms of Morphine, Laudanum, and Paregoric, than in any other.

LAUDANUM.—This is simply the Tincture of Opium. It is made by tincturing 1 ounce of Opium, broken to pieces, in 1 pint of Spirits, or diluted Alcohol. The dose of Laudanum for a grown person is from thirty to sixty drops, and may be repeated two or three times in the course of twenty-four hours. A teaspoonful is a large dose, and can be given only in extreme pain and distress. The common dose for a child between one and three years old is from three to seven drops; for a child six months old, two, three, or four drops. One drop may be given to a child a month old.

PAREGORIC.—This is a milder preparation of Opium, along with some other articles. It is made as follows: Take Opium, ½ drachm; Benzoic Acid, ½ drachm; Oil of Anise, 30 drops; Gum Camphor, 20 grains; diluted Alcohol or Spirits, 1 pint; let stand, and macerate or tincture for two weeks, shaking occasionally; then strain or filter through paper. It is mostly used for children. The dose for children is from five to twenty drops, under three years of age; and over that, from twenty drops to a teaspoonful; for a grown person, a tablespoonful. It is a pleasant anodyne and anti-spasmodic. These preparations may always be had at a drug-store.

MORPHINE.—This is a highly concentrated preparation of Opium. It is the active principle of Opium. It is in the form of a fine white powder. The dose for a grown person is from one-sixth to one-third of a grain—one-fourth of a grain being a full medium dose. Persons habituated to its use, by taking it for several days or weeks in succession, will come to bear as much as a grain; but more than a third of a grain should never be taken at once by persons not in the habit of its continued use, and then only in severe pain, as Neuralgia, Toothache, and the like. Infants and very young children should never take it, as there is great danger of giving too much. There are several preparations of Morphine, but that known as Sulphate of Morphia is most commonly used, and is what is always understood by the term *Morphine*. It is sometimes styled the "Divine Medicine," and stands unrivaled in the *Materia Medica* as an immediate remedy, and for giving temporary relief in all cases of severe pain. Remember that children do not bear Opium or Morphine well, so that the dose for them should be extremely small.

APOMORPHINE is an artificial preparation made from Morphine. It is the most powerful and quickest acting emetic known. It should be given only hypodermatically and in doses not exceeding 1-12 of a grain. It produces emesis in half a minute after administration, *i. e.*, after injecting it under the skin.

CODEINE is another alkaloid and active principle extracted from Opium. It controls cough better than any known drug. It is used for much the same purpose that Morphine is, but is less powerful. The dose is ⅛ to 2 grains; a quarter of a grain at bed-time will stop coughing in an adult.

Orris Root—(*Iris Florentina*).—This is a nice, clean, white root, to be found generally in the drug-stores. It is a species of the Flag, native to Europe, but cultivated to some extent in the gardens of this country. It is of little consequence as a medicine, but is used extensively in Tooth Powders and the like, to improve the breath. The root may also be chewed for the purpose. It possesses a peculiar, mild, and quite pleasant flavor.

Peach-Tree—(*Amygdalus Persica*).—The Peach-tree is said to be a native of Persia, but is extensively cultivated in this country, and is too well known to need any description. The leaves, kernels, and bark of the root are used as medicine.

MEDICAL PROPERTIES AND USES.—Tonic, diuretic, hepatic, alterative, sedative, and somewhat laxative. A strong bitters, made of the leaves and bark of the root, taken in moderate doses three or four times a day, is one of the best remedies I have ever tried for Jaundice; also a good bitters in all affections of the Liver, and in Dyspepsia. A cold infusion or strong tea of the leaves, given in tablespoonful doses every hour or oftener, is highly beneficial in Inflammation of the Bowels or Stomach; at the same time, a fomentation of the leaves, boiled either alone or with Hops, or other bitter herbs, should be applied externally, as warm as can be borne. The kernels are made into a syrup or cordial sometimes, and used in Diarrhœa, Dysentery and the like, with a very fine effect. They are also used in the form of tincture, made by adding 2 ounces, bruised, to 1 pint of Brandy. Dose: a teaspoonful three to six times a day, and good as a tonic in Intermittent Fever, in Leucorrhœa, Dyspepsia, and in General Debility. Peach-kernel, powdered, mixed with Blackberries, and made into a cordial, with a little Cinnamon, Cloves, and Allspice, is a splendid medicine for the Summer Complaint, as well as for all Bowel Complaints for the old or young. The action is due to the contained hydrogenic acid.

PEPPERMINT.

Peppermint—(*Mentha Piperita*).—Peppermint is a native of Europe, but

has been introduced into this country, and is extensively cultivated here, besides growing wild in many places.

MEDICAL PROPERTIES AND USES.—The leaves are the part most used, though the whole herb is medicinal. It is a powerful and agreeable aromatic stimulant, very diffusive and penetrating, and is also carminative, anti-spasmodic, and anti-emetic. Used as a stimulant, to promote perspiration, to relieve Flatulent Colic and Griping Pains, especially in combination with griping cathartic medicines, and to allay or prevent nausea and sickness at the stomach. It is also good in Cramps and Spasms of the Stomach, in Hysterical Affections, in Bowel Complaints of children, and to render other medicines more agreeable. It may be used freely in tea or infusion, either alone or in combination with other articles. It is also used in the form of essence, which is made by dissolving 1 drachm of the oil in 1 ounce of Alcohol. Dose: of the essence, from one to two teaspoonfuls for a grown person, and ten to thirty drops for infants, in a little sweetened Water; of the oil, from one to five or six drops, on a little sugar. The oil and essence may always be had at the drug-stores.

Peruvian Bark — (*Cinchona Officinalis*).—This is the bark of a tree which grows in South America, and the bark being pulverized for commerce, is sent to this country, and may be purchased at any drug-store.

MEDICAL PROPERTIES AND USES.—It is taken in the form of powder, or a tincture made with Wine. If properly administered, it is a sure remedy for Malaria. The Quinine of commerce is a production of the Peruvian Bark. This extract is now generally used in place of the bark, having all the strength of the bark concentrated in it. and the dose, being smaller, is more easily administered. The Peruvian Bark, as well as Quinine, is a powerful anti-periodic tonic, and when used as such, for the purpose of curing Malaria, it should be taken in doses of about a teaspoonful, or thirty to sixty grains, three or four times a day in capsules; as a mere strengthening restorative tonic, from ten to twenty grains, twice or three times a day, would be the proper quantity. The Quinine, however, which is made from this article, is now generally used in its stead.

Pumpkin Seed — (*Cucurbita Pepo*).—Pumpkin Seeds, as well as Pumpkins, are too well known to need any description.

MEDICAL PROPERTIES AND USES.—Pumpkin Seeds are an excellent mucilaginous diuretic, very similar in their operation to the Watermelon Seed. To be used freely in infusion or tea in affections of the Urinary Organs, and Inflammations of the Bowels. Good in Retention of Urine, Inflammation of the Bladder, and to destroy intestinal worms, especially the Tape-worm.

Quassia — (*Picræna Excelsa*).—This is a large, tall tree, native of Jamaica and some parts of South America, and is also known as Bitter Ash and Bitter Wood.

MEDICAL PROPERTIES AND USES.—The Quassia Wood is a tonic and anthelmintic, and considered valuable in Dyspepsia, General Debility, and Weakness, and during recovery from Intermittent and Bilious Fevers. It is used mostly in infusion, which is made by infusing, for twelve hours, 1 ounce of the fine chips or raspings of Quassia in 1 quart of Cold Water; the dose of which is about half a teacupful three times a day, still leaving the Quassia in the Water; a little Ginger Root, Cloves, Lemon Peel, and the like, may be added, to render the infusion more palatable to the taste. The dose of the Tincture of Quassia is one to two teaspoonfuls, and of the extract from one to three grains.

Quinine — (*Sulphate of Quinia*).—This is a fine, white, crystalline powder, obtained by chemical process from the Peruvian or Cinchona Bark.

MEDICAL PROPERTIES AND USES.—Quinine is a pure, intensely bitter, and most powerful tonic, febrifuge, and Anti-periodic. It is a standard remedy, and altogether the most successful and popular one for Malaria, and is used very extensively for that purpose. It is, in fact, one of a few specifics. It is also valuable in all cases where a tonic is called for. There is, in many parts of the country, a prejudice among the people against its use. If given in very large doses, as it often is, it produces a fullness of the head, and ringing or buzzing in the ears, for a while. I am satisfied, however, that the prejudice against the article is, in most cases, greater than the facts will justify; and that it is one of the most valuable and useful tonics known to the profession. The ordinary dose of Quinine, as a tonic and restorative, is about a grain for a grown person two or three times a day; but as an Anti-periodic and Malaria remedy, it may be given at the rate of one grain every hour, or every two hours, until twelve or fifteen grains are taken. It is also given in doses of three to five grains, and repeated every three or four hours, until from twelve to twenty grains are taken. It is best always to give it during intermission; that is, when the patient is free from Fever. When the Fever is of the Intermittent kind, occurring every other day, as it generally does, a sufficient quantity should be given during the well day — that is, twelve to fifteen grains or more — to break the disease; and it may be given in any way most convenient to the patient, either in solution, in powder, in pills, or in capsules. In making a solution, a little Sulphuric Acid should be added, as it causes the Quinine to dissolve much better, and it also seems to exert a beneficial effect upon its action. A very good plan is to add 14 grains of Quinine to one ounce of Water, and then 14 drops of Sulphuric Acid, which will cause it to dissolve at once. This quantity is sufficient to break any ordinary case of Malaria, and is to be given in teaspoonful doses every hour, or every two hours, until it is taken. One of the best formulas is as follows: 12 grains Quinine; 6 grains Ipecac; 3 grains pulverized Opium, and 6 grains Cayenne; make into twelve pills, with a little Extract of Gentian; and take at the rate of one pill every hour during the "well day," until all are taken. Quinine may also be dissolved in some good Whiskey or Brandy, in the proportion of 1 drachm (or 60 grains) to 4 ounces of the Liquor, to which may be added ½ ounce, each, of strong Essence of Peppermint and Cloves, and taken in doses of a teaspoonful every hour or two. The ways and forms in which Quinine is given, are almost innumerable; all that is necessary to remember is, that as a remedy to break up Malaria, about twelve grains should be given, in divided doses, in about as many hours; while as a restorative, one or two grains a day are sufficient.

Rhubarb — (*Rheum Palmatum*).—This is the root of a plant cultivated in China, Russia, Turkey, and some other parts of the world, and is now to be found in all of our drug-stores, as a standard medicine. The best article of Rhubarb comes from Turkey, and is usually in a crude state, though you will generally find Rhubarb in the form of a fine, darkish yellow powder.

MEDICAL PROPERTIES AND USES.—Rhubarb is a mild cathartic, and somewhat astringent and tonic also. For diseases of women, children, and all delicate persons, it is an

excellent purgative; it is also to be preferred to almost any other purgative medicine in Dysentery and Diarrhœa, on ac-

RHUBARB.

count of its tonic and astringent properties. Combined with Leptandrin and Dover's Powders, it is an admirable remedy in Dysentery and Diarrhœa, given in "broken" or small doses, sufficient only to act gently on the bowels after several doses have been taken. The dose of Rhubarb as a purgative is from thirty to sixty grains, or from a half to a teaspoonful; when given in five to ten grain doses two or three times a day, it acts as a tonic and mild laxative.

Rosin — (*Resin*, or *Resina*).— This is a common and well-known article, sometimes called Rosum. It is the residuum which remains after distilling the Spirits or Oil from the Gum Turpentine of the Pine. It is a hard, brittle substance, of a dark yellowish color, easily melted by heat and may be found in all the drug-stores.

MEDICAL PROPERTIES AND USES.— Its principal use in medicine is to form plasters and ointments; in plasters, for its adhesive or sticking qualities and drawing, and in ointments and salves, partly for the same, and also for the purpose of hardening or thickening them. It is seldom used internally; though finely powdered and mixed with an equal quantity of pulverized White Sugar and taken in half teaspoonful doses occasionally, it is very good for irritable, hacking Coughs. The vapor or fume arising from burning Rosin is also said to be good, inhaled into the throat and lungs, in Bronchitis, Consumption, and other Affections of the Lungs.

SARSAPARILLA.

Sarsaparilla — (*Smilax Officinalis*).— The Smilax Sarsaparilla is a shrubby, creeping vine, found growing wild in Mexico, South America, and some other parts of the world. There are several varieties of the Sarsaparilla. That which comes from Honduras is thought to be the best, and is mostly in use in this country. The root is the part used, and may generally be found at the drug-stores.

MEDICAL PROPERTIES AND USES.— Sarsaparilla Root is regarded as a very valuable alterative, producing changes in the system, without causing any sensible effect in any of the secretions or functions. It has had a great reputation as an alterative medicine, and still has; but it is doubtful if it is much, if any better, than some of our own, such as the Burdock, Stillingia, Sylvatica, and common Yellow Parilla of this country. The dose of the decoction or syrup is from half to a wineglassful, two or three times a day.

SARSAPARILLA (AMERICAN).

Scammony — (*Convolvulus Scammonia*).— This plant is a native of Syria, and grows extensively on the chain of mountains extending from Antioch to Mount Lebanon, or in the Holy Land. Recently, however, this valuable plant has been discovered growing wild in this country, in the western part of the States of New York and Ohio, and is generally supposed to grow throughout the whole West. The root is the part selected for use.

MEDICAL PROPERTIES AND USES.— This is a valuable purgative medicine, and may be compared to the May Apple. If required to purge actively, the May Apple may be mixed with it. In people of indolent habits — that is, those who are much bound in their bodies — we find this highly serviceable as a purge. It relieves the Liver when inactive, or when the skin is of a yellow appearance; is also excellent for Dropsical patients, and for children who look swollen, indicating Worms. It should be combined with some other article to prevent its griping, such as Coriander Seed, or a small portion of Ginger or Cloves, particularly when it is administered to children. The dose in powder is from eight to twenty grains, which may be given two or three times a day. May always be found at the drug-stores, in the form of powder.

Seneca Snake Root — (*Polygala Senega*).— This plant, or shrub, grows in various parts of this country.

MEDICAL PROPERTIES AND USES.— It is a stimulating expectorant and diuretic; also emmenagogue, and, in large doses, emetic, and cathartic. It is mostly used for its expectorant properties in Coughs, Colds, and Lung Affections. Considered good in Croup, Asthma, and Chronic Bronchitis. It is also used in suppressed Menses, in com-

SENECA SNAKE ROOT.

bination with other emmenagogues. It has also been used with success in Dropsy of long standing, in the form of decoction — say 1 ounce of the dry root, boiled in 1 quart of Water down to 1 pint, and given in tablespoonful doses, every hour, till all is taken, and to be continued if necessary — first giving a thorough emetic. Seneca Snake Root is one of the principal ingredients in the celebrated Hive Syrup, which is so much used for Croup. Dose: of the infusion, from half to a wineglassful; of the tincture, one to three or four teaspoonfuls; of the powder, from ten to thirty grains.

Senna — (*Cassia Senna*). — This herb is a native of Africa and the countries about the Mediterranean. The leaves are the part used, and may always be had at the drug-stores.

SENNA.

MEDICAL PROPERTIES AND USES. — Senna is a mild, but very certain and useful, cathartic. It has an unpleasant taste and slightly nauseating or sickening effect, if it is given alone; hence it is usually combined with some aromatic, such as Cloves, Ginger, and the like, or with Manna, especially when given to children. It is generally given in infusion or decoction; about ¼ ounce or 2 drachms of Senna Leaves, steeped in 1 teacupful of Boiling Water, with a little Cloves and a teaspoonful of Cream of Tartar added, forms an excellent purgative in all ordinary cases, and is especially adapted to children and delicate females; the whole of this quantity to be taken at once by a grown person. Dose: in powder, thirty to forty grains; of the tincture, two to four tablespoonfuls; of the fluid extract or electuary, about one tablespoonful; of the infusion, from a half to a teacupful.

Skull-cap — (*Scutellaria Lateriflora*). — The Skull-cap is a small herb from one to two feet high growing in moist places, in creek bottoms, meadows, and by the edges of ponds. It is also known by the names of Maddog Weed, Hoodwort, and Blue Skull-cap. It has numerous branches, which are opposite each other, small leaves also opposite, very thin, and small, light blue flowers, which appear in July and August. The root is small, woody or fibrous, and of a yellowish color. The whole plant — leaves, stems, and root — is medicinal.

MEDICAL PROPERTIES AND USES. — Skull-cap is a valuable tonic, nervine, and antispasmodic. It is especially useful in St. Vitus' Dance, Neuralgia, Convulsions, Delirium Tremens, in Nervous Excitability, Restlessness, Inability to Sleep, and indeed in all Nervous Affections. It is also good in Intermittent and Nervous Fevers. It is to be used freely in infusion, about ½ ounce of the dry herb to 1 pint of Boiling Water.

SKULL-CAP.

Solomon's Seal — (*Convalaria Racemosa*) — MEDICAL PROPERTIES AND USES. — A mucilaginous tonic, mildly astringent, and very healing and restorative. Very useful in Female Diseases, as in Leucorrhœa or Whites, and excessive and painful Menstruation. Also good in Affections of the Lungs, in irritable conditions of the Stomach and Bowels, in Piles, and in General Debility. Used freely in decoction, and in the form of syrup or cordial. It is said that in Erysipelas, and in Poison from the Poison-vine, as well as other Skin Diseases, a decoction of the root drank freely and the parts bathed with the same, will soon effect a cure.

SOLOMON'S SEAL.

GIANT SOLOMON'S SEAL.

Squill — (*Scilla Maritima*). — This is a very peculiar plant,

being a sort of bulb, growing partly above and partly in the ground. The bulb is the part used in medicine, and may always be had at the drug-stores.

MEDICAL PROPERTIES AND USES.—Squill is diuretic, expectorant, and sedative, in its proper medicinal doses; but in larger doses, is an irritant emetic and cathartic, and in overdoses an irritant poison, producing Inflammation of the Bowels and Urinary Organs. Used almost exclusively for its diuretic and expectorant properties, in Dropsy, Kidney Affections, Inflammation of the Lungs, Asthma, Consumption, Coughs, and for its sedative effects in diminishing the frequency of the pulse in over-action of the heart. It is generally used in the form of Syrup and Vinegar of Squills—both of which preparations may usually be had at the drug-stores, and generally in combination with other articles. Equal parts of Wine of Ipecac, Tincture of Lobelia, and Syrup of Squills, make an excellent Cough preparation, to be taken in teaspoonful doses, as may be required. The dose of Squill in powder, as a diuretic or expectorant, is one to two grains; of the Syrup or Vinegar, one to two teaspoonfuls.

Stramonium—(*Datura Stramonium*).—Most commonly called Jimson Weed, or Jamestown Weed; also known by the name of Thorn Apple.

STRAMONIUM.

MEDICAL PROPERTIES AND USES.—This is another of the vegetable poisons, and if taken in large doses, will produce serious results, such as extreme Thirst, Vomiting, Choking, Dryness of the Throat, Faintness, Blindness, Delirium, Trembling of the Limbs, Stupor, and sometimes Palsy, Convulsions, and Death. In moderate doses it sometimes produces some of these symptoms in a mild form, such as Headache, Vertigo, or Dizziness, Dimness of Vision, Confusion of Ideas, and a sort of Intoxication or mild Delirium. It is often and beneficially used instead of Opium, where that article is contra-indicated, acting as an anodyne and anti-spasmodic. It does not constipate the bowels, and is, therefore, in many cases, preferable to Opium. It has been used to allay Neuralgic and Rheumatic Pain, but has been found most serviceable in Epilepsy, Mania, mild Delirium, especially Delirium Tremens; in severe Inflammation of the Stomach and the Bowels, and, in combination with Quinine, it has proved very beneficial in Intermittent Fever, attended with severe Headache and other periodic pains; it has also often proved extremely serviceable in severe Dysmenorrhea. It is generally used in extract, which can always be had at the drug-stores under the name of Extract Stramonium—the dose of which is from half a grain to two grains; of the tincture (which is made of the bruised seeds, 2 ounces to 1 pint of Spirits), the dose is from five to twenty drops, and may gradually be increased to thirty. The seeds have long been known to be one of the best agents there is to prevent Abortion or Miscarriage; for this purpose, it is said that seven ripe seeds are to be taken whole, at one dose, where Abortion is threatened, and the dose repeated afterward, every six or twelve hours, so long as threatening symptoms continue. Externally, Stramonium is a valuable agent. A poultice of the green leaves, or, if dry, softened with Warm Water, is an admirable application to the Bowels, or Abdomen, in Inflammation of the Stomach, Bowels, and what is called Peritoneal or Abdominal Inflammation; in Inflammation and Pain of the Bladder, from Retention of Urine; and highly valuable to severe Painful Swellings, Rheumatism, Painful Sores, Swelled and Painful Breasts of females, Inflamed Eyelids, etc. An ointment made by stewing the fresh leaves in Lard is excellent for Piles, for Inflamed Breasts, and all Painful Tumors and Swellings.

Tamarinds—(*Tamarindus Indica*).—Tamarinds are the fruit of a large tree which grows in Arabia, Egypt, and the East and West Indies. They are brought to this country in a preserved state, and are sold in drug and grocery stores.

MEDICAL PROPERTIES AND USES.—Tamarinds are laxative; that is, mildly cathartic, and refrigerant or cooling. They are used more as a Cooling Drink during Fevers than for any other purpose in the sick room.

Tannin—(*Acidum Tannicum*)—*Tannic Acid.*—This is a fine, very light, pale yellowish, nearly white powder, obtained by chemical process from Galls, which grow on certain species of Oak called *Quercus Infectoria*, or Gall Oak. It is the same astringent principle, however, which is contained in the common Oak Bark. May be found in the drug-stores.

MEDICAL PROPERTIES AND USES.—Tannin is a pure and a very powerful astringent—useful in Diarrhœa, Chronic Dysentery, Uterine and other Hemorrhages; and as an astringent injection in Leucorrhœa, Gleet, Gonorrhœa, etc. It is a very valuable astringent; but care must be taken not to give too much of it, as it is very powerful, and may produce too great a Constipation of the Bowels. It is well to combine with it a little Rhubarb, Podophyllin, or Leptandrin in Bowel Complaints—especially in Dysentery. The dose of Tannin is from half a grain to three or four grains. It dissolves very readily in Water, and may be mixed with any of the decoctions or liquid preparations for Diarrhœa and Bowel Complaints. Five or six grains dissolved in 1 ounce of Water, forms an excellent wash and gargle for Sore and Ulcerated Throat and Mouth, severe Salivation, foul Ulcers, and the like; and 10 grains mixed with 1 ounce of Lard, is a good ointment for Sore Nipples, Excoriations, and the like.

Thyme—(*Thymus Vulgaris*).—The common garden Thyme—an aromatic shrubby herb, very generally and well known.

MEDICAL PROPERTIES AND USES.—The leaves are the part used, and are tonic, diaphoretic, emmenagogue, anti-

spasmodic, and carminative. It is used in infusion, cold, as a tonic, in Dyspepsia, Weak Stomach, and in recovery from Fevers and other exhausting diseases; and warm in Painful and Suppressed Menses, Hysterics, Flatulent Colic, Cold, Headache, and to produce perspiration. May be taken freely.

THE OIL OF THYME is good to apply externally in Neuralgia, Rheumatism, Painful Swellings, and to relieve Toothache; it may be used internally, in doses of from two to ten or fifteen drops, on a little Sugar, in all cases where the infusion may be used.

Turpentine — (*Oleum Terebinthinæ*).— Known generally by the common name of Spirits of Turpentine. It is obtained from the Pitch Pine of the Southern States, being distilled from the Gum Turpentine which exudes from those trees. *Oil* and *Spirits* of Turpentine are but different names for the same article.

MEDICAL PROPERTIES AND USES.— Turpentine is an irritant and stimulant diuretic; also anthelmintic and cathartic. In large doses it will operate on the Bowels, but more powerfully on the Kidneys and Urinary Organs. In doses of twenty to thirty drops, it acts strongly on the Kidneys, causing a copious flow of Urine. It is a good remedy to dislodge and expel Worms, and may be given to children, for this purpose, in doses of half to a teaspoonful, in Molasses. For ordinary Sore Throat, from taking cold, twenty to thirty drops on a little Sugar, and swallowed slowly, is an almost certain cure; it may be repeated once or twice a day. In Dysentery or Flux, a teaspoonful of Turpentine, mixed with a tablespoonful of Sugar, and taken once or twice a day, is, in many cases, sufficient to cure the disease. It will always be found beneficial. Turpentine is an important ingredient in all internal remedies for Gonorrhœa and Gleet. In any obstruction or stoppage of the Urine, its use is generally attended with speedy relief. It penetrates quickly and spreads itself over the whole system. It has also been used with great benefit in Chronic Rheumatism, internally; and is a good application, externally, for Swellings. It forms an important ingredient in many of the best liniments. Spirits of Turpentine is one of the useful medicines, as many persons well know, and should always be kept in the house. The ordinary dose is one drop for each year of the person's age, on a little Sugar; but may be given in doses of from a teaspoonful to one or two tablespoonfuls.

Uva Ursi.— This is a low, evergreen shrub, growing in dry, upland regions, in the northern countries of Europe and America and called Bearberry and Upland Cranberry. The leaves are the part used, and may always be found in the drug-stores.

MEDICAL PROPERTIES AND USES.— Uva Ursi is an astringent diuretic, and somewhat tonic. It is very serviceable in Chronic Diarrhœa, and Dysentery; in Diabetes, or excessive Flow of Urine; in profuse Menstruation; and is especially useful in Chronic Affections of the Kidneys and Urinary Organs, as Chronic Gonorrhœa, Gleet, Leucorrhœa, and Incontinence of Urine. Used in either powder or decoction. Dose: of the powder, twenty to sixty grains; of the decoction, which is made by boiling for a few minutes 1 ounce of the leaves in 1 quart of Water, half a teacupful, three or four times a day.

Valerian — (*Valeriana Officinalis*).— Valerian is a large, handsome plant, indigenous to Europe, growing in rich, moist woods, meadows, and along the banks of streams. The root is the part used, and may generally be found in our drug-stores.

VALERIAN.

MEDICAL PROPERTIES AND USES.— Valerian is a tonic, nervine, and antispasmodic, and very similar in its properties to the American Valerian, or Lady's Slipper, which may always be used instead of it. It is used in cases of Nervous derangement, especially for nervous females, in hysterical, restless, and irritable conditions, in wakefulness during Fevers, and the like. Dose: of the tincture (which may always be had at the drug-stores), one to two teaspoonfuls, three or four times a day; of the infusion, one to two wineglassfuls; of the extract, three to six grains; and of the oil, five to six drops.

Venice Turpentine.— This is a thick, viscid liquid, about the consistence of thick Honey, semi-transparent, of a light-yellowish, or slightly greenish color, having a strong Turpentinish smell, and warm, bitterish taste. It is procured from a species of pine called *Abies Larix* or *Larix Europæa*. There is a brown or dark-colored article sold for Venice Turpentine, which, however, is a spurious and manufactured article, and should not be used.

MEDICAL PROPERTIES AND USES.— Very similar to those of the common Spirits or Oil of Turpentine — a stimulating diuretic, acting powerfully on the Urinary Organs; used in Gleet, Gonorrhœa, Leucorrhœa, and the like; also in Ointments and Salves, for its healing properties. When taken internally, the dose is from one to two teaspoonfuls.

Veratrum — (*Veratrum Viride*).— Known also as American Hellebore, Black Hellebore, and sometimes called Indian Poke and Itch Weed.

VERATRUM.

MEDICAL PROPERTIES AND USES.— Black Hellebore, or Veratrum, is a narcotic and acrid emetic, in large doses; but as used in medicine, that is, in small doses, is a powerful arterial sedative, that is, will reduce the action of the heart and frequency of the pulse; also expectorant, diaphoretic, alterative, and nervine. Used in Diseases of the Heart, as Hypertrophy, or Enlargement of the Heart, Habitual Palpitation, Rheumatism, Inflammation, and other affections of that vital organ, wherever there is too great an action or ex-

citement. Also as a valuable expectorant, diaphoretic, and nervine in Affections of the Lungs, Chronic Pleurisy, and painful Local and Inflammatory Diseases, Spasmodic Affections, Nervous Irritability, Chorea, Epilepsy, Lung Fever, and the like. The best preparation is that called Norwood's Tincture; the dose is about ten drops, three or four times a day, and may be increased a drop or two each day, until double the quantity, or until sickness at the stomach is produced, or the pulse is reduced to about sixty beats to the minute. Should an overdose, or too much be taken, and unpleasant symptoms produced, the free use of Brandy, with 30 or 40 drops of Laudanum, will soon afford relief and counteract its effect. It is mostly used in Affections of the Heart, and where there is too great an arterial excitement, and in such cases is a valuable medicine. Highly valuable in Pneumonia, or Lung Fever. Dose: of the powder, three to six grains; of the tincture, ten drops every three to six hours, increased gradually to twenty drops, or more, if necessary; of the alcoholic extract, half a grain, increased to one or two grains.

Wild Cherry—(*Prunus Virginiana*).—The Wild Cherry tree is found in great abundance throughout the United States, and is too well known to need description.

Medical Properties and Uses.—The bark is the part used, and is tonic, slightly astringent, anodyne, and expectorant. It is an excellent bitter tonic, useful along with other articles as Gentian and the like, as restorative bitters; also good along with astringents in Bowel Diseases, and with suitable expectorants in Affections of the Lungs. It should not be boiled, as it destroys, to a great extent, its virtue. An infusion may be made by adding 1 pint of Hot Water to 1 ounce of the powdered Bark, and let stand over night, when it will be ready for use, or may then be made into syrup. Used mostly in the form of bitters, along with other articles. Dose: of the infusion, half to a wineglassful three times a day; the same of the bitters.

Winter-green—(*Gaultheria Procumbens*).—This is a small shrubby evergreen, known in different parts of the country by the names of Mountain Tea, Partridge Berry, Deer Berry and Pipsissewa. It is found only in mountainous districts, dry barrens, and poor, sandy regions. It has a creeping root, sending up a few slender, reddish stems, but a few inches in height, which contain a bunch of leaves at the top and a few whitish flowers, followed by little scarlet-red berries.

Medical Properties and Uses.—The leaves are the part used, and are aromatic, astringent, diuretic, emmenagogue, and stimulant. Used in infusion or tea in Chronic Diarrhœa and Dysentery, Stoppage of the Urine, and in Suppressed Menses. The principal use of Winter-green, however, is in the manufacture of an essential Oil, by distillation of the herb, which is extensively employed for the purpose of flavoring Syrups, Mixtures, and Medical Compounds. The infusion of the herb may be used freely. Oil of Winter-green supplies the best Salicylic Acid from which Salicylate of Soda, the great Rheumatism Specific, is made.

Witch Hazel—(*Hamamelis Virginiana*).—Known also in some places as Winter-bloom, Spotted Alder, and Snapping Hazelnut. It is a small, crooked bush, from five to ten feet high, with smooth, grayish bark; leaves alternate, oval-shaped, three to five inches long, with numerous raised spots on the under side; flowers small and yellow, appearing late in the fall, followed by small capsules or pods, each containing two oblong black seeds. Witch Hazel is found growing in most of the States, generally on the sides of hills, mountains, and near stony banks and by the sides of streams.

Medical Properties and Uses.—Both the bark and the leaves are used in medicine, and are astringent, tonic, and sedative. Used mostly in decoction, which is good as an astringent in Diarrhœa, Dysentery, and in Bleedings from the Lungs, Stomach, and Urinary Organs, taken freely internally; as a wash to old and foul Ulcers; as an injection in Leucorrhœa, Flooding, and Falling of the Womb, and as a gargle and wash in Sore Mouth and Throat. Dose: of the decoction, from half to a teacupful three or four times a day. The Witch Hazel may generally be had at the drug-stores.

Wormwood—(*Artemisia Absinthium*).—Wormwood is an herb cultivated in our gardens, very bitter and unpleasant to the taste, but, in many cases, a very good medicine. The herb is the part used.

Medical Properties and Uses.—It is a stimulant tonic and anthelmintic. Good for Worms, and in moderate doses, promotes the appetite, strengthens the digestive organs, and the whole system. Used in Dyspepsia, Intermittent Fever, Suppressed Menses, and Chronic Diarrhœa. Dose: of the powdered leaves, ten to twenty grains; of the infusion, half to a wineglassful two or three times a day.

DRUGS, OF OTHER THAN VEGETABLE ORIGIN.

Acetanilid.—This is also known as *anti-febrin*. It is a crystalline powder made from some of the coal-tar products. It is the chief constituent of most patent headache powders and pills.

The drug lowers the temperature, relieves pain, and has a tendency to produce sleep. It is used for the pain of neuralgia, sciatica, locomotor ataxia, migraine, and various headaches. The dose is, for an adult, ½ to 5 grains; it should, however, be taken cautiously.

Antipyrin.—This drug is much like Acetanilid and is used for the same purpose. It is more soluble in water, and may be given in larger doses, with caution, to twenty grains. Neither of these drugs should be used where there is a weak heart.

Arsenic.—Arsenic is a useful drug used as Arsenous Acid, or White Arsenic, in doses of from 1-60 to 1-10 of a grain, or as Fowler's Solution, in doses of from 2 to 10 drops. It is used for Chronic Malaria, many skin diseases, for anæmia, combined with iron, and as an anti-periodic and tonic it is often combined with Iron and Strychnia. Arsenic is the active part of "Paris Green," "Rough on Rats," and other poisons of this nature. It is also used extensively in the arts, especially in wall paper, sometimes causing poisoning by this medium.

Benzoyl is a white crystalline powder made from Creosote. It is used in doses of from 2 to 10 grains, as a tonic and general stimulant for Tuberculosis. It is in fact a pleasant form in which to give Creosote.

Bismuth is one of the chemical elements. The Subcarbonate, Subnitrate, and Subgalliate are used in medicine; the latter is sold under the name of "Dermatol." Bismuth salts have a sedative action upon the mucous membrane of the stomach, and for this reason are given in Gastritis, Pain in the Stomach, and for Vomiting. They all have a sort of astringent action upon the intestines and are used to check Diarrhœas. The first two may be given in doses of from 5 to 60 grains. The latter, *i. e.*, the subgalliate of Bismuth, up to 10 grains. They are also excellent dusting powders, for the skin and skin diseases and for sores and ulcers.

Bromides.—The sodium and potassium salts of Bromine are extensively used in medicine in doses of from 5 to 60 grains, for Epilepsy, Sleeplessness, not due to pain, Nervousness, Delirium Tremens, Migraine, and a great number of nervous diseases. Sodium Bromide irritates the Stomach less than does the potassium salts.

Chloral is a chemical product composed of white crystals, which are readily soluble in water, of a characteristic odor and taste. This drug is used to produce sleep in cases of sleeplessness, due to other causes than pain. It must be used cautiously by people who have weak hearts. The dose is 5 to 20 grains. When rubbed with an equal part of Camphor it liquifies, forming a good liniment.

Chloroform is a colorless liquid of characteristic taste and odor. It is a chemical product. It is used internally as a stimulant in doses of 2 to 20 drops. It is also used to make Chloroform Liniment. The greatest use of Chloroform is for producing anæsthesia, *i. e.*, a profound sleep so that surgical operations may be performed painlessly. For this purpose it is administered by inhalation; a cloth or specially prepared mask is held over the face and the Chloroform dropped on, anæsthesia requires a drachm to an ounce.

Creosote is a liquid of characteristic odor and taste, obtained by distilling Beech-wood. Its greatest use at present is for Tuberculosis; however, before Carbolic Acid came into use, it was used as an antiseptic and wherever Carbolic Acid is now used. It is administered in the form of capsules, in doses of ½ to 2 drops, but a patient can gradually accustom himself to taking much larger doses. Toothache can often be relieved by putting a drop of Creosote in the cavity.

Cantharides.—Spanish Flies are greenish insects (beetles) obtained in southern Europe. The tincture and plaster are the most commonly used of the preparations of Spanish Flies, and mostly for the purpose of blistering.

Ether is a colorless liquid of characteristic odor and taste, and a product of the chemist. It is somewhat like Chloroform, and has similar uses. It is a carminative and is used in some cases of Dyspepsia.

Hydrochloric Acid is a liquid used in a dilute form in medicine. Its use is based on the fact that normally the stomach secretes Hydrochloric Acid, which is a part of the gastric juice, and which is essential to the action of the other constituent of the gastric juice, the Pepsin. In certain forms of Dyspepsia and other diseases there is a diminished or complete cessation of secretion of the Hydrochloric Acid; hence the administration of dilute Hydrochloric Acid in doses of 5 to 20 drops, after meals.

Iron is one of the most important of all the drugs we have. As the blood contains and the system requires a certain amount of this element, there are numerous diseases of blood and body which require Iron. Iron is a constituent of most tonics and is the most important of all blood medicines. The Saccharated Carbonate (often combined with Arsenious Acid), the Tincture and the Syrup of the Iodide are the forms most commonly used. The former in 2 to 10 grain doses; the Tincture in 5 to 60 drop doses, and the Syrup in 5 to 30 drop doses. As Iron discolors and injures the teeth, liquid preparations should be taken through a glass tube. Iron is used wherever a tonic is required, for Anæmia; for Chlorosis; for the purpose of starting the Menses, when their cessation is due to Anæmia or Chlorosis; and also as local applications to stop bleeding, and for a Sore Throat.

Iodides.—The Potassium and Sodium Salts of Iodines are most commonly used. They are white crystalline powders, having an extremely salty, bitter taste. They are the products of the chemist. Iodide of Potassium is a specific in Tertiary Syphilis, causing the symptoms (Tumors, Ulcers, etc.) to melt away with wonderful rapidity. Both Salts may be given in doses of 5 to 60 grains, and the patient will gradually be able to tolerate much more.

Magnesium Sulphate—(*Epsom Salts*).—This is too well known to require description. It is a product of the chemist. It is a saline cathartic given in doses of from a drachm to an ounce. It is used when a watery stool is desired, *i. e.*, when depletion is required.

Mercury.—This is one of the most important drugs we have. In times gone by it has been much abused, but its position is beginning to be recognized. The Bichloride (Corrosive Sublimate), the mild Chloride (Calomel), the Mercurial Ointment (Blue Ointment), and Mercury with Chalk (Gray Powder), are perhaps the four forms most commonly used. Mercury is a *specific* drug for Syphilis, and if properly used will surely cure this dreadful disease. Besides the use of Mercury for Syphilis, it is used as an alterative, glandular stimulant, and cathartic. Bichloride of Mercury is the best and most commonly used antiseptic, used in solutions of one in one thousand to one in fifty thousand of water. The dose of the Bichloride, internally, is 1-40 to 1-12 of a grain; of the Calomel 1-10 to 10 grains. It is best given in divided doses of ¼ or ⅛ grains until it acts. Gray Powder is given in doses of ½ to 10 grains.

Pancreatin is the digesting principle of the Pancreatic secretion. It is usually obtained from the fresh pancreas of the hog. It is sold in the drug-stores in the form of a powder, and is given in certain cases of indigestion in 5 to 15 grain doses.

Pepsin is the digesting principle of the gastric juice; it is much like and obtained in much the same manner as is Pancreatin. It is used in certain cases of Gastric Indigestion, in doses of 5 to 60 grains.

Potassium and Sodium Tartrate.—Better known as Rochelle Salts, with which every one is familiar. They act as hydragogue cathartics, in doses of from a drachm to an ounce.

Seidlitz Powder is an effervescing saline cathartic made in two powders, one containing Rochelle Salts and Bicarbonate of Soda, the other Tartaric Acid, which effervesce upon mixing in water.

Sodium is one of the chemical elements which, united with Chlorine, is common salt. Phosphate of Soda is a hydragogue cathartic in doses of 5 grains to 1 ounce; it also has a special action upon the liver.

Sodium Salicylite is a white powder made from Oil of Winter-green. It is a specific for Acute Articular Rheumatism, and is also used for some forms of Sore Throat.

For Articular Rheumatism, 10 grains should be given, followed in an hour with 10 grains more, after which 5 grains should be given every hour for three or four hours further. The pulse and heart should be watched closely during the administrations, and, with the least signs of weakness, the drug should be stopped. This is the treatment for an adult. For a child, use smaller doses. For Sore Throat, 5 grains may be given three times a day, after meals.

Sulphonal.—Colorless white crystals, the product of the chemist, soluble in hot water, in which it should be administered in 15 to 30 grain doses to produce sleep, unless there is pain which it does not relieve.

THE DAY SHOULD BE STARTED BY A FIVE-MINUTE DEVOTION TO THE BREATHING EXERCISES IN FRONT OF AN OPEN WINDOW

PHYSICAL CULTURE

THE simple exercises described in the following pages are selected as the most practicable for daily use by the busy men and women of the world for whom especially this work has been compiled. The marvelous improvement noticed in many who have tested them thoroughly proves absolutely that they are sufficient in number and in scope to exercise every muscle of the human anatomy and to do the great good that is now a recognized fact the world over Physical Culture exercises will do.

The student in Physical Culture is a student of Nature and tries his own medicine on himself. Air, water, exercise, and diet are the four elements he prescribes — nothing nauseating, nothing to injure the most delicate stomach — Nature's remedies pure and simple, and if only clothed in plain language the work of the teacher of Physical Culture is worthy of commendation. The ignorance of the average individual as to the proper care of his body is truly deplorable. The schoolboy or girl is taught everything but this, yet what study is so important? Let your boy and girl play a little more, insist on their taking proper exercise night and morning, see that their bedrooms are properly ventilated, see that they bathe regularly, throw the coffee and teapot out of the back window rather than put a constant menace to health before them at each meal, and practise this advice yourselves. No matter what your condition is great benefits will follow to yourself and to your children. The proper application of the marvelous constituents of God's prescriptions, air, water, exercise, and diet, will do wonders; it will make strong men and healthy, beautiful women. The exercises will give elasticity and grace to the figure, a healthful sparkle to the eyes, and a color to the cheeks that no artist but Nature can impart.

Facts to Remember.

A big drink of water just as soon as you arise from your bed in the morning excels in good effects all the nauseating fakes of bottled goods called "waters," and pills and laxative medicines in the world, and a big drink of water just before retiring is the best kind of a "night cap" one can take. Water is nature's medicine for flushing the body. Take it internally as fearlessly as you would wash your face; you cannot indulge in it too frequently. It is a blessed nectar that we do not half appreciate. A liberal use of it will cure many of the ills that man is *not* heir to, but which we bring on ourselves through over-indulgence in other things than water. A cold dip or sponge bath at night will promote peaceful slumbers to the restless body or mind and to those

BREATHING EXERCISE.

Take five steps to an inhalation and five steps to an exhalation.

who have never tried it I want to earnestly urge an experiment. Do not rub briskly with a towel, simply dry yourself lightly, do not be afraid of leaving a little cold water on your body. Don your nightgown, get under the blankets, and in a few minutes the most peaceful, restful sensation you ever experienced will creep over you and you will soon be in the land of sweet dreams to awaken in the morning refreshed in mind and body. The morning dip in cold water is the greatest "bracer" in the world, and should be indulged in by every one. Pick out of your acquaintances those who claim to take a cold bath every morning in the year, if they tell the truth and take ordinary care of themselves I can picture them as of robust health, never sick, and good citizens. A drink of water and a cold bath is far more healthful than a hearty breakfast, and if you have time only for one, take the former by all means. The morning bath should be followed by a good toweling, using a coarse towel.

On the question of food many authorities are cited for many different theories by many different people. Animals, who are not taught bad habits by civilization, develop and prosper on one good meal a day. Man wants three or four and man is "Heir to Disease and Kin to Trouble" as the result of this habit to a great degree. A breakfast of two boiled eggs, toast, fruit, and an abundance of water, is enough for any one. Luncheon should be equally light, and dinner at 6 P. M. should be the hearty meal. If your stomach does not feel well, go without breakfast; and if at noon you do not feel better, refrain from lunching. The dinner will be enjoyed and will do you more good than if you had stuffed in two meals on an unwilling stomach. We eat too much; save money and health by eating less. The idea that we must have quantities of meat for proper sustenance is proven by recent exhaustive experiments to be wrong. With the many splendid cereal foods on the market and the abundance of fruit at low prices, it is within the purchasing power of the humblest family to obtain the best and most nutritious food that Nature provides.

In sleeping, lie on your right side and breathe through the nose and sleep in a well-ventilated room: three simple rules that will overcome that tired feeling that many people experience when they arise in the morning. Some people say night air is not good—I say it is. Throw your windows up in cold weather or in warm weather and sleep in a pure atmosphere. Do not fear cold. The people that catch cold are the people that indulge in the great injury of breathing pure air only when they have to. One philosopher said, "A sick man is a fool," and I believe he referred particularly to the person that fears an abundance of pure air.

The loose-fitting, flowing garments of the Ancients was the best method of clothing the body; but Dame Fashion decrees, and we are her slaves to the extent of ruining our health in the attempt to follow her tyrannical dictates. Cotton underclothing winter and summer, loose-fitting outer garments are the best kind, and while we have to tighten up and pile an unseemly lot of clothes upon us, get them off as soon as possible and let your body have free air and play as much as possible. Any clothing that interferes with proper breathing is detrimental to good health. Do not be tempted into wearing the "anti-fat," "anti-cold," "anti-lean," etc., etc., vesta and abdominal bandages and the rest of the rubbish that alluring advertisements would want you to believe are absolutely essential to life. If you have them in use throw them into the waste basket and be better men and women for the act.

Many of the following movements are such as can be performed in front of a mirror and every one is earnestly advised to exercise in this way. We can find our weak points and indulge in the particular exercises necessary to develop them. It is an incentive to work, and seeing a poor body constantly before us will spur us on to constant effort while an apparent improvement will be seen at once and tend to encourage us in the good work. Use the mirror by all means.

BREATHING EXERCISE.

Inhale complete breath; retain for a few seconds; pucker up lips as if for a whistle and exhale slowly.

Every man, woman, and child should study strenuously and conscientiously the breathing exercises described in the first lesson. In scope and effect this lesson embraces all the others, it is the basic principle of physical development. Great athletes have been trained without the proper understanding of how to breathe but they last only a day and their vital functions, when developed apparently to a perfect standard, suddenly fail. Why is it? Simply because they started at lesson 10 instead of lesson 1. The care of the lungs, their proper development, their functions to assist in

BREATHING EXERCISES ILLUSTRATED

the building-up work are positively required before an attempt to develop muscle is made. Abdominal breathing should be practised until you can without effort or discomfort take ten seconds for an inhalation and ten seconds for an exhalation, giving full play to the abdomen, but not calling on the chest muscles to assist in the operation. Practise as often as possible, at your desk, at home, walking, working over the lathe, in the field; keep at it constantly until a long, deep breath is the only kind you take. Then you have accomplished a wonderful stride in the pursuit of happiness and health. The lungs provide about two-thirds of the food upon which our body subsists, or in other words the weight of air inhaled daily is nearly double that of the food we take into our stomach. A pure food that invigorates, that builds up, is within the reach of all; when our system is in need of building up, when we feel some other food than what we are using daily is required, why not try a few hundred extra deep breaths daily? It is so simple, so inexpensive, so easily at-

CHEST EXPANSION.

tained that it is not attractive, yet there is no food, no medicine to compare with simple air drawn into the lungs in deep draughts. It will cure consumption, it will cure stomach trouble, constipation, liver disease, and kidney disease. Marvelous, indeed! but true nevertheless. Try it, give it a thorough test and the good resulting from one week's practise of proper abdominal breathing will astonish the most skeptical person.

TO DEVELOP CHEST AND BUST:

Sitting firmly in chair, carry hands behind chair-back until palms meet.

Exercises should be taken night and morning. The day should be started by a five-minute devotion to the breathing exercises in front of an open window, then the nine exercises, a cold bath and a brisk rubbing with a course towel, then a good big drink of water—and you are ready for a light breakfast and your day's work. If you can walk to your work so much the better. Hold your head up, shoulders back, chest out, and breathe regular, deep breaths, counting five seconds to an inhalation and five seconds to an exhalation or longer as you find by practise you can lengthen the time for each, but do *not* hold the breath.

First Lesson.

Nature requires that during the breathing operation the abdomen should *expand* and *contract*. You will find it so in animals and young children and to a slight degree in grown

persons. It expands at inhalation and contracts at exhalation. The science of deep breathing is in the sufficient contraction and expansion of the abdomen.

The muscles should remain relaxed during this exercise. Stand erect, head up, shoulders well back, hands folded over abdomen or clasped behind your back, elbows as far to rear of body as comfortable, heels together, chest out but not strained, take a long breath through the nose, allowing the *abdomen to expand*, count five seconds at first, or longer if possible, when you have inhaled as much as possible, *exhale immediately*, contracting your abdomen (with the assistance of hands, if necessary), taking same time at each; when finished resume promptly each exercise. Do not under any circumstances hold your breath, it is a bad habit to acquire. Practise incessantly; the more you practise the greater the improvement. If you find it difficult to expand and contract abdomen while standing, lie down, as it is easier to accomplish in a reclining position. You will soon acquire the art of fully expanding and contracting your abdomen and practise will cause you to do it at all times, involuntarily—walking, sitting, working, it is the proper method of deep breathing. Until you acquire it other exercises will be of little value to you. Chest breathing comes next and is a splendid and really the only exercise for the lungs combined with abdominal breathing.

Assume an erect position, elbows at side, hands up to shoulders, fists closed, chest full, inhale as before and *throw out chest* while breathing, count ten or more if possible, exhale in same time and draw in chest as far as possible. The abdominal movement is included in this exercise. The chest exercise absorbs a great deal more air into the lungs and should be used during contests, or when straining the muscles in any way. It relieves the lungs much more quickly than the regular breathing. The chest exercise should be taken the first thing in the morning in front of an open window and should be included in the evening exercises. The first lesson while apparently including two movements, really comprises to the advanced pupil one complete movement in chest breathing.

Second Lesson.

This exercise as the mirror will show you brings into play the shoulder muscles of back and chest and is a good lung exercise.

Stand erect, heels together, toes turned out, chest extended full, head up; now extend arms out as far as possible from shoulders on a level with shoulders, palms open and turned up, *muscles of legs and body rigid*, raise arms slowly until arms meet over head, *resist with all your power*, take five seconds to raise arms and inhale deep breath; bring arms back to first position slowly in same time and still resisting and exhale breath. Relax muscles for a few seconds and resume exercise.

Perform this exercise strictly according to instructions and only as often as you can retain perfect *rigidity of muscles*. Beginners will find it a difficult movement at first but a continuance of the practise daily is earnestly recommended until you can perform this exercise ten times. This is an old movement, but the detailed instructions here given, transform it from a useless exercise to one of the *best* movements in the Physical Culture School. Be sure it is thoroughly learned before proceeding to the next lesson.

Third Lesson.

This exercise is an excellent one for the back, shoulders, arms, and bust; and while apparently simple will, if performed according to instructions, make the hollow chest full and round, and round, humped shoulders straight as nature intended them.

Assume position as in second lesson with the difference that the palms are now turned toward the front, muscles of

TO BE PRACTISED IN CONNECTION WITH LESSON FIVE.
Bend to one side until finger tips touch the floor; the entire flection being at the waist.

entire body rigid, chest full; pass the arms to the front of the body on a level with the chin until palms meet, perform the movement slowly, counting five seconds, resisting with all your might, now draw them back to rear of body as far as possible and resume first position. Abdominal breathing should be performed regularly during this movement. Reach as far to the front as possible without yielding the body.

Fourth Lesson.

POSITION.—Body erect, head up, heels together, toes turned out, arms hanging at side, palms in, fingers extended and joined, full chest; now half face, or turn body to right side

SOME SPLENDID RESULTS FROM A CONSCIENTIOUS
PRACTISE OF THE TEN LESSONS

as far as possible without turning legs or feet, turn should be made from abdomen up; now raise right arm above head and as far back as possible, leaning body to rear of its position, also as far back as you can, then bring arm still extended down to the floor on side of right foot. Repeat up to ten times with right arm and do the same with left arm, keep all the muscles of *hips and legs rigid.*

STRENGTHENING MUSCLES OF BACK — LESSON FIVE.

These two exercises combined in one are very effective in exercising the abdominal and stomach muscles, will reduce abnormally large waists and strengthen and build up weak ones. These combined with the fifth lesson can be recommended as the best liver regulator and cure for stomach troubles in the curriculum of science.

Fifth Lesson.

Assume first position; extend arms over head, lock thumbs, palms turned to front (stretch the hands as far up as possible), now bend the body as far to the front as you can, bringing arms over and attempting to touch toes with fingers, without bending knees, bring arms back and up and to the rear as far as possible; resume first position and continue movement up to ten or twenty times. Muscles of legs and hips *must be rigid.* This is a splendid movement in results achieved by persistent indulgence.

Sixth Lesson.

POSITION.— Right foot advanced, both arms at side, hands clenched tightly, *all muscles rigid*; inhale deep breath and at same time draw right fist up to your shoulder slowly and with great resistance as if lifting a great weight, hold upper part of arm tightly against side of body; every muscle and vein should show prominently. At completion of movement exhale breath and resume first position. Repeat ten times with right arm, then advance left foot and resume exercise in same manner with left arm.

Seventh Lesson.

POSITION.— Hands on hips, elbows to rear of body, chest expanded, head a little leaning to rear, lower the body slowly as far down as possible, at same time raise heels off floor and rest on toes, count five seconds going down and the same coming up. This is undoubtedly the best leg and foot exercise, if done properly. Hold all muscles rigid.

Eighth Lesson.

Lie flat on your back, arms stretched out to fullest extent above your head, heels together, muscles all rigid, chest expanded; raise your body slowly (do not jerk), keeping arms above your head, when you have reached sitting position, continue the motion of body forward until hands touch toes or as near as you can come to the completion of the movement. Relax muscles and resume first position. Do this ten times or as many times as you can do it properly.

Ninth Lesson.

Lie flat on the back, hands clasped over abdomen, *muscles rigid, full chest*, heels together; now raise both legs straight up together and then lower them, counting five to the up motion and five to the lowering.

Take correct standing position — heels together, chest up. Bend body forward, legs rigid; take good grip on ankles; draw body as near the legs as possible without bending the knees.

Tenth Lesson.

Assume position as in second lesson, palms upward, muscles of arms rigid, now close your hands *tightly, slowly*, exert all your strength. When opening relax your muscles. Do this ten times; it may appear a simple movement yet when properly done will bring out perspiration all over the body and will result in giving you the grip of a Hercules.

BANKS AND BANKING

A BANK is, in the simplest sense of the term, a place in which money can be stowed away for safe-keeping. But since the days when goldsmiths and others took care of the funds of such as trusted in their honor and the strength of the strong-boxes which were part of their stock in trade, the idea has been by degrees developed, until now a banking institution, with its means of supplying exchange and discount, its powers of circulation, its care of deposits and its attention to correct accounts, is the embodiment of one of the most interesting as well as the most useful of modern sciences. One of the prime needs of every commercial community is an ample supply of banking capital and facilities for discount.

The profit of the manufacturer, of the merchant and of the retail trader represents in the long run only the balance left after paying the current rate of interest, and if, in consequence of lack of banking capital, interest is higher in one city than in competing cities, all business will suffer, goods will not be bought, grain will not be handled, cotton will be out of reach, improvements will be postponed, and the city will be condemned to enforced idleness in many departments of endeavor where the busy wheels of industry would be started in motion if money could be borrowed on easy terms.

How the Business is Carried On.

The business of banking is divided into several departments or branches, DEPOSITS, CIRCULATION, EXCHANGE, COLLECTION, DISCOUNTS and LOANS being the most important. On account of these different branches banks are frequently called Banks of Discount, Banks of Deposit, Savings Banks, etc.

Banks of Deposit.

A Bank of Deposit is one which receives money from depositors for safe-keeping, paying it back on their checks to others or to themselves. The most important function of a bank is the receiving of deposits, the person thus entrusting his money to the care of the bank being called a depositor. He not only has the advantage of the safe-keeping of his cash, but the further convenience of making his payments from it whenever he chooses, by means of checks. As he will receive payments from others in a similar manner, and deposit them as money, it will at once be seen that an immense volume of business can be transacted, and vast sums of

money paid out, without the handling of any cash.

In Europe it is quite different. The holder of a check presents it to the bank and receives the money. The system of payment by checks, which are deposited as money, is more universally practiced in the United States and Canada than in any other part of the world.

The safe-keeping of his money, and the convenience of his check account, together with other favors he receives in the way of discounts, loans, exchanges, etc., are generally regarded as sufficient compensation for the use of a depositor's funds.

A person desiring to make a single deposit, to be withdrawn in the same amount, receives from the bank a CERTIFICATE OF DEPOSIT. This is issued by the bank itself, is payable at any stated time, or on demand, and may bear interest.

Banks of Circulation.

The issue by a bank of its promises to pay, in the form of bank notes, or bills, is called its circulation. These notes or bills, being guaranteed by the Government, answer as a substitute for money. The Government holds, as security, bonds belonging to the bank, to a still larger amount, and also retains a five per cent. fund for immediate redemption. Only the National Banks issue a circulation, as a tax of ten per cent. would be levied upon any other kind of circulating notes.

Circulating notes called "Greenbacks" are issued by the National Treasury, which thus performs the office of a Bank of Circulation. Various opinions exist as to the propriety of the Government exercising this function. Some hold that it is not right or proper for the Government to be engaged in the banking business, while others contend that the Government alone should have the power to issue paper currency. Others, again, believe the Government should hold a dollar of coin in the Treasury for every paper dollar in circulation.

Banks of Exchange.

A Bank of Exchange is one which receives money on deposit, and, instead of paying it back to the depositor, makes payments by drafts on other banks. It keeps money on deposit at the principle trade centers, thus affording the advantage of sending money to different points at a trifling expense and without risk in transportation.

It charges the person who desires to remit a small amount for its services, and sells him its draft on the place to which the remittance is to be sent. The system is known as Inland and Foreign Exchange, Inland Exchange consisting of a draft drawn and payable in the State or country, and Foreign Exchange being a draft drawn in one country and payable in another. Foreign Exchange involves also the reduction of the money of one country into that of another.

What is Bank Discount?

Bank Discount is the payment of a note or other paper before it is due, deducting the interest that would have accrued at maturity. A note or draft is *discountcd* when the interest for the given time and at the given rate is taken from the face, and the balance paid to the holder. The sum deducted is the *discount;* the remainder is the *proceeds.*

Bank Officers and Employes.

The stockholders of an incorporated bank elect a Board of Directors, who manage its affairs. These elect a President, one or more Vice-Presidents, and a Cashier. The Cashier is the executive officer of the bank, and controls its interior management. He is assisted by a number of employes. The principal ones are the Paying Teller and the Receiving Teller, who are at the head of the debit and credit departments; the Note Teller; the Discount Clerks; the Collection Clerks; the Book-keepers, each in charge of certain ledgers; Assistant Tellers; Assistant Book-keepers; Check-Clerks and Messengers, or "Runners."

HOW TO DO BUSINESS WITH A BANK.

IN doing business with a bank, the first step is to secure a proper introduction to the cashier. If one's references are all right, the depositor's signature is put on record in the "signature-book," giving the name as he intends to sign it on his checks. This is done to furnish the paying teller with an accurate means of judging the genuineness of the signatures of checks—a very necessary precaution, as the bank is responsible for the genuineness of the signatures of all checks. When a partnership account is opened, each member of the firm who is allowed to sign checks writes the firm's name and his own in the signature-book.

Deposits.

When money is deposited in a bank, some voucher should be taken. This is done usually by the teller writing the amount of the deposit in the small bank-book of the depositor, and sometimes a receipt, called a teller's check, is given. When a deposit is made, the bank usually issues a small "hand-book," to be carried in the pocket, in which an account is kept by the teller of the bank of all the transactions which follow. After the opening deposit, when it is intended to pay in more money, the depositor fills out a blank, showing the amount paid in and indicating whether it is in checks or current funds. This ticket, with the book and the money, is handed to the teller, who enters the date and amount. When a note is left for collection, it is usually entered by the collection clerk in the back part of the book, giving date, maker's name, maturity, and amount. When collected, the amount, less collection charges, is placed in the book as a regular deposit. Few merchants keep a separate account with a bank in their general books, the "bank-book" and the stubs of the check-book being sufficient, and in themselves vouchers of the transaction.

How to Keep the Stub of Check-Book.

In drawing a check, insert all the particulars in the stub before doing so in the body of the check; also the purpose for which the check is drawn.

The left-hand page of the stub is intended for the purpose of entering your deposits; the right-hand page for the description of the checks. When both sides are footed up, the excess of the left-hand total over the right shows the balance remaining to your credit in bank.

By following the form here given, it will be found much preferable to subtracting each check, as many do, which makes the tracing of an error very difficult:

19—					
Nov. 6, Deposit.			No. 1.		
Coin.....$ 100.00			Nov. 7, 19—		
Bills..... 200.00			Amount.....	$200	00
Check.			Order of		
Williams..... 60.00			T. A. Lamont.		
Johnson..... 37.50					
White.....1,666.66					
	$2,064	16			
			No. 2.		
			Nov. 8, 19—		
Nov. 8, Deposit.			Amount.....	125	00
Bills.	1,000	00	Order of		
			L. H. Peterson.		
Nov. 9, Deposit.					
Check, B. Dixon.	151	98			
			No. 3.		
$3,216.14			Nov. 11, 19—		
983.30			Amount.....	658	30
2,232.84			Order of		
			J. M. Whitney.		
	$3,216	14		$983	30

The totals are carried forward to the next pages in this manner:

Forward, *Etc.*	$3,216	14	Forward, *Etc.*	$983	30

Balancing a Bank-Book.

Checks paid are not entered up in the bank-book as they are presented for payment, but are filed away, and at the end of a month, or, indeed, whenever the depositor desires to have his account balanced, the book is presented and the balance figured up by the teller, who enters it usually in red ink under the paid checks on the right-hand side. The book should then be ruled up, and the balance in bank carried over to the left-hand side, similar to the first entry. When the depositor calls for his book, all the cancelled checks are passed out to him along with the account.

How to Draw and Endorse a Check.

A check is a written order on a bank directing that a certain amount of money be paid to a person whose name is given, or to the order of that person, or to the bearer. A check is the simplest form of negotiable paper, although there are checks which are not negotiable. There is no set form for the wording of a check. Any dated demand upon

a bank in which the person signing has money, properly signed, is a check, and will draw the money. Sometimes the words "or order" are used; sometimes, "or bearer." Occasionally checks are made payable to "the bearer" without giving any name. If the words "or order" and "or bearer" are both omitted, then the check is not negotiable, and can be paid only to the person named. In theory a check is a sight draft, which does not need acceptance, as it is paid on presentation. All banks keep printed forms of checks, which they issue to depositors. When a check is made payable to the payee "or order," it must be endorsed by the payee before payment. Generally, all checks, whether "to order" or "to bearer," should be endorsed, which is by writing the name of the payee across the back.

Certified Checks.

If all men were perfectly honest, certified checks would never have been thought of. But men will occasionally draw against deposits which exist only in their imaginations, and to meet this growing evil, certification of checks has been introduced. No uncertified check from a stranger should be received by any business man. The certifying means that the person drawing the paper has funds to his credit to the amount of the check, and the bank guarantees its payment. To get a check certified, it is presented either to the paying teller or the cashier of the bank on which it is drawn. The bank officer writes across the face, "Certified," with the date, and signs. Another form used very frequently are the words, "Good when properly endorsed," with the signature. This makes the bank liable for the check, even if it is a forgery or a fraudulent one. The certification of a check is the same as the acceptance of a draft.

Banking Frauds.

FORGED CHECKS.—Despite the precautions taken by banks in keeping a signature-book, it frequently happens that astute rogues deceive them with forgeries. This is the most dangerous crime in the business world, as it strikes at the root of confidence. Some forgers are so expert that they are able to imitate a signature so closely that even the one whose name is forged can only swear that he did not make out the check, and will not be able to pick out the forged signature by itself from the genuine. All of the responsibility of detecting forgeries is thrown upon the receiving teller of the bank. Every check is paid by the bank at its own risk, and it has no recourse against the person whose name is forged. A forgery cannot be rectified by the person whose name was used, as this rectification would be contrary to public policy, and would tend to shield a crime which, unpunished, would break the whole commercial fabric.

RAISED CHECKS.

A device of sharpers which is frequently attended with great success is so to alter the wording and the figures of a check that it will call for more money than the drawer intended to pay. This is called "raising a check," and is a felony. Check-raising is only possible when the check is loosely written, with a number of blank places where words may be inserted. Care should be taken always to fill in the empty spaces with lines of ink. If a raised check is paid by a bank it can only charge the depositor with the amount for which he drew. A very common device, and a good one, used by many merchants, is to stamp the amount of money written on the check with an instrument having a number of sharp points, which so roughens the paper that it is impossible to write anything more on it, although it leaves the original writing legible.

ALTERED CHECKS.

Altered checks differ from raised checks from the fact that in an altered check all of the original writing except the signature, date and number is taken out with chemicals, which leaves the check blank. It is then rewritten for any amount the swindler desires to put in.

DRAFTS AND BILLS OF EXCHANGE.

A draft may be described as an order or request, written by one person to another, asking the latter to pay a specified sum of money to a third party, or to his order, or to the bearer. Bills of exchange are drafts under another name. An inland bill is a draft drawn and payable in the same State or country, and a foreign bill of exchange is drawn in one country and payable in another. Remittances can be made much more safely and expeditiously by sending bills of exchange than by sending money. If lost, the draft may be duplicated. To provide against this contingency, in sending drafts over sea, it is customary to draw two or three for the same remittance, and when one of these is paid, the others are void; but the great and increasing accuracy of the world's postal systems has largely removed the necessity for sending more than one bill of exchange. So much for definitions. We will now examine drafts and their forms.

How Drafts are Drawn.

In a draft, as in a note, any form which includes the necessary requirements will be held good in law, no matter how these may be arranged. Still, custom has, in a measure, crystallized on certain lines.

$600. *Chicago, April 1st, 19—*

At Ten Days sight pay to the order of Edwin Russell Six Hundred Dollars, value received, with current rate of exchange.

To Simon Hockaday, St. Louis, Mo. } *Donohue & Co.*

The theory upon which a draft is drawn is that the drawer has or will have funds in the hands of drawee at the maturity of the draft, or that the drawee is indebted to him. Sometimes drafts are drawn by agreement when there is no indebtedness. It must be borne in mind that there is much difference in the liability between a note and a draft. The maker of a note must pay it; the drawer of a draft is only liable after the drawee has refused to pay. The drawee only becomes liable when he has accepted the draft. When the draft is presented, if it is a sight draft, no acceptance is necessary, except where the State law allows days of grace. The draft is simply to be paid at once. But when it is to be paid at a certain time after sight, the drawee must formally accept it, which is done by writing across the face of the paper the word "Accepted," with the date and the signature of the person accepting. This acceptance is a legal promise to pay.

When the draft is presented, the drawee can demand a reasonable time to make up his mind whether to accept or not, whereupon it may be left with him one day. If he refuses to return it at the end of that time, he can be held as accepting. The place for presentment is the business office or residence of the payee.

Non-Acceptance.

When the drawee refuses to accept the draft, it is said to be "dishonored." It must be at once protested, and notice sent to all parties who are consequently liable. The protest must be made on the same day that the draft is dishonored, and the notice sent at least by the day following. The protest should be made by a notary public; but, if one is not accessible, it can be made by any respectable citizen.

A Protest.

A protest is a declaration made by a notary public against the loss which may follow the non-acceptance of a draft, its non-payment, or the non-payment of a note. To illustrate the machinery of the protest we will return for a moment to the draft, the form for which has been given above. Mr. Hockaday refuses to accept the draft drawn on him by Donohue & Co. It is placed in the hands of a notary public, who again presents the draft to Hockaday and demands its acceptance. He refuses, whereupon a form is filled out testifying to the facts in the case, especially Hockaday's refusal to accept, all of which is attested by the notary. No person can be held responsible for payment unless notice of protest is sent to him as early as the day following the protest. These notices should be sent to the maker and to each endorser of the draft.

NOTICE OF PROTEST.

St. Louis, April 7th, 19—

Please to take Notice:

That a Draft drawn by yourself on Simon Hockaday, of St. Louis, Mo., for the sum of One Thousand Dollars, dated April 1st, 19— was this day Protested *for non-acceptance, and that the holder looks to you for the payment thereof, acceptance having been duly demanded by me and refused.*

Commissioned June 1st, 19—
Commission expires June 1st, 19—

A. A. Oldfield,
Notary Public.

To Donohue & Co., Chicago, Ill.

An acceptance "supra-protest" is the name given to the acceptance of the draft by some person other than the drawee, "for the honor of the drawee." The draft is then held till maturity, and presented to the drawee as though he had accepted it. If he refuses to pay, it is protested, and the person making the "acceptance supra-protest" is liable for the amount.

Foreign Bills of Exchange.

The principles which we have been examining above apply with equal force to foreign bills of exchange. These are now commonly drawn in sets of two, so that each may be sent by a different ship, and they are always to be payable in the money current in the country where the payment is to be made.

Exchange for £200.

St. Louis, August 8th, 19—

At sight of this First of Exchange (second unpaid) pay to the order of Philip Francis Two Hundred Pounds Sterling, value received, and charge same to account of

Wilmot Baring.

To Cunningham, Shaw & Co.,
Liverpool, England.

Exchange for £200.

St. Louis, August 8th, 19—

At sight of this Second of Exchange (first unpaid) pay to the order of Philip Francis Two Hundred Pounds Sterling, value received, and charge same to account of

Wilmot Baring.

To Cunningham, Shaw & Co.,
Liverpool, England.

A foreign bill is protested in the same manner as an inland bill. The law does not explicitly require this protest in every case, but it has been found, even where the State statute has simply required "notice of non-acceptance" to be furnished the parties liable, to be the safest way to fix liability

Letters of Credit.

The letter of credit is one of the most useful of banking instruments, proving of great convenience to travellers in foreign lands, whom it enables to draw money from banks and bankers, thus relieving them from the risks attendant upon carrying large amounts of money about the person, and the annoyance of making frequent exchanges. The following is the form generally employed:

FOREIGN LETTER OF CREDIT.

THIRD NATIONAL BANK.

Foreign Letter of Credit,
No. 2308.

Kansas City, March 23, 19—

Gentlemen:

We request that you will have the goodness to furnish Mr. Hannibal Atkins, of this city, whose signature is at foot, with any funds he may require, to the extent of Twenty Thousand Francs in Gold, against his Duplicate Receipts (one of which you will forward to us), for any payment made under this credit.

Whatever sum Mr. Atkins may take up, you will please endorse on the back of this letter, which is to continue in force until January 1, 19— and charge to the account of

Your obedient servant,

THE THIRD NATIONAL BANK,

Richard Rankin,
President.

The Signature of
Hannibal Atkins.

To Messieurs:
The Bankers mentioned on the third page of this letter of credit.

Inland letters of credit are also used, their general characteristics being the same as the foreign, though they differ somewhat in their wording. Generally a letter of introduction is delivered to the party to whom the credit is issued, introducing him to the correspondent of the bank of issue, and stating the nature of the transaction, the amount of credit granted and the time it has to run. Letters of advice, conveying the same intelligence, together with the signature of the party bearing the letter of credit, are sent to the bank's correspondents.

Bill of Lading as Security.

Shippers of merchandise, purchasing cargoes on speculation to be forwarded to an agent for sale, to obtain the money to pay for it, draw a draft upon the consignee, made payable to the bank from which the money is obtained, by giving as security for its payment a bill of lading made out by the captain of the craft or the railroad company owning the road upon which the goods are shipped, either in the name of the shipper, and assigned by him to the bank, or drawn originally in the name of the bank, both forms being common. As a general rule, the bill of lading is attached to the draft and is held by the bank, to which the title at once passes.

A BILL OF LADING.

No. 315. *Chicago, July 30, 19—*

SHIPPED by Asa Lasalle, as Agent, in apparent good order, on board the Propeller May Prescott, of Ogdensburg, New York, whereof James Perkins, of Cleveland, Ohio, is Master, the following described property, to be transported to the place of destination without unnecessary delay, and to be delivered as addressed on the margin in like good order, in the customary manner, free of lighterage, upon prompt payment of freight and charges as prescribed in this bill.

The Freight, Charges and Demurrage payable to Enos Hanscomb, Cashier *First National Bank* of Erie, Pa., or order, at place of destination, who is the only party authorized to collect the same, and whose receipt shall be in full of all demands on this cargo or Bill of Lading.

In Witness Whereof, the said Master of said boat hath affirmed to three Bills of Lading, one marked "original" and two "duplicate," of this tenor and date, one of which being accomplished the others to stand void.

Order of Franklin Bank. 10,000 Bushels No. 1 Winter Wheat.
Freight, 3 cents per bushel.

Notify Peter Albright & Co., Ogdensburg.

AMOS BOWEN.
J. G. LEITCH.

The grain thus hypothecated to the bank is subject to its control and direction, and its proceeds, when sold, must be applied to the draft's payment.

Asa Lasalle's transaction in purchasing the wheat and shipping it on the propeller May Prescott, of which James Perkins is captain, is partially described in the foregoing bill of lading. The grain is consigned to Peter Albright & Co., Ogdensburg, agents, on account of the Franklin Bank, which also requires Asa Lasalle to insure the consignment for its protection. The following is the form of draft employed in a transaction of this kind:

THE DRAFT.

$12,000. *Chicago, Ill., July 12, 19—*

Pay to the order of Franklin Bank Twelve Thousand Dollars, value received, and charge the same to account of (10,000 bus. winter wheat, Prop. May Prescott)

Asa Lasalle.

To Peter Albright & Co.,
Ogdensburg.

No. 853.

The Clearing-House System.

A Clearing-house is an association of the banks and bankers of a city for the exchange of their checks and the adjustment of accounts between themselves. A business man, receiving a check in the course of trade, seldom thinks of sending it to the bank on which it is drawn, but simply deposits it in the bank with which he keeps his account, only taking the precaution to have it "certified" if he doubts its goodness. Thus, at the close of a day, each bank will hold a number of checks drawn on other banks. These are assorted, and placed in envelopes, marked with the names of banks on which they are drawn and with the total amount, and taken by a clerk and messenger to the Clearing-house. There the balances against or in favor of each bank are ascertained, and are paid in by a certain hour each day, and the accounts settled. By the Clearing-house system the exchange of millions of dollars is daily effected in large cities by the transfer of a few thousands.

OUR NATIONAL BANKING SYSTEM.

THE NATIONAL BANKING SYSTEM was created by Congress in the belief that it was the best permanent method of securing paper money absolutely safe from loss to the holder and readily convertible into coin. Under the laws of the United States any number of persons not less than five may form an association and obtain a charter for the purpose of carrying on the business of a national bank. The capital stock of a national banking association is divided into shares of $100 each, and in cities of 50,000 population, or over, no association can be organized with a less capital than $200,000; in cities of less than 50,000, $100,000 capital is required, but, with the approval of the Secretary of the Treasury, national banks may be organized in places of less than 6,000 inhabitants with a capital of $50,000.

National banks are authorized to discount and negotiate notes, drafts, etc.; to receive deposits; to buy and sell exchange, coin and bullion; to loan money on personal security, and to issue circulating notes. They are prohibited from making loans on real estate, or on security of their own shares of capital, except to secure debts previously contracted, and real estate purchased or mortgaged to secure a pre-existing debt cannot be held for a longer period than five years.

They are also prohibited from making loans to one person or association, excepting on business paper representing actually existing value as security, in excess of one-tenth of the capital of the bank.

The stockholders of a national bank are individually liable (equally and ratably, and not one for another) for an amount equal to the par value of the capital stock held by them.

The national banks in the reserve cities are required by law to hold a lawful money reserve of 25 per cent. of their deposits; all other national banks, 15 per cent. The excess above legal requirements is called "surplus reserve." This reserve includes the five per cent redemption fund with the U. S. Treasurer.

The law provides that a surplus fund shall be accumulated, by setting aside, before the usual semi-annual dividend is declared, one-tenth part of the net profits of the bank for the preceding half-year, until the surplus fund shall amount to 20 per cent of its capital stock.

The national banks pay to the United States a tax of 1 per cent. annually upon the average amount of their notes in circulation, ½ per cent. annually upon the average amount of their deposits, and ½ per cent. annually upon the average amount of capital not invested in U. S. bonds. Banks other than national pay taxes to the United States on account of their circulation, deposits and capital at the same rates as are paid by the national banks.

National Bank Circulation.

Every national bank, before it is authorized to commence business, must transfer to the Treasurer of the United States registered bonds, bearing interest to an amount not less than one-fourth of the capital stock paid in, as security for its circulating notes. Banks having a capital of more than $150,000 shall be required to deposit bonds to the amount of one-third of their capital stock.

Upon a deposit of registered bonds, the association making the same will receive from the Comptroller of the Currency circulating notes of different denominations, in blank, equal in amount to 90 per cent. of the current market value, not exceeding par, of the bonds so deposited.

The circulating notes of national banks are redeemed in lawful money by the banks which issue them, and by the Treasurer of the United States at Washington. Every national bank must, at all times, keep and have on deposit in the Treasury of the United States, in lawful money, a sum equal to 5 per cent. of its circulation, to be held and used for the redemption of such circulation.

A bank going into voluntary liquidation must, within six months thereafter, deposit in the Treasury a sum equal to the amount of circulating notes outstanding. The law also requires that full provision shall be made for the redemption of the circulating notes of any insolvent bank before a dividend is made to its creditors. No association, therefore, can close up its business without first providing for the payment of all its circulating notes, and the amounts deposited for their redemption must remain in the Treasury until the last outstanding note shall have been presented. Thus the Government, and not the bank, receives all the benefit arising from lost or unredeemed circulating notes.

STOCKS AND BONDS

THE CAPITAL of a corporation is always divided into shares ranging from $10 to $1,000, but usually of $100 each. These shares are known as *stock*, and represent an interest in the property and profits of the company over and above liabilities and expenses. A *dividend* is the distribution of the profits, proportionate to number of shares held among the stockholders.

Stock certificates are written instruments, signed by the proper officers of the company, and certifying that the holder is the owner of a certain number of shares of the capital stock. These certificates are transferable, and may be bought and sold the same as other species of property. The sum for which each share or certificate was issued is the *par value*, and the amount for which it can be sold the *market* value.

Preferred Stock.

This kind of stock takes preference of the ordinary stock of a corporation, and the holders are entitled to a stated per cent annually out of the net earnings before a dividend can be declared on the common stock. Preferred stocks are generally the result of reorganization, although sometimes issued in payment of floating or unsecured debts.

How Stock is "Watered."

Sometimes the charter of a corporation forbids the declaring of a dividend exceeding a certain per cent of the par value of its stock. In this case the directors may find it desirable to "water" the stock—that is, issue additional shares. This increase in the number of shares of course reduces the percentage of dividend, although the same profit in the aggregate is secured to the stockholders.

BONDS.

A *bond* is in the nature of a promissory note—the obligation of a corporation, state, county or city to pay a certain sum of money at a certain time, with interest payable at fixed periods or upon certain conditions.

The bond of a company may be a perfectly safe investment, when the stock is not; and the stock of a prosperous and successful company, paying large dividends or having a large surplus, may sell at a higher price than the bonds of the same company, the income from which is limited to the agreed rate of interest which they bear. A much closer scrutiny should be made of a company's standing when one thinks of investing in its share capital, than when it is the intention to loan the company money on its mortgage bonds.

Generally the bonds of business corporations are secured by mortgage, but some classes of bonds are dependent on the solvency or good faith of the company issuing them.

The *coupons* attached to bonds represent the different installments of interest, and are to be cut off and collected from time to time as the interest becomes payable. Bonds are sometimes issued without coupons, and are then called *registered bonds*. Such bonds are payable only to the registered owner, and the interest on these is paid by check. *Convertible bonds* are such as contain provisions whereby they may be exchanged for stock, lands or other property.

Bonds are known as First Mortgage, Second Mortgage, etc., Debentures, Consols, Convertible Land Grant, Sinking Fund, Adjustment, Income or otherwise, according to their priority of lien, the class of property upon which they are secured, etc. Income bonds are generally bonds on which the interest is only payable if earned, and ordinarily are not secured by mortgage. Bonds are also named from the rate of interest they bear, or from the dates at which they are payable or redeemable, or from both; as, U. S. 4's 1907, Virginia 6's, Western Union 7's, coupon, 1900, Lake Shore reg. 2d, 1903.

GOVERNMENT BONDS.

OUR GOVERNMENT found it necessary to borrow large sums of money to prosecute the war of the Rebellion, and in return issued interest-bearing bonds. All of these bonds now outstanding are payable in coin, except only the currency 6's, and all are exempt from taxation.

The following is a complete list of bonds outstanding in 1892:

4½'s OF 1891—CONTINUED AT 2 PER CENT. Authorized by acts of July 14, 1870, and Jan. 20, 1871, and issued for the purpose of funding the 5-20 and 10-40 bonds. The original issue was $250,000,000. In 1891, in view of the requirements of the sinking fund for 1892, it was deemed advisable to suspend the redemption of these bonds until after that year should begin, and to reserve the residue of the loan for readjustment. The amount outstanding subject to settlement at the option of the Government after Sept. 1, 1891, was $50,869,200. The holders of the bonds were offered their choice of presenting them for redemption with interest to Sept. 2, or for continuance at the pleasure of the Government with interest at 2 per cent. Amount outstanding at 2 per cent, $25,364,500.

4's OF 1907. Authorized by acts of July 14, 1870, and January 20, 1871, and issued for the purpose of funding the 5-20 and 10-40 bonds. Redeemable at option of Government after 30 years from their date, or after July 1, 1907.

CURRENCY 6's. Issued to aid in construction of the Pacific railroads, and authorized by acts of July 1, 1862, and July 2, 1864. Principal and interest payable in lawful money of the United States. Payable 30 years after date, and maturing at different dates from 1895 to 1899.

REFUNDING CERTIFICATES. Authorized by act of February 26, 1879. These certificates are of the denomination of $10, bear interest at 4 per cent, and are convertible at any time, with accrued interest, into 4 per cent bonds.

All Government bonds are dealt in and quoted "flat"—that is to say, the quoted market price is for the bond as it stands at the time, including the accrued interest—except that after the closing of the transfer books the registered bonds are quoted ex-interest—that is to say, the interest then coming due belongs to the holder of the bond at the time of the closing of the books, and does not go with the bond to the purchaser.

Coupon bonds, being payable to bearer, pass by delivery without assignment, and are therefore more convenient for sale and delivery than registered bonds, which must be assigned by the party in whose name they are registered. The interest coupons, being also payable to the bearer, will be cashed by any bank or banker.

The interest on registered bonds is paid by checks, made to the order of the registered owner and sent to him by mail. These checks, when properly endorsed, can be collected and cashed through any bank or banker.

Coupon bonds may be converted into registered bonds of the same issue, but there is no provision of law for converting registered bonds into coupon bonds.

COMMERCIAL LAW AND FORMS.

Notes, Bills, Orders, Checks, Drafts and Receipts Properly Drawn for Every State.

EVERY business man has felt the necessity of a simple and thorough explanation of the legal principles and usages which underlie all business transactions. The law presumes that no man is ignorant of the law, and consequently, when such vital issues are at stake, no one can afford to be ignorant. Not a day passes by in a large counting-house that some question does not arise which involves legal knowledge in its correct solution. To those who have felt the need of a safe and simple adviser in those every-day difficulties of trade, we will offer the chapters which follow. All the matters included in the routine of business will be found fully treated, while such explanations are appended as will make the study one in which a mistake will be found impossible.

All men should know so much of the ordinary law as protects their common and universal rights, and it must be admitted by every student that business men should understand the most general laws of business—the law of partnership; how to make agreements; how to conduct sales; how to draw notes; how to collect them, and the like. Knowledge of the principles of business law will prevent, every day, important mistakes leading to trouble and loss. The laws have here been made plain by themselves, so that a thorough and satisfactory answer is at hand for every question.

The forms given will be found exceptionally complete and accurate, having been prepared with care and examined with close scrutiny.

NEGOTIABLE PAPER.

Confidence is the broad foundation on which the whole superstructure of business, as it exists to-day, has been built. The steps in this progress have been, first, barter in kind, the exchange of a bushel of wheat for a handful of arrow-heads, as business is still conducted among the savages; next, the substitution of money as a medium of exchange; and finally, the substitution of negotiable paper, that is, documentary evidence of debt, for money, completing the progression. Negotiable paper includes promissory notes, due bills, drafts, checks, certificates of deposit, bills of exchange, bank bills, Treasury notes (greenbacks), and all other evidences of debt, the ownership of which may be transferred from one person to another.

The mere acknowledgment of debt is not sufficient to make negotiable paper; the *promise* of payment or an *order* on some one to pay is indispensable. This promise must be for money only. The amount must be exactly specified. The title must be transferable. This feature must be visible on the face of the paper by the use of such words as "bearer" or "order." In some of the States peculiar phrases are ordered by statute, as "Payable without defalcation or discount," or "Payable at ———," naming the bank or office.

Promissory Notes.

A written agreement, signed by one person, to pay another, at a fixed time, a stated sum of money, is a promissory note. It becomes negotiable by being made payable to an order on

some one or to bearer. As it is a contract, a consideration is one of its essential elements. Yet, although it be void as between the two first parties, being negotiable and coming into the hands of another person who gives value for it, not knowing of its defect, it has full force and may be collected.

The date is of great consequence on all such paper. In computing time, the day of date is not counted, but it is the fixed point beginning the time at the end of which payment must be made. Omission of the date does not destroy a note, but the holder must prove to the time of its making. The promise to pay must be precise as to time which the note is to run. It must be at a fixed period, or conditional upon the occurrence of something certain to happen, as "at sight," "five days after sight," "on demand," "three months after date," "ten days after the death of John Doe." The time not being specified, the note is considered "payable on demand," and suit may be entered immediately.

The maker, the person who promises and whose signature the note bears, must be competent. Insane people and idiots are *naturally*, and aliens, minors and married women may be *legally*, incompetent. The maker is responsible and binds himself to pay the amount stated on the note at its maturity. He need not pay it before it becomes due, but should he do so and neglect to cancel the note, he would be again responsible if any other person, without knowledge of such payment, acquired it for value before maturity. Even a receipt for payment from the first payee would not stand good against the subsequent holder.

The payee is the person in whose favor the note is drawn; the legal holder, the person to whom the money must be paid. When a note is made payable simply to bearer, without naming the payee, any one holding the note honestly may collect.

A subsequent party, one who comes into possession of the note after the original holder, has a better claim than the first one, for the reason that between the maker and the first payee there may have been, in the contract, some understanding or condition militating against the payment when it would become due, but the third person, knowing nothing of this, gives his value and receives the note. The law will always sustain the subsequent party.

The endorser is held responsible if the maker fails to pay when the note arrives at maturity. A note payable to order must be endorsed by a holder upon passing it to another, and, as value has been given each time, the last holder will look to his next preceding one and to all the others.

A note, being on deposit as collateral security, becoming due, the temporary holder is the payee and must collect.

Endorsements.

The following form will illustrate the shape in which a note should be drawn and endorsed. An endorsement is a writing across the back of a note, which, as will be seen further on, makes the writer responsible for the amount of the note.

COMMON FORM OF NEGOTIABLE NOTE, WITH ENDORSEMENTS.

$2,500. *Brooklyn, N. Y., May 1st, 19—*

Four months after date I promise to pay to the order of L. B. Davis Twenty-five Hundred Dollars, at the Mechanics' Bank in Brooklyn, value received.

Andrew J. Benson.

ENDORSEMENTS.

In Blank.	In Full.	General.	Qualified.	Conditional.	Restrictive.
L. A. Davis.	*Pay Chas. Evans or order. L. A. Davis.*	*Pay Chas. Evans. L. A. Davis.*	*Pay Chas. Evans or order, without recourse. L. A. Davis.*	*Pay Chas. Evans or order, unless payment forbidden before maturity. L. A. Davis.*	*Pay Chas. Evans only. L. A. Davis.*

The Endorser's Responsibility.

It has been generally admitted that the first three endorsements given amount to the same thing; that is, either the blank endorsement, the full endorsement or the general endorsement entitles the holder of the note to the money, and to look to Davis for payment if Benson defaults. It has even been held that in a general endorsement the holder had the right to fill in the words "or order" after Chas. Evans' name, if he saw fit. The qualified endorsement releases the endorser from any liability in case Benson defaults, the words "without recourse" meaning that the holder is without recourse against the endorser. The conditional and restrictive endorsement explain themselves by their wording, and, it is needless to say, are only used in special cases. Each endorser is severally and collectively liable for the whole amount of the note endorsed if it is dishonored, provided it is duly protested and notice given to each. The endorser looks to the man who endorsed it before him, and so back to the original maker of the note. As soon as a note is protested, it is vitally necessary that notice should be sent to each person interested at once.

Necessary Legal Points.

Bearing the preceding facts in mind, any form of note which conforms to these requirements will hold in law: It must promise to pay a specified sum of money. To be on the safe side, however, it is well to see to it that any note offered for negotiation—

Is dated correctly;

Specifies the amount of money to be paid;

Names the person to whom it is to be paid;

Includes the words "or order" after the name of the payee, if it is desired to make the note negotiable;

Appoints a place where the payment is to be made;

States that the note is made "for value received;"

And is signed by the maker or his duly authorized representative.

In some States phrases are required in the body of the note, such as "without defalcation or discount;" but, as a general thing, that fact is understood without the statement.

FORMS OF NOTES.

A Note Negotiable without Endorsement.

$250. *St. Louis, June 8, 19—*

Thirty days after date I promise to pay J. H. Ames, or bearer, Two Hundred and Fifty Dollars, at the Third National Bank in St. Louis, for value received.

Charles Carns.

A Note Negotiable Only by Endorsement.

$200. CHICAGO, Nov. 26, 19—

Three months after date I promise to pay John H. Woltering, or order, Two Hundred Dollars, value received.

J. T. NORTON.

A Note Not Negotiable.

$200. ST. LOUIS, Nov. 17, 19—

Ninety days after date I promise to pay Charles C. Collins Two Hundred Dollars, value received.

SAMUEL ATKINSON.

A Note Bearing Interest.

$100. BATON ROUGE, LA., Nov. 26, 19—

Six months after date I promise to pay R. V. Jennings, or order, One Hundred Dollars, with interest, for value received.

JOHN Q. WATSON.

A Note Payable on Demand.

$150. PHILADELPHIA, Nov. 30, 19—

On demand I promise to pay Lamonte Whittlesey, or bearer, One Hundred and Fifty Dollars, value received.

JOHN Q. CHAFFINGTON.

A Note Payable at Bank.

$100. CINCINNATI, Dec. 24, 19—

Thirty days after date I promise to pay Thomas I. Rankin, or order, at the Second National Bank, One Hundred Dollars, value received.

FRANK T. MORRISON.

Principal and Surety.

$793. NEWARK, N. J., Dec. 28, 19—

Sixty days after date I promise to pay Daniel O'C. Patterson, or order, Seven Hundred and Ninety-three Dollars, with interest, value received.

JOHN G. WATTERSON, *Principal.*
T. R. GRAHAM, *Security.*

A Married Woman's Note in New York.

$400. NEW YORK, Dec. 13, 19—

Three months after date I promise to pay Johnson, Dunham & Co., or order, Four Hundred Dollars, with interest. And I hereby charge my individual property and estate with the payment of this note.

CLARA C. DICKERSON.

A Joint Note.

$3,000. DETROIT, MICH., Dec. 12, 19—

One year after date we jointly promise to pay E. C. Langworthy, or order, Three Thousand Dollars, value received.

JOHN C. JENNINGS.
WALTER D. CURTIS.

A Joint and Several Note.

$3,000. DETROIT, MICH., Dec. 12, 19—

One year after date we jointly and severally promise to pay E. C Langworthy, or order, Three Thousand Dollars, value received.

JOHN C. JENNINGS.
WALTER D. CURTIS

A Partnership Note.

No. —— BOSTON, MASS., November 26, 19—

One month after date, without grace, we promise to pay to the order of ourselves Two Hundred and Fifty Dollars, at any bank in Boston.

JOHNSON & CO.,
209 Temple Place

$150. Due Dec. 26, 19—

A Note Payable by Instalments.

$3,000. PITTSBURG, NOV. 18 19—

For value received, I promise to pay R. P. Donaldson & Co., or order, Three Thousand Dollars, in the manner following, to wit: One Thousand Dollars in one year, One Thousand Dollars in two years, and one Thousand Dollars in three years, with interest on all said sums, payable semi-annually, without defalcation or discount.

HUGO R. MUELLER.

A Judgment Note, with Collateral Note Combined.

[The portions enclosed in brackets are used in collateral notes only.]

CHICAGO, Dec. 20, 19—

One year after date, for value received, I promise to pay to the order of Jeremiah B. Shelton Three Hundred and Sixty-Five Dollars, with interest at the rate of eight per cent per annum [after due, having deposited with the legal holder hereof, as collateral security, * * *. And I hereby give said legal holder, his, her or their assigns, authority to sell the same, or any part thereof, at the maturity of this note, or at any time thereafter, or before, in the event of said security depreciating in value, at public or private sale, without advertising the same, or demanding payment, or giving notice, and to apply so much of the proceeds thereof to the payment of this note as may be necessary to pay the same, with all interest due thereon, and also to the payment of all expenses attending the sale of the said collaterals, and in case the proceeds of the sale of the same shall not cover the principal, interest and expenses, I promise to pay the deficiency forthwith after such sale, with interest at ten per cent per annum. And it is hereby agreed and understood that if recourse is had to such collateral, any money realized on sale thereof in excess of the amount due on this note shall be applicable to the payment of any other note or claim which the said legal holder may have against me, and in case of any exchange of, or addition to, the collateral above named, the provisions of this note shall extend to such new or additional collateral.]

And to further secure the payment of said amount, I hereby authorize, irrevocably, any attorney of any court of record to appear for me in such court, in term time or vacation, at any time hereafter, and confess a judgment without process in favor of the holder of this note, for such amount as may appear to be unpaid thereon, together with costs and twenty-five dollars attorney's fee, and also to file a cognovit for the amount thereof with the agreement therein, that no writ of error or appeal shall be presented upon the judgment entered by virtue hereof, nor any bill in equity filed to interfere in any manner with the operation of said judgment, and to waive and release all errors which may intervene in any manner with the operation of said judgment; and to waive and release all error which may intervene in any such proceedings, and consent to immediate execution upon such judgment. Hereby ratifying and confirming all that said attorney may do by virtue hereof.

JOHN T. STRATFORD. [SEAL.]

A judgment note in Illinois requires the power of attorney to confess it. Many, and, in fact, most people deem a judgment note a sort of mortgage. It has no such effect, however, and creates no lien or claim different from any other note, and differs from any other note in this only, that the holder can take it and go into court, enter up a judgment and have execution against the maker at once. Thus, by the judgment so entered up, the holder gets a lien, and not by any lien created by the note before judgment.

A Short Form of Judgment Note.

$460. BROOKLYN, N. Y., Nov. 16, 19—

On demand, for value received, I promise to pay, to the order of Alexander A. McHatton, Four Hundred and Sixty Dollars. And I hereby confess judgment for said sum with interest and costs, a release of all errors, and a waiver of all rights of appeal and to the benefit of all laws exempting property from levy and sale.

EZEKIAH PARTINGTON.

Sealed Note.

$5,000. CINCINNATI, O., Nov. 16, 19—

For value received, I promise to pay Edgar & Co., or order, Five Thousand Dollars, in three years from the date hereof, with interest payable semi-annually, without defalcation or discount. And in case of default of my payment of the interest or principal aforesaid with punctuality, I hereby empower any attorney-at-law, to be appointed by said Edgar & Co., or their assigns, to appear in any court which said Edgar & Co., or their assigns, may select, and commence and prosecute a suit against me on said note, to confess judgment for all and every part of the interest or principal on said note, in the payment of which I may be delinquent.

Witness my hand and seal, this 16th day of November, A. D. 19—

JOHN WHITE. [SEAL.]

Attest: GEORGE OLDHAM.

Forms of Notes in Several States.

MISSOURI.

$60.00. St. Louis, Mo., July 24, 19—

Three months after date, I promise to pay to the order of Edgar M. Voll Sixty Dollars, for value received, negotiable and payable without defalcation or discount.

Sigmund A. Abeles.

INDIANA.

$315. Indianapolis, Ind., July 28, 19—

On demand, for value received, I promise to pay William Westermann & Co., or order, Three Hundred and Fifteen Dollars, without interest, payable without any relief whatever from value or appraisement.

Richard M. Sylvester.

PENNSYLVANIA AND NEW JERSEY.

$300. Philadelphia, Pa., July 26, 19—

Ninety days after date, I promise to pay to the order of Lafayette Armstrong Three Hundred Dollars, at Third National Bank, value received, without defalcation.

George Miller.

A Swindling Note.

Carlyle, Ill., October 3, 19—

One year after date, I promise to pay R. Tucker or bearer Ten Dollars, when I sell by order Four Hundred and Seventy-five Dollars ($475) worth of Patent Fanning Mills, for value received, at ten per cent per annum. Said Ten Dollars when due is payable at Carlyle, Illinois.

JOHN WILSON, Agent for R. Tucker.

Witness: John Roe.

Although the above venerable scheme of the confidence man has been exposed time after time, it still continues to add yearly to its list of victims. A paper is drawn up wherein a farmer agrees to pay ten or twenty dollars when he has sold goods to a given amount. By tearing off the right-hand end of this paper, what is apparently an agreement for a small amount becomes a promissory note for a considerable sum. This note is sold at a bank, thereby becoming the property of a third and innocent party, and the signer of the agreement is called upon to pay the note.

This shows how important it is that a man should read and carefully examine every paper presented to him for his signature.

DUE BILLS.

A Due Bill differs from a note in the fact that it is a simple acknowledgment of a debt. It may be payable in money or merchandise. It is the simplest form of negotiable paper.

$20.00. PHILADELPHIA, May 8, 19—

Due John Jackson, or order, for value received, Twenty Dollars.

HENRY FOLSOM.

In acknowledgment of debt, a form of due bill called an I O U is sometimes given.

I O U Three Hundred and Fifty Dollars.

WM. JOHNSON.

Due Bill Payable in Merchandise.

$50.00. ST. LOUIS, May 14, 19—

Due Enos Baldwin, Fifty Dollars, payable in goods from our store on demand.

SONTAG & WEBER.

Due Bill Payable in Money and Merchandise.

$50.00. ST. LOUIS, May 14, 19—

Due Howard Read, Fifty Dollars, payable, Twenty-five Dollars cash, Twenty-five Dollars in goods from our store, on demand.

SONTAG & WEBER.

ORDERS.

An Order for Money.

WACO, TEXAS, April 1, 19—

MR. B. J. RING:

Please pay W. H. Cavanagh Ten Dollars on my account.

M. F. CRENSHAW.

An Order for Merchandise.

DALLAS, TEXAS, May 15, 19—

MR. N. W. BECHTEL:

Please pay L. W. Motsuff Thirty Dollars in Merchandise and charge the same to my account.

L. E. KITTRELL.

RECEIPTS.

For Money on Account.

$15.00. KIRKWOOD, MO., Jan. 1, 19—

Received of J. M. Hardy Fifteen Dollars on account.

P. D. RICH.

In Full of All Demands.

$150. DES MOINES, Iowa, Sept. 2, 19—

Received of J. C. O'Neal One Hundred and Fifty Dollars, in full of all demands to date.

ALFRED W. GREGORY.

For Rent.

$80. ST. LOUIS, MO., Nov. 1, 19—

Received of W. F. George Eighty Dollars, in full for one month's rent of residence at 2807 Olive St.

JOHN G. STEWART.

For Money Advanced on a Contract.

$500. DENVER, COL., May 15, 19—

Received of L. W. Logan Five Hundred Dollars, in advance, on a contract to build for him a dwelling-house at No. 315 Cheyenne Ave., Denver.

JOHN T. SHERFFY.

POINTS OF BUSINESS LAW.

CHECKS made payable to "Cash" or order, or to some character, or number, or order, are held to be payable to bearer.

A past-due note entrusted for collection to an agent was converted by him to his own use, and was afterwards sold under an execution against him. The court decided that the purchaser had not acquired any interest in the note and could not maintain an action against the maker.

In case of the death of the principal maker of a note the holder is not required to notify a surety that the note is not paid, before the settlement of the maker's estate.

Notes obtained by fraud, or made by an intoxicated person, are not collectible. A note made by a minor is void.

If no time of payment is specified in a note it is payable on demand.

An endorser can avoid liability by writing "without recourse" beneath his signature.

A check endorsed by the payee is evidence of payment in the drawer's hands.

A signature written with a lead pencil is valid.

No contract is good unless there be legal consideration.

An outlawed debt is revived should the debtor make a partial payment.

In case of a note made payable one day after date, with interest from date at the rate of 12 per cent per annum, interest to be paid annually, it was held that the note would draw the same rate of interest after maturity until paid.

The revised statutes of Indiana provide that notes payable "to order" or "to bearer," in that State, are negotiable as inland bills of exchange, and the payees and endorsers thereof may recover as in case of such bills.

Payment is the performance of an agreement or the fulfilment of a promise, the discharge in money of a sum due. Pleaded as a defence, payment of money or of an equivalent accepted in its place, to the plaintiff or his authorized representative, must be proved by defendant. To extinguish the debt, payment must be made by a person having the right to do so, to a person entitled to receive it, at the appointed place and time, and in something proper to receive, both as to kind and quality. Proof that anything has been done or accepted as payment is proof of payment. A receipt is *prima facie* evidence of payment; so also is the possession by the debtor of a security after the day of payment

ACCOMMODATION PAPER.

Drafts as well as notes are employed as accommodation paper. For example, Smith, being willing to lend Jones money which the later needs, and having none immediately available, draws a draft on Robinson, who is his debtor, and makes it payable to Jones, who gives no value for it. Such a draft in Jones' hand is accommodation paper and cannot be used as an implied contract against Smith; if discounted at a bank, or transferred for money to an individual, it becomes business paper as far as the holder is concerned, and its payment may be enforced.

Forged Paper.

The endorsee generally obtains a perfect title when paper is transferred before maturity; but if the first endorsement is forged, no title rests in the holder. If the signature of the maker of a note is forged, the holder has no recourse against him. Negotiable paper is void when the consideration is either contrary to the general principles of common law or is prohibited by statute.

Want of Consideration.

Want of consideration—a common defence interposed to the payment of negotiable paper—is a good defence between the original parties to the paper; but after it has been transferred before maturity to an innocent holder for value, it is not a defence.

Stolen or Lost Paper.

Negotiable paper, payable to bearer or endorsed in blank, which has been stolen or lost, cannot be collected by the thief or finder, but a holder who receives it in good faith before maturity, for value, can hold it against the owner's claims at the time it was lost.

Payment Before Maturity.

Sometimes the holder of paper has the right to demand payment before maturity; for instance, when a draft has been protested for non-acceptance and the proper notices served, the holder may at once proceed against the drawer and endorsers.

State Laws as to Payment.

If a note or draft is to be paid in the State where it is made, the contract will be governed by the laws of that State. When negotiable paper is payable in a State other than that in which it is made, the laws of that State will govern it. Marriage contracts, if valid where they are made, are valid everywhere. Contracts relating to personal property are governed by the laws of the place where made, except those relating to real estate, which are governed by the laws of the place where the land is situated.

Collateral Security.

If negotiable paper, pledged to a bank as security for the payment of a loan or debt, falls due, and the bank fails to demand payment and have it protested when dishonored, the bank is liable to the owner for the full amount of the paper.

DEPARTMENT OF PUBLIC BUSINESS.

A Complete Digest of Parliamentary Law and Rules.

THE origin of Parliamentary Law is to be found in the customs and rules of the British Parliament, the first deliberative body of the modern world. When the Jutes and Saxons left their over-crowded homes in the Low Dutch Lands and sailed to England, they carried with them the *Witena Gemote*, the root from which has sprung every Congress and Parliament, every Town Meeting and Convention, every Caucus and Debating Society which the Anglo-Saxon race, in the Old World, or the New, has held.

Set rules governing the proceedings of Parliament began first to be established about A. D. 1180, so that now Parliamentary Science is over seven hundred years old. In the course of time these rules became more extended and exact, the conduct of public meetings was reduced to a science, until at the present day the man who is not familiar with them is apt to expose himself as one of imperfect education, and to make blunders which bring himself into ridicule, and the cause which he is supporting into danger. In America, where every matter, grave or light, affecting the public, or any part of it, is promptly made the subject of a meeting, the man who has not Parliamentary Law and Practice at his fingers' ends is compelled either always to take a back seat and let less able men come forward, or else be in constant danger of an absurd display of ignorance unworthy of an American citizen.

Fortunately, however, the whole subject is easily mastered, and easily retained in the memory. It is based upon certain clearly laid down principles, and if we were asked to give in one sentence a comprehensive definition of Parliamentary Law, we should promptly answer that it was common sense divided into rules. Those things that appear strange are really founded upon reason, and the more the student attacks the subject the more evident do its harmonies appear. Anyone who will carefully study the following digest will thoroughly master the subject.

CALLING A MEETING.

It would be much easier to make a list of the subjects for which meetings should not be called than of those for which they should. Generally, all those matters which affect a considerable part of the community, of the church, or of the business to which one belongs, are proper matters for counsel and discussion among friends, and for meetings among citizens. The forms used in calling meetings should be very brief and pointed,

intimating plainly what the gathering is for, where and when it is to meet. For instance, forms to be printed in the newspapers should take this shape:

NOTICE.—The members of the Second Presbyterian Church are requested to meet at Mr. James Kyle's residence, 241 Walker street, on Tuesday evening, January 15th, at eight o'clock, to consider ways and means of rebuilding the parsonage.

Or thus:

DEMOCRATS OF THE THIRD WARD, ATTENTION!

A mass meeting of the Democrats of the Third Ward will be held at Lafayette Hall, on Locust and Main streets, on Friday evening, Oct. 3d, at 7:30, p. m., in accordance with the order of the Central Committee, to select three delegates for the City Convention on Saturday, Oct. 4th. The Hon. C. F. Pease, Judge Bradley Adams, Sheriff Porson, and others, will address the meeting.

Sometimes it is necessary that meetings should be called without publicity, when a form like this might be used:

[*CONFIDENTIAL.*]

ST. LOUIS, Jan. 12th, 19—

JAMES ASHTON, ESQ.,
Ashton & Co., Grocers.

Dear Sir:

Your attention is called to the fact that the retail dealers in coffee are cutting prices until there is little or no profit left in the trade. Quite a number of us have agreed to meet at the Magnolia Club next Saturday evening, to discuss the situation, and see if some measures can not be taken which will enable all of the firms to do a more satisfactory business than at present. Please either be present yourself, or send a representative empowered to act for you, and oblige

Yours very respectfully,
SPOTTS & TREMAINE.
J. R. OSGOOD & CO.
H. A. MILLER & SON.

These forms might be greatly increased in number, but the reader will see the shape upon which it is best to found them. Be sure that written notices are sent to all interested, and that printed ones are inserted several times before the event which they advertise is to occur.

ORGANIZING A MEETING.

As soon as a sufficient number have gathered together at the place of meeting, some gentleman—and it is well that the persons calling the meeting should select this person with care; it is best to choose some well-known and representative citizen—will mount the speakers' stand and rap with the gavel on the table until the assembly is brought to order. He will then nominate some person present for chairman, using the simple form, "I move that Mr. John Gilkeson act as chairman of this meeting." When the motion is seconded he will at once put it to the house, saying, "It is moved and seconded that John Gilkeson act as chairman of this meeting. Those in favor will say 'aye'." Those in favor of Gilkeson will vote "aye" in a clear tone of voice. The temporary chairman will continue, "Those opposed say 'no'." If Mr. Gilkeson is defeated other names are proposed until a chairman is elected, when the one chosen will be escorted to the chair, and the gavel handed to him by the temporary chairman, who at once leaves the stand and takes a seat among the members. The chairman raps for order and after a word or two of thanks for the honor conferred upon him should proceed to lay clearly before the meeting the purpose for which it has been called. This is not the time for eloquence or for attempts at fine speaking. The chairman should endeavor to frame his remarks so that every person in the hall will understand clearly and definitely just what the matter for discussion is. It is in good taste for the chair to call upon any other member of the meeting to express the purpose for which it has been called if the chairman does not feel himself thoroughly able to explain it. But if the chair means to call upon some other member to speak, he should first proceed to the election of a secretary, who, when elected, will read the call, and the chair will then call on the person whom he wishes to address the house; otherwise the secretary is not usually chosen until after the president has spoken.

GETTING TO WORK.

When the secretary has been elected and the purpose of the meeting stated, the next duty of the chairman is to get the assembly to work with as little delay as possible. Suppose, for example, it is proposed to rebuild the church parsonage lately destroyed by fire. The chairman will say, "Gentlemen, you have heard the reasons why this meeting has been called. What is the pleasure of the house?"

A member will rise to his feet and say, "Mr. Chairman."

The chairman will look towards the speaker and say, "Mr. McIntyre," or, if he does not know the gentleman's name, he will say, "The gentleman to my right," indicating the speaker with a wave of his hand. The purpose of this is to draw the attention of the meeting to the person about to speak. Mr. McIntyre then says, "I move that a committee of three be appointed by the chair to report ways and means of raising $5,000 for the rebuilding of the parsonage."

This motion being seconded, the chair announces, "It is moved and seconded that a committee of three to report ways and means of raising $5,000 to rebuild the parsonage be appointed by the chair." The matter now becomes debatable, and any member may rise and address the chair as to the propriety or impropriety of appointing such committee. When the discussion seems to be concluded, the chair will ask, "Are you ready for the question?" To which the members will respond by calling, "Question!" "Question!" The chair will then very distinctly repeat the motion so that all can hear it clearly: "It is moved and seconded that a committee of three be appointed by the chair to report ways and means of raising $5,000 to rebuild the parsonage. Those in favor of the motion will say 'aye.'" The ayes vote. "Those opposed will say 'no.'" The noes vote. If the chairman thinks the ayes are in a majority he will say, "The ayes seem to have it," and then, after a pause, if no one calls for a division, "The ayes have it." If a division is called for, however, the chairman will call upon those in favor of the motion to take one side of the hall and those opposed to go to the other, when he may appoint tellers to count the votes, or count them himself. Or he may make a division by causing each party to raise their hands in turn, or to rise up from their seats and remain standing while being counted. The motion having carried, the chair will proceed to appoint the committee, remembering that Parliamentary Etiquette demands that the person who moved the appointment shall be be made chairman of the committee. The chair will also decide, as it was not incorporated in the motion, when the report shall be made. If it is probable that the work can be done in a half hour or an hour, he will order the committee to report in that time; if longer, it is wiser to adjourn over to another evening. The committee having gone out to work, and there being no business before the assembly, the chair may announce a recess, or call upon some one present for a speech, a

recitation or a song; in this way, or in conversation, the interval may be passed. When the committee is ready to report they come back to the hall and announce their presence to the chairman. He raps with the gavel for order and announces, "The committee is ready to report. Mr. McIntyre, please read your report."

The report is read by the Chairman of the Committee, and at its conclusion some member moves its adoption. This being seconded, the Chair announces: "It is moved and seconded that the report of the committee which you have just heard read be adopted." This opens discussion, after which the motion is voted on as before. The business of the evening being concluded, some one moves to adjourn. It is seconded, and this motion is voted just as any other. If the matter must be taken up again later, the date to which the body is to adjourn should always be incorporated in the motion. When the motion is carried, the Chairman announces the fact and the meeting ends.

How to Manage a Convention.

CONVENTIONS differ from ordinary meetings both in their composition and in the customs which are observed. The frequency of their occurrence and the strict manner in which members are held to Parliamentary Rules make it necessary for every delegate to thoroughly master the niceties of their organization and government, and, although in the pages that follow the broad principles of Parliamentary Law are laid down so that those who run may read, it is necessary here to call attention to the peculiarities which make Conventions differ from other deliberative bodies. Conventions are made of delegates chosen either by sections of a political party or by divisions, councils, encampments, or lodges of a society. In all cases the delegate must be properly accredited to the general body, and one of the first things to see to is that these credentials are in proper shape.

TEMPORARY ORGANIZATION.

A Convention organizes temporarily before it can get to work. A Chairman, a Secretary, with several assistants, and several Sergeants-at-Arms are chosen after the usual manner. They are the result of nomination and election just as in any other deliberative body, but it is understood that their functions will cease as soon as the Permanent Organization is perfected. It is generally understood beforehand who is to be selected Temporary Chairman, however, and although the tenure of office is brief it is quite an important post. Delegates will always do well to act slowly during the temporary organization, as it has frequently happened that it alone has decided the whole work which the body had assembled to do. The custom is to choose the temporary organization by a *viva voce* vote, and usually the delegates and the rest of the world help along in the voting with all their lungs.

THE COMMITTEES.

The temporary organization has for its sole purpose the selection of the Committees whose work must be done before the Convention can go to business. These are the Committees:

On Credentials.
On Permanent Organization.
On Order of Business.
On Rules.
On Resolutions.

Although it is common to join these last two committees into one.

Every Convention consists of delegations, and each delegation consists of delegates. When the Chairman calls for the Committee on Credentials the delegations each name one of their number to be a member of that Committee. So with Permanent Organization, Order of Business and Rules and Resolutions. Each delegation should have one representative on each Committee. As soon as the names are given in the Committees retire and a recess is taken.

THE COMMITTEES AT WORK.

The duties of each Committee are plainly indicated by their names. The credentials of each delegate should be turned in as rapidly as possible; generally they are put in the hands of the

members of the Credential Committee from the delegation, but sometimes contests occur, and this is the time for the contest to begin properly. In political conventions some of the most important work is done by the Order of Business Committee. It is very vital in what order candidates shall be nominated. All of this has to be settled at once, and the friends of a candidate, if they are afraid that other candidates have sold them out, should always try to get their nomination fixed at the beginning of the schedule, because they can thus make the doubtful ones show their hands at once. The Committee on Permanent Organization must supply a full list of names for chairman, secretaries, sergeants-at-arms, pages, etc., for the convention. The Committee on Rules always report the rules governing Congress, and the Resolutions Committee put the platform, as it is called, in shape.

THE CONVENTION AT WORK.

When the recess ends, the committees should all be ready to report, which they do in this order:

Credentials.
Permanent Organization.
Order of Business.
Rules and Regulations.

The Credentials Committee gives a full list of delegates entitled to sit, the Permanent Organization names the officers, the Order of Business reports in what succession the convention shall address itself to the business before it, the Rules and Resolutions give shape and purpose to the whole. Each committee report is acted upon as soon as it is read, usually by a viva voce vote, and, all being accepted, the convention gets to work. The first step is for each delegation to select a chairman, who acts as spokesman for it. This can be done in the intervals between the reports. The permanent officials are installed, generally with short speeches, and the order of business is taken up. The chairman orders the secretary to call the roll of delegations for nominations, for Governor, for instance. Two or three counties may be called without any nominations (for it is always understood beforehand who is to make the nominating speeches) until Butler County is reached. Then the gentleman who has been selected arises, and, calling attention to the eminent services and peculiar fitness of the Honorable Allen Blaisdell, nominates him for Governor. Another county is reached, and Mr. James Pierson is nominated; perhaps four or five more and Blaisdell is seconded, and so on until all the candidates for Governor are fairly in the field. The voting in conventions is peculiar. As soon as the nominations close, each delegate should hand to the chairman of his delegation a piece of paper with the name of the person he votes for upon it. When Andrews County is called the chairman rises and announces "Andrews County gives three for Blaisdell, two for Pierson and one for Holmes." When the vote is all in, the totals are handed to the president, who announces: "Total vote cast, 242; necessary to a choice, 122. Pierson, 98; Blaisdell, 84; Holmes, 53; Dawes, 7. There being no election, the convention will proceed to vote again." Which is continued until by a clear majority a candidate has been chosen. When a candidate has been selected he should thank the convention for its preference, and the defeated candidates should also come forward and express their submission to the will of the party.

TRADING.

Trading is the name given to the transaction whereby a delegation, anxious to secure the nomination of their friend to office, agree to vote for other candidates who are running for other offices, in return for support of their nominee. This is assuming greater proportions every year, and the only note to be made upon the practice is that usually, from bad faith and treachery, it is a very uncertain one. Pledges are easily secured, but kept with difficulty. In this age of combinations the men who do not combine are sure to be defeated, but it is to be regretted that American politics should give such a premium to deceit as the "trading" done in conventions offers.

Things to be Remembered.

Seven Things a Chairman Should Remember.

1st. Take the chair promptly at the time for the meeting to open.

2nd. Always rise to your feet when putting a question. All your remarks to the house should be made standing.

3rd. Order is best maintained by a rigid enforcement of parliamentary law.

4th. Except in vote by ballot, the chairman can only vote when the meeting is equally divided, or when his vote given to the minority would make the division equal.

5th. The chairman should familiarize himself thoroughly with the purposes of the meeting.

6th. Common sense, decision and firmness are absolutely necessary to a successful president.

7th. The president's three duties are: to preserve order, to put questions, and to keep the house strictly to the business in hand.

Six Things a Secretary Should Remember.

1st. Provide the necessary stationery for the performance of the duties of the secretary.

2nd. In reading minutes and papers pitch the voice to reach the furthest persons in the room.

3rd. Do not attempt to write up minutes during a meeting—take full notes of everything that happens.

4th. Preserve all papers carefully. Do not allow members to remove them after they are read.

5th. See to it that all committees are properly warned of their appointment, and of the business they are to do.

6th. In writing minutes make them as short as possible, but include every important matter.

Four Things a Member Should Remember.

1st. Unless the chair is assisted by every member in the maintenance of order, business will be retarded.

2nd. Always rise when about to speak, and address the chairman alone. Be silent until he makes the necessary recognition.

3rd. Be careful to keep to the point in your remarks, and never speak twice on a matter while there are other members waiting to be heard.

4th. That speaker is listened to with attention who only speaks when he has something pertinent to say.

THREE HUNDRED POINTS OF ORDER.

DECIDED AT ONE GLANCE, ON A SINGLE PAGE.

BLANKS IN COLUMNS AFFIRM STATEMENTS AT THE HEAD--THE NEGATIVE DENIES THEM.

* Not debatable when another question is before the House.
† An affirmative vote on this question cannot be reconsidered.
a Limited debate only on the propriety of postponement allowed.
b May be moved and entered on the record when another has the floor, but may not stop the business then in progress; may be called up by the mover as soon as such business is disposed of, and it then takes precedence of all other questions except "to adjourn," or "to fix time to which to adjourn."
c Not debatable when decision is in a matter of breach of decorum.
d Can be made *before* debate has commenced *only*.

	Requires to be seconded.	Is debatable.	May be amended.	Can be reconsidered.	Is in order when another has the floor.	Allows reference to main question.	Requires two-thirds vote.	Rank of precedence.
Motion to amend	.....	.....	.....	.....	no	no	no	8th
Motion to amend an amendment	.....	.....	no	.....	no	no	no	
Motion to amend rules	.....	.....	.....	.....	no	no	.....	
Motion to adjourn	.....	no	no	no	no	no	no	2d
Motion to fix time to which to adjourn	.....	....*	.....	.....	no	no	no	1st
Call to order	no	no	no	.....	.....	no	no	
Motion to close debate	.....	no	.....	.....	no	no	.....	
Motion to commit	.....	.....	.....	.....	no	.....	no	7th
Motion to limit debate	.....	no	.....	.....	no	no	.....	
Motion to extend limits of debate	.....	no	.....	.....	no	no	no	
Motion to lay on the table	.....	no	no	....†	no	no	no	4th
Motion to take from the table	.....	no	no	....†	no	no	no	
Motion for order of the day	no	no	no	.....	.....	no	no	3rd
Motion to postpone indefinitely	.....	.....	no	.....	no	.....	no	9th
Motion to postpone to a fixed time	.....	....a	.....	.....	no	no	no	6th
Motion for previous question	.....	no	no	.....	no	no	.....	5th
Motion to reconsider a debatable question	.....	.....	no	no	....b	.....	no	
Motion to reconsider an undebatable question	.....	no	no	no	....b	no	no	
Motion to refer a question	.....	.....	.....	.....	no	.....	no	
Motion to discuss a subject	no	no	no	.....	.....	no	.....	
Motion to make subject a special order	.....	.....	.....	.....	no	no	.....	
Motion to substitute, in nature of an amendment	.....	.....	.....	.....	no	no	no	
Motion to suspend rules	.....	no	no	no	no	no	.....	
Motion to take up question out of its proper order	.....	no	no	.....	no	no	.....	
Motion to withdraw a motion	.....	no	no	.....	no	no	no	
d Objection to consideration of question	no	no	no	.....	.....	no	.....	
Motion to read papers	.....	no	no	.....	no	no	no	
Question on priority of business	.....	no	.....	.....	no	no	no	
Question of privilege	.....	.....	.....	.....	no	no	no	
Motion to appeal from decision of Chair	.....	c	no	.....	.....	no	no	
Leave to continue speaking after breach of decorum	.....	no	no	.....	no	no	no	
Motion that Committee rise	.....	no	no	no	no	no	no	

FORMS IN WHICH QUESTIONS MAY BE PUT.

On motion for previous question, the form observed is: "Shall the main question be put?" This if carried ends debate.

On motion for order of the day: "Will the House now proceed to the order of the day?" This if carried supersedes intervening motions.

When objection is raised to considering question: "Shall the question be considered?"

On motion to strike out words: "Shall the words stand part of the motion?" If this be not carried, the words are struck out.

On an appeal from decision of Chair: "Shall the decision be sustained as the ruling of the House?"

When yeas and nays are ordered by the House: "As many as are in favor of ——— will answer *aye;* those opposed will answer *no,* when their names are called."

When a member has been counted on the side *against* which he intended to vote, the presiding officer can order the amendment of the vote, having first asked the member: "On which side he intended to give his voice?" This correction can be made only on the member's own representation.

THE ART OF BOOK-KEEPING.

SINGLE AND DOUBLE ENTRY.

The Two Systems Compared Side by Side.

BOOK-KEEPING is the art of recording business transactions in a systematic manner, so that the results will be readily apparent, and so that the condition of the business, as to its resources and liabilities, losses and gains, may be ascertained with ease and exactness. A knowledge of the science of accounts is necessary to all men, no matter in what business they may be engaged. It is especially valuable as it is demanded in every position in life. There are two systems of Book-keeping, *Single Entry* and *Double Entry*. The former is mainly used where transactions are limited to the business of retail dealers, and where it is only necessary to record the details of purchases and sales for cash or credit. A single entry of the account in the Ledger is ample for the purpose of a record. But where business is done on a large scale, such as pertains to a wholesale house, it becomes necessary to have recourse to the more satisfactory though more intricate system of Double Entry. Instead of making only one entry of a transaction, as in the simpler method, two are made—first on the Dr. or Cr. side of one account, and again on the contrary side of some other account. The advantage of this double entry is that the merchant can always inform himself of the exact state of each account, and not alone of the goods sold, but of what he has on hand, without the inconvenience of often taking an account of stock. Then again it is a check by which errors may be easily detected.

Books Used in Single Entry.

In Single Entry only three books are necessary—Cash-Book, Day-Book and Ledger. All moneys received or paid out are entered in the Cash-Book. If goods are purchased for cash, the money being paid away, the entry is made on the Cr. side, "By Merchandise per Day-Book." The cash should be balanced as soon after the last day of the month as possible.

A record of the transactions of each and every day in the order in which they take place should be entered in the Day-Book. The name

of the customer is entered in full, with the term Dr. or Cr. annexed, according to the nature of the transaction—Dr. when goods are sold to him, and Cr. when goods are bought or received from him. The date of each entry must be inserted, and the names and addresses of customers written in full. Goods purchased or received on credit are entered under Cr., and the entry preceded by the word "By." When goods are sold on credit add "Dr." to the person's name and residence, and begin the entry with the word "To." When abatement for discount or short measure is allowed by you, enter the person Cr., and when similar allowance is made to you, enter the person Dr.

Every transaction is entered in the Ledger from all other books, with certain references, indicating the sources from which the items are derived. Each customer's name has a certain space allotted to it, in which the goods sold appear on the Dr. side and the cash received on the Cr. side.

Books Used in Double Entry.

In Double Entry the principal books used are the Day-Book, Cash-Book, Journal and Ledger. The first-named book should contain the principal transactions occurring in the various stages of business. Entries should be fully intelligible, from the fact that it contains the greater portion of the matter from which the other books are made. All transactions in which cash has any part must be entered in the Cash-Book at the time they occur, in the same manner as other entries are made in the Day-Book. In the Journal are entered and methodically arranged the scattered items of the Cash-Book and Day-Book.

The Ledger is the most important of all the books in the series, and into it are transferred the entries from the Journal, under their separate heads. To facilitate the finding of particular accounts, an index-book is used in connection with the Ledger, in which the names are alphabetically arranged, with the number of the page of the Ledger opposite each. The very important fact must not be lost sight of that every item is entered twice, once on the Dr. side of one account, and once on the Cr. side of another account.

How Entries are Made.

If a person buys merchandise to the amount of $1,000, for which he pays cash, the entry would be made as follows:

Merchandise, Dr.		$1,000 00	
	To Cash		$1,000 00

The first entry shows what the merchandise has cost him, and the second shows that he has paid away cash amounting to $1,000. Accounts are opened with Cash, Merchandise, Bills Payable, Bills Receivable, Interest, Commission, etc., in the same manner as personal accounts are treated in the Single Entry Ledger, all items received or disbursed being debited and credited to their account. To make it still plainer, suppose George Smith sells a quantity of goods to Peter Aylmer, and charges him $50 commission; the entry would be made in this fashion:

Peter Aylmer, Dr.		$50 00	
	To Commission		$50 00

If the same party owed Aylmer the same sum of money and gave him a note for the amount with $5.00 interest added, it would be entered thus:

Sundries	To Bills Payable		$55 00
Peter Aylmer		$50 00	
Interest		5 00	

There are two styles of accounts, Real and Representative. The latter class embraces such as Commission, Interest, etc., and should be debited and credited for what they cost or produce. By doing this, when the books are balanced a person can tell at once exactly what these representative accounts have cost or produced.

How to Detect Errors.

It is customary among merchants to have a set time for the adjustment of their account

books, and for this it is necessary, before taking a general balance, to prove the posting of the Ledger by taking a trial balance. To do this the accountant adds all the Dr. sides into one sum, and all the Cr. sides into another. When the Ledger has been correctly posted these two sums will be equal; but if they do not balance the cause of the difference must be looked up at once. Sometimes a sum is entered to a different account than the one to which it belongs, but on the same side, and the sums will still agree. To find such an error as this, the Journal and Ledger should be compared by two persons, the one reading from the Journal, and the other scanning the accounts in the Ledger, and checking them when correct. When a Journal entry is omitted or twice entered in the Ledger, the summing up of the latter will not show the error. To find it, however, it is necessary to foot up the Cash received, Cash paid, Bills Receivable, Bills Payable and Day-Book entries, and the sum will always agree with that side of the Ledger which is correct, leading easily to the detection of the error.

How Errors are Made.

Very frequently errors are made in journalizing the subsidiary books and in posting the Ledger, such as debiting or crediting one person or account in place of another; omitting entries; making the sum too large or too small, etc. Immediate attention should be paid to errors of this kind, not by an erasure or interlineation, but an explanatory entry in the Day-Book. That is then to be journalized like a regular transaction and posted in the Ledger. For instance, in the Ledger of May 10th, Richard Klotz is debited to Bills Payable, but on the 30th of May it is found that this entry should have been posted to John Dobbins' account. John Dobbins is therefore debited to Richard Klotz in the Day-Book, and the mistake is thereby explained. If any account has been overposted, it must be either debited or credited for the excess; and if it has been underposted, a new entry must be made upon the same side for the deficiency. When an entry has been entirely omitted, it must be made as soon as discovered, mentioning when omitted. When an entry has been posted twice, it may be corrected by entering the amount on the other side, noting the fact of its being twice posted. The greatest care should be exercised in making original entries, as they are the most dangerous of all. Balancing books should not be delayed beyond a specified time, for, the longer the time, the more difficult the correction of an error. Where an account has been underpaid for a year or so the person may have subsequently died, failed, retired from business, or otherwise become inaccessible. Thus a positive loss is sustained which might otherwise have been avoided.

Subsidiary Books.

Among the subsidiary books generally used is the Petty Cash-Book, in which a record is kept of the various charges incurred in trade, too trifling to be entered separately in the Cash-Book. This book is balanced monthly, and the total amount of expenditures transferred to the Cash-Book under the head of Petty Cash. The Bill-Book is used in the same manner in Single and Double Entry. A separate book should be kept for Bills Receivable and Bills Payable. When a note is received it should be immediately entered under the head of Bills Receivable and duly numbered; and when a draft is accepted, or note paid away, it should be entered as Bills Payable.

In some cases merchants keep a Cash account and Bank account separately. Thus, if they have $5,000 on hand in cash and should deposit $1,000 of it in the First National Bank, they would debit or charge the bank with the amount and credit Cash for the amount paid away, and when they draw any portion from the bank they credit the bank with the amount and debit Cash with it; or, if it is paid away to any person, he is charged with it. In large establishments the

Bank account is frequently kept in a separate book.

THE TWO SYSTEMS.

In the following pages are given three sets of accounts, exemplifying thoroughly the theory and practice of Single Entry and Double Entry Book-keeping.

Of the Double Entry sets, the first is a very simple one, and designed to prepare the student for a thorough understanding of the second, in which has been introduced the feature of combining the Journal and Day-Book, and which also presents two methods of closing the Ledger, as will be explained further on.

The Cash-Book, in Double as well as in Single Entry, shows on the debit side all cash received and on the credit side the cash paid out, and the excess of debit consequently shows the exact amount of cash on hand. The form used in both systems is the same, with this exception, that in Double Entry, where the posting is done direct from the Cash-Book, a column is ruled off next to the date column to show the folio of the Ledger. The balances may be brought down weekly, but when the entries are numerous it would be better to balance the Cash account daily. Money received or paid on account is entered in the Cash-Book as well as the Day-Book.

The first and last thing to remember in studying Book-keeping is that

The thing received is Dr.
The thing delivered is Cr.

Or,

What you owe is Cr.
What owes you is Dr.

Or,

Debit what costs value.
Credit what produces value.

Book-Keeping by Single Entry.

In the pages immediately following we present to the student a set of books kept by Single Entry.

The Day-Book affords a regular daily history of every transaction, giving details and particulars. The entries in the book are direct and simple, first stating the name of the person to be debited or credited on the Ledger, expressed, respectively, by "Dr." and "Cr.," and giving the consideration and amount. These entries are transferred under the proper heads in the Ledger, which in Single Entry exhibits the relation in which *persons* with whom we deal stand to the business. An account in the Ledger should be transferred to a new folio before it crowds upon the one below it.

The Day-Book and Ledger contain only transactions relating to persons. A prudent business man, however, will feel the necessity of keeping a record of receipts and disbursements of cash, the issue and redemption of his own notes and the receipt and disposition of the notes of others, and for this purpose will keep a Cash-Book and a Bill-Book. The Cash-Book is here given in full. In view of the thorough explanations appended, the form of the auxiliary books is not given.

The words and figures in *italics* would in practice be entered in *red ink*, as illustrated in the Double Entry sets.

SINGLE ENTRY CASH-BOOK.

Dr. *Cash.*

19—			
Nov.	1	To Charles Evans, invested by him	$ 50 00
"	"	" Thomas Jeffers, " " "	648 08
"	3	" Edgar Hatch, on ℔	60 00
			758 08
Nov.	5	To Balance on hand from 3d inst.	674 98
"	"	" 1 Bureau, Mahogany Veneered	22 00
"	9	" Bills Receivable, Martin Stevens' Note, Evans' favor.	125 00
"	10	" John Roberts, Arm Chair for Office	5 00
			826 98
Nov.	12	To Balance on hand from 10th inst.	648 60
"	"	" 1 Pint of Varnish	50
"	14	" Standing Cupboard	75
"	16	" 1 Reclining Chair	25 00
"	"	" 2 Ottomans	7 00
"	17	" 1 Walnut Bedstead.	4 50
			686 35
Nov.	19	To Balance on hand from 17th inst.	598 23
"	22	" Steamboat Vint Shinkle, part Bill of date	150 00
			748 23
Nov.	26	To Balance on hand from 24th inst.	474 83
"	"	" 2 Mahogany Rocking Chairs Walnut, @ $12.50	25 00
"	"	" 2 Walnut Bedsteads, @ 4.50	9 00
"	"	" 1 Doz. Cane-Seat Walnut Chairs 24.00	
"	"	" 1 Child's High Chair 1.25	
"	"	" " Rocking " 1.25	26 50
"	30	" Edgar Hatch, in full	62 75
"	"	" Repairing Tables	2 38
"	"	" " Chairs	1 62
			602 08
19—			
Dec.	1	To Balance from Nov. 30th, 1895.	471 98

SINGLE ENTRY CASH-BOOK.

Cash. *Cr.*

19—				
Nov.	2	By C. R. George, Bill of Lumber	$ 75	60
"	3	" Bill of Coal	7	50
"	"	" *Balance in Bank $650, in Safe $24.98*	674	98
			758	08
Nov.	5	By Joseph Maynes, Bricklayer, Repairs to House	51	50
"	"	" James Wright, Painting House	22	00
"	8	" Samuel Hudson, in full of ⅛	67	00
"	"	" One pair of Pinchers		38
"	10	" Wages paid hands	57	50
"	"	" *Balance in Bank $620, in Safe $28.60*	648	60
			826	98
Nov.	16	By Samuel Hudson, part Bill of Paints, etc.	50	00
"	17	" Wages paid hands	38	12
"	"	" *Balance in Bank $525.50, in Safe $72.73*	598	23
			686	35
Nov.	22	By Bills Payable, Evans' Note, Smith's favor, $200.00		
		Less Discount from date to Jan. 6th, 1896. 1.50	198	50
"	23	" Charles Evans on ⅛	10	00
"	"	" Bill of Varnish	13	50
"	"	" Gas Bill	14	25
"	24	" Drayage of Furniture		50
"	"	" Wages paid hands	36	65
"	"	" *Balance in Bank $470, in Safe $4.83*	474	83
			748	23
Nov.	27	By Bill of Veneering	25	60
"	29	" Thomas Jeffers, on ⅛	25	00
"	"	" Glazing one Light of Glass		25
"	30	" Rent of Shop, one month	40	00
"	"	" Wages paid hands	39	25
"	"	" *Balance in Bank $460.50, in Safe $11.48*	471	98
			602	08

SINGLE ENTRY DAY-BOOK.

St. Louis, November 1st, 19—

L.F.				
	Charles Evans, Cabinet-Maker, associates with himself Thomas Jeffers — Evans transferring to the firm such portion of his resources and liabilities as is mutually agreed upon, and Jeffers investing their equivalent in Cash. The parties are to share alike in gains and losses.			
1	Charles Evans,	Cr.		
	By Cash invested		50.00	
	" Sundry Notes he holds against others, per B.-B.		350.00	
	" Bal. of Edgar Hatch's ℔		55.75	
	" " Maurice Perry's ℔		37.40	
	" Materials and Unfinished work, as per Inventory		356.50	
	" Stock of Furniture, " "		210.43	
	" " Tools, " "		151.20	1211 28
		Dr.		
1	To Sundry Notes he owes, per B.-B.		421.00	
	" Bal. due Samuel Hudson, on ℔		67.00	
	" " Richard Kelso & Co., on ℔		75.20	563 20
1	Thomas Jeffers,	Cr.		
	By Cash invested			648 08
	1st			
1	Edgar Hatch,	Dr.		
	To Bal. of his ℔ due Charles Evans			55 75
	"			
1	Maurice Perry,	Dr.		
	To Bal. of his ℔ due Charles Evans			37 40
	"			
1	Samuel Hudson,	Cr.		
	By Bal. of Charles Evans' ℔ assumed by us			67 00
	"			
1	Richard Kelso & Co.,	Cr.		
	By Bal. of Charles Evans' ℔ assumed by us			75 20
	3d			
1	Edgar Hatch,	Dr.		
	To 1 Hair Cloth Mahogany Sofa			30 00
1	By Cash on ℔	Cr.		60 00
	5th			
1	Peter Fowler,	Dr.		
	To 9 Mahogany Chairs, Cane-Seats, @ $1.25		11.25	
	" 6 " " Hair-Cloth Seats, @ 3.00		18.00	
	" 2 Cherry Dining Tables, @ 6.00		12.00	
	" 1 Maple French Bedstead		4.25	
	" 1 " Low-Post Bedstead		2.75	48 25
	"			
2	Osmond Ray,	Dr.		
	To 1 doz. Windsor Chairs		$12.00	
	" ½ " " "		@ $15.00 7.50	
	" ½ " " "		" 10.00 5.00	
	" 1 Spring-Seat Black Walnut Sofa		21.00	45 50
	8th			
1	Samuel Hudson,	Dr.		
	To Cash in full			67 00
	9th			
1	Richard Kelso & Co.,	Cr.		
	By Bill of Lumber			135 00
1	To our Note @ 30 days in full of their ℔	Dr.		210 20
	"			
1	Edgar Hatch,	Dr.		
	To 1 Ash Footstool			1 50
	"			
2	Andrew Cummins,	Dr.		
	To 3 Patent Office Chairs @ 5.00			15 00

SINGLE ENTRY DAY-BOOK.

St. Louis, November 12th, 19—

L.F.					
1	Edgar Hatch,		Dr.		
	To 1 Red Walnut Dining Table			40	00
	13th				
2	Francis Watkins,		Dr.		
	To 2 Children's Low Chairs, @ $2.00			4	00
	"				
2	John A. Crowe,		Dr.		
	To 3 doz. Windsor Chairs, @ $11.00	$33.00			
	" 1 Rocking Chair	9.00			
				42	00
	15th				
1	Edgar Hatch,		Dr.		
	To ¢ of Osmond Ray, assumed by him			45	50
	"				
2	Osmond Ray,		Cr.		
	By transfer of ¢ to Edgar Hatch			45	50
	16th				
1	Samuel Hudson,		Cr.		
	By Bill of Paints, Varnish, etc.			175	26
	Dr.				
1	To Cash in part			50	00
	"				
2	Francis Watkins,		Dr.		
	To 1 Walnut Book-case			15	00
	19th				
2	Edgar Hatch,		Dr.		
	To 1 Hat-stand, Mahogany Veneered			10	00
	20th				
2	Francis Watkins,		Dr.		
	To Varnishing 1 Table				50
	22d				
2	Steamboat Vint Shinkle,		Dr.		
	To 3 Mahogany Sofas, @ $15.00	$45.00			
	" 2 " Tete-a-Tetes, " 16.00	32.00			
	" 1 " Rocking Chair	12.00			
	" 4 " Arm Chairs, " 8.00	32.00			
	" 2 doz. " Chairs, " 30.00	60.00			
	" 14 Cherry Wash-stands, " 2.00	28.00			
	" 14 Looking-glasses, " 2.00	28.00		237	00
	Cr.				
2	By Cash in part payment			150	00
	23d				
1	Charles Evans,		Dr.		
	To Cash on ¢			10	00
	"				
2	A. E. Ford,		Cr.		
	By Bill of Lumber			96	40
	26th				
2	Edgar Hatch,		Dr.		
	To 1 Mahogany Bureau, with Glass			25	00
	29th				
1	Thomas Jeffers,		Dr.		
	To Cash on ¢			25	00
	"				
2	John A. Crowe,		Dr.		
	To 1 Mahogany Bureau			19	00
	30th				
2	Francis Watkins,		Dr.		
	To 1 Black Walnut Centre Table			15	00
	"				
2	John A. Crowe,		Cr.		
	By 1 Mahogany Bureau, returned because it was too large for the room			19	00
	"				
2	Edgar Hatch,		Cr.		
	By his Note @ 60 days	$75.00			
	" Cash to Bal. ¢	62.75		137	75

SINGLE ENTRY LEDGER.

Dr. — *Charles Evans.* — *Cr.*

19—							19—						
Nov.	1	To Sundries	1	563	20		Nov.	1	By Sundries	1	1,211	28	
"	"	" *Net Capital at starting*		648	08								
				1,211	28						1,211	28	
19—.							19—.						
Nov.	23	To Cash on ↯	2	10	00		Nov.	1	By Net Cap. brought down		648	08	
"	30	" *Net Cap. to New* ↯		778	38		"	30	" ½ Net Gains		140	30	
				788	38						788	38	
							19—						
							Dec.	1	By Net Cap. from old ↯		778	38	

Dr. — *Thomas Jeffers.* — *Cr.*

19—							19—						
Nov.	29	To Cash on ↯	2	25	00		Nov.	1	By Cash invested	1	648	08	
"	30	" *Net Cap. to New* ↯		763	38		"	30	" ½ Net Gains		140	30	
				788	38						788	38	
							19—						
							Dec.	1	By Net Cap. from old ↯		763	38	

Dr. — *Edgar Hatch.* — *Cr.*

19—							19—						
Nov.	1	To Charles Evans	1	55	75		Nov.	3	By Cash	1	60	00	
"	3	" Sofa	1	20	00								
"	9	" Footstool	1	1	50								
"	12	" Dining Table	2	40	00								
"	15	" Osmond Ray	2	45	50								
		Am't to folio	2	162	75				*Am't to folio*	2	60	00	

Dr. — *Maurice Perry.* — *Cr.*

19—													
Nov.	1	To Charles Evans	1	37	40								

Dr. — *Samuel Hudson.* — *Cr.*

19—							19—						
Nov.	8	To Cash	1	67	00		Nov.	1	By Charles Evans	1	67	00	
19—							19—						
Nov.	16	To Cash	2	50	00		Nov.	16	By Bill of date	2	175	26	
"	30	" *Bal. to New* ↯		125	26								
				175	26						175	26	
							19—.						
							Dec.	1	By Bal. from Old ↯		125	26	

Dr. — *Richard Kelso & Co.* — *Cr.*

19—							19—						
Nov.	9	To Bills Payable	1	210	20		Nov.	1	By Charles Evans	1	75	20	
							"	9	" Bill of date	1	135	00	
				210	20						210	20	

Dr. — *Peter Fowler.* — *Cr.*

19—													
Nov.	5	To Sundries	1	48	25								

SINGLE ENTRY LEDGER.

Dr. *Osmond Ray.* *Cr.*

19—						19—				
Nov.	5	To Sundries	1	45 50		Nov.	15	By Edgar Hatch	2	45 50

Dr. *Andrew Cummins.* *Cr.*

19—										
Nov.	9	To Office Chairs	1	15 00						

Dr. *Francis Watkins.* *Cr.*

19—						19—				
Nov.	13	To Children's Chairs	2	4 00		Nov.	20	By Bal. to folio	2	19 50
"	16	" Book-case	2	15 00						
"	20	" Varnishing	2	50						
				19 50						19 50

Dr. *John A. Crowe.* *Cr.*

19—						19—				
Nov.	13	To Sundries	2	42 00		Nov.	30	By Bureau	2	19 00
"	29	" Bureau	2	19 00		"	31	" *Bal. to New* ↓		42 00
				61 00						61 00
19—										
Dec.	1	To Bal. from Old ↓		42 00						

Dr. *Edgar Hatch.* *Cr.*

19—						19—				
Nov.	15	To Am't from folio	1	162 75		Nov.	15	By Am't from folio	1	60 00
"	19	" Hat-stand	2	10 00		"	30	" Sundries	2	137 75
"	26	" Bureau	2	25 00						
				197 75						197 75

Dr. *Steamboat Vint Shinkle.* *Cr.*

19—						19—				
Nov.	22	To Sundries	2	237 00		Nov.	22	By Cash	2	150 00
						"	30	" *Bal. to New* ↓		87 00
				237 00						237 00
19—										
Dec.	1	To Bal. from Old ↓		87 00						

Dr. *A. E. Ford.* *Cr.*

						19—				
						Nov.	23	By Bill of date	2	96 40

Dr. *Francis Watkins.* *Cr.*

19—						19—				
Nov.	20	To Bal. from folio	2	19 50		Nov.	30	*By Bal. to New* ↓		34 50
"	30	" Centre Table	2	15 00						
				34 50						34 50
19—										
Dec.	1	To Bal. from Old ↓		34 50						

DEDUCTIONS.

UNSETTLED BALANCES ON THE LEDGER.

DEBTS DUE THE FIRM.			DEBTS THE FIRM OWE.		
Maurice Perry	37	40	Samuel Hudson	125	26
Peter Fowler	48	25	A. E. Ford	96	40
Andrew Cummins	15				
John A. Crowe	42				
Steamboat Vint Shinkle	87				
Francis Watkins	34	50			
	264	15		221	66

The above Ledger balances, together with the auxiliary books, furnish the material for the following statement:

ASSETS AND LIABILITIES.

ASSETS.			LIABILITIES.		
Cash on hand per C.-B.	471	98	Debts the firm owe per Ledger	221	66
Debts due the firm per Ledger	264	15	Bills Payable per B.-B.	431	20
Bills Receivable per B.-B.	300				
Furniture per Invt. Book	776	75			
Materials, etc., per Invt. Book	239	79			
Tools, per Invt. Book	141	95			
Total assets	2,194	62	Total liabilities	652	86
Deduct liabilities	652	86			
Firm's net capital or present worth	1,541	76			

ASSETS, INCLUDING PARTNERS' DEBITS.			LIABILITIES, INCLUDING PARTNERS' INVESTMENTS.		
Total assets per above statement	2,194	62	Total liabilities per above statement	652	86
Cash paid Charles Evans	10		Charles Evans' investment	648	08
" Thomas Jeffers	25		Thomas Jeffers' investment	648	08
	2,229	62		1,949	02
Deduct	1,949	02			
Firm's net gains	280	60			
Each partner's ½=$140.30.					

BOOK-KEEPING BY DOUBLE ENTRY.

THE distinguishing feature of Double Entry is in carrying out a mathematical principle of equilibrium, under the titles of *debtor* and *creditor*, or *debits* and *credits*. To preserve this equilibrium, every debit must have a credit or credits to balance the amount, and, vice-versa, every credit must be balanced equally by a debit or debits. In Single Entry a record is kept of *resources* and *liabilities* only; in Double Entry is added a record of *gains* and *losses*.

The DAY-BOOK is the original book of entry and should contain in a concise and unequivocal form a consecutive history of transactions, in the order and on the date of their occurrence.

The purpose of the JOURNAL is to decide upon the proper debits and credits in each transaction, preparatary to entering them in the Ledger. The process of thus classifying transactions by debits and credits is called *journalizing*. Very often the Day-Book and Journal are combined in a "Journal Day-Book," as in Set II.

The LEDGER is the final book of entry, and in it are arranged, under the proper accounts, all facts necessary for a full statement of the business. Each of these accounts exhibits one of the four following results, viz.: A resource, a liability, a loss, or a gain. The process of transferring accounts from the Journal to the Ledger is called *posting*.

To close an account in the Ledger, add the debit and credit sides separately on a slip of paper, and, if the totals thus obtained are not equal, subtract the smaller from the greater. This difference is entered in red ink to make up the deficiency of the smaller side. Then rule with red ink and enter the totals in black. The red ink entry is then transferred in black to the opposite side of the account into which it is closed. When both columns are equal the totals are simply entered in black, and this indicates that the account is cancelled. When there are more entries on one side of an account than on the other, a line is drawn, after closing the account, obliquely across the vacant space. This line commences at a double rule opposite the double rule under the totals, and extends thence in the direction of the last figure in the column.

The Key to Journalizing.

Remember that the key to all journalizing is stated in the two old lines which the student would do well to memorize:

"By Journal laws what you receive
Is Dr. made to what you give."

By referring constantly to this rule and examining each entry in the Journal or Journal Day-Book by its light, the whole mystery of Double Entry Book-keeping will become clear.

THE PRINCIPLES.

An account is a statement of facts and figures relating to some person, property or cause, so arranged as to show a specific result. As stated on a preceding page, there are two classes of accounts, *Real* and *Representative*. In other terms, accounts showing *resources* and *liabilities*, and accounts showing *losses* and *gains*. The former are closed "To Balance" or "By Balance," and the latter "To Loss and Gain" or "By Loss and Gain." Some accountants use the words "Profit and Loss," instead of "Loss and Gain."

The following rules, embodying the principles of Double Entry Book-keeping, will be found to cover in a concise form all points which generally confuse the student groping through a voluminous treatise:

The *proprietor* or the *partners* in a business should be *credited* for all investments and for the gain or share of the gain, and *debited* for liabilities assumed, for all sums withdrawn from the business and for the loss or share of the loss incurred. Where there is only one proprietor he is represented on the books by *Stock*, but in a partnership business each partner's account is kept under his own name. The *Stock* account and partners' accounts are closed "To Balance" or "By Balance."

The *Cash* account is *credited* for all disbursements and *debited* for all receipts of cash. It always closes "By Balance."

A *Bank* account shows on the *debit* side the amount deposited, and on the *credit* side the amount withdrawn, and closes "By Balance," unless the account is overdrawn.

The *Merchandise* account is *credited* with the proceeds and *debited* with the cost of merchandise on hand at commencing and purchased in the course of business. When the merchandise has all been sold, as in Set I., the difference between the sides will show a gain if the credit side is the greater, and a loss if the debit side preponderates. Real estate, personal property and speculative accounts come under this rule.

The *Bills Receivable* account is *credited* when the notes, acceptances or obligations of others are disposed of or paid, and *debited* when such obligations are acquired. This account always closes "By Balance."

The *Bills Payable* account is *credited* when notes, etc., of the firm or business are issued, and debited when they are paid or redeemed. It always closes "To Balance."

Personal accounts, including the names of persons, banks and corporations or institutions competent to sue or be sued, are *credited* when we become indebted to them or they get out of our debt, and *debited* when they become indebted to us or we get out of their debt. These accounts are closed "By Balance" or "To Balance."

The *Expense* account is *debited* for liabilities incurred and cash paid out for which no direct return is expected—such as salaries, rent, etc. This account closes "By Loss and Gain."

The *Loss and Gain* account is *debited* with losses and *credited* with gains, and closes "To Stock" or "By Stock."

Under the head of *Interest and Discount* are debited and credited all allowances for the use of money on notes, drafts, etc. *Credit* the account when it produces value; debit the account when it costs value. This account closes "To Loss and Gain" or "By Loss and Gain."

SET I.

By way of initiation into the principles and practice of Double Entry Book-keeping we present in Set I. the record of simple business transactions. It will be observed that all transactions are first entered, in the order of their occurrence, in the Day-Book, from which they are transferred to the Journal, or journalized, and thence they are posted to the Ledger. The established form of Journal entries requires the debit expression to precede the credit. Therefore, in applying the preceding principles to the first entry in the Day-Book, using the word *Stock* to denote the proprietor, we have as our first Journal entry, "Cash, Dr., to Stock, $2,000." When one person or account is indebted to another in a certain sum, the latter is the creditor of the former to the same amount. This is the foundation of Double Entry Book-keeping, the most important characteristic of which we now encounter in transferring the first transaction to the Ledger, where it will be *doubly entered*, on the Dr. side of the *Cash* account, and on the Cr. side of the *Stock* account.

The check-mark (✓) in the Day-Book is to indicate that the transaction has been carried to the Journal, and the figure in the first column of the Journal shows the page of the Ledger to which the account is posted. The number in the Ledger column immediately preceding the amount refers, in turn, to the Journal page.

How to Close the Ledger.

The purpose of closing the Ledger is to show the state of each account in a single amount, to do away with the unused accounts, and to ascertain clearly the general results of the busi-

ness. In this process all the losses and gains are gathered together in the *Loss and Gain* account, and there compared, the gains being placed upon the credit, and losses on the debit side. When the credit side is the greater the account is closed "To Stock" and shows a net gain. The opposite entry, "By Loss and Gain," is made in the Stock account and increases the capital. When the debit side is the greater, the account shows a net loss and is closed "By Stock," and the opposite entry in the *Stock* account, "To Loss and Gain," indicates a decrease in capital.

The first step in closing the Ledger is to take a *Trial Balance*, that is, to make a systematic arrangement of the Ledger accounts, with their proper debit and credit totals and differences. If the Ledger is correct, the total debits will equal the total credits.

The next thing in order is to ascertain by an inventory the value of all goods and property unsold and credit the amounts in red ink to the proper accounts, "By Balance, Inventory." The opposite entry is afterwards made on the debit side of the *Balance* account in black ink. Thus, if the *Merchandise* account has in red ink the entry, "By Balance, Inventory, $1,600," the corresponding entry in black in the *Balance* account will read, "To Mdse., $1,600." In Set I. the entire stock is supposed to have been sold, and consequently no entry of this kind will be found.

Now a *Loss and Gain* account is opened, if this has not been done previously, and also a *Balance* account. In the first are to be entered in black ink all accounts closing "To Loss and Gain" or "By Loss and Gain," showing the profit and loss on each account. In the second are to be entered all accounts closing "To Balance" or "By Balance," showing the resources and liabilities.

Close first all accounts to which inventory balances have been carried. The differences between the sides of these accounts will show gain or loss, and the closing entry, in red ink, will express the difference—"By Loss and Gain" or "To Loss and Gain."

Having finished these accounts, the other accounts in the Ledger, excepting *Stock* and partners' accounts, are closed in red ink—"To" or "By Loss and Gain," or "To" or "By Balance."

The "Loss and Gain" and "Balance" red ink entries are now carried in black ink to the opposite sides of the *Loss and Gain* and *Balance* accounts.

The *Loss and Gain* account is now closed, in red ink, "To Stock" or "By Stock." In a partnership business each partner is credited or debited with his share.

The process of closing the Ledger is now completed by taking the difference between the sides of the *Stock* account and entering in red ink "To Balance" or "By Balance," which is transferred in black to the *Balance* account.

Balance Sheets.

The balance sheet given for Set II. is the most condensed form for a partnership business. The style and symmetry will commend it to all accountants, while the fulness of the illustrations must satisfy all. The form has been used for a long time, but has never been adopted to any great extent by business men, the objection being its inadequacy to contain long lists of personal accounts. This objection can be overcome by using, instead of persons' names, the general titles Accounts Receivable and Accounts Payable. In nearly all kinds of business this will reduce the number of accounts within the limits of this form.

The following rules should be used in preparing this form: First rule the parallel head-lines, leaving space for the double captions. Then ascertain the number of Ledger accounts to be represented. This will, of course, embrace all the accounts in the Trial Balance that do not cancel. If the business is that of a single proprietor, rule in pencil as many lines as will contain all the accounts, and five additional. If it be a partnership business, with two or more partners, rule three additional lines for each partner. Next lay off proper spaces for debit and credit money columns: first, for the footings of Ledger accounts; second, for Gains and Losses; third, for Stock; and fourth, for Resources and Liabilities; also, for a single money column for inventories, and for the Ledger titles and their Ledger folios. After denoting the proper space for each heading, commence to rule with red ink at the right hand and bring all the lines of the first two captions, Real accounts and Stock, or one of the partners, down to the lower pencil line. For the other partner drop two lines. For Losses and Gains drop two lines, for Stock business; and an additional line for each partner. Then rule the foot-lines as shown, and the schedule will be ready to receive the accounts.

Auxiliary Books.

All accountants, where the business is any way large, keep what are termed auxiliary books. Among these is the INVENTORY-BOOK. It is used to enumerate the different articles of unsold merchandise, at such times as may be deemed desirable. Inventories are frequently copied into Invoice-Books.

An Invoice is a statement in detail of goods sold, shipped abroad or consigned to another to be sold. The INVOICE-BOOK is used for taking copies of the invoices which accompany goods purchased or received on consignment. Some houses, instead of copying, paste their invoices in a blank Invoice-Book prepared for this purpose. This book, while showing the entire cost of merchandise, will also exhibit the separate credits producing merchandise. If a lot or package is distinguished by a peculiar mark, that mark is transferred to the invoice, thus serving an important purpose in checking the articles, adjusting disputes, etc.

Bills Receivable and Bills Payable are usually bound in opposite ends of the same book, termed a BILL-BOOK. This book should never be omitted, and especially is it important to keep a record of the amount and condition of notes payable.

The SALES-BOOK contains all the regular sales, either for cash or on time. In houses doing a mixed business the Sales-Book and Commission Sales-Book can with equal propriety be kept together or separate, as convenience may dictate.

SET I. DAY-BOOK. (1.)

St. Louis, December 1st, 19—

✓	Commenced business this day with Cash to the amount of		2,000
	"		
✓	Bought of Armstrong & Co., on ⨯,		
	1,000 brls. Flour, @ $6.00,		6,000
	3		
✓	Sold Jesse Jameson, for Cash,		
	300 brls. Flour, @ $6.50,		1,95[illegible]
	5		
✓	Sold John Williams, on ⨯,		
	250 brls. Flour, @ $7.00,		1,750
	7		
✓	Sold Wm. Moore, on his Note @ 30 days,		
	150 brls. Flour, @ $7.00,		1,050
	10		
✓	Bought of Joseph Wheelock, on our Note @ 60 days,		
	500 bu. Wheat, @ $1.00,		500
	12		
✓	Sold Albert St. John, for Cash,		
	100 bu. Wheat, @ $1.25,	$125.00	
	100 brls. Flour, @ $6.75,	675.00	800
	14		
✓	Paid Cash for Stationery and Books for use of Store,		50
	15		
✓	Bought of Edwin Ellerton, for Cash,		
	300 brls. Flour, @ $5.00,		1,500
	17		
✓	Sold Peter Potts, for Cash,		
	100 brls. Flour, @ $6.00,		600
	18		
✓	Bought of W. L. George, on ⨯,		
	1,000 bu. Oats, @ 75¢,		750
	20		
	Sold Sellers & Bro., on their Note @ 5 days,		
✓	500 bu. Oats, @ 80¢,	$400.00	
	100 bu. Wheat, @ $1.15,	115.00	515
	22		
	Sold Bernard Blair, for Cash,		
✓	400 brls. Flour, @ $6.00,	$2,400.00	
	300 bu. Wheat, @ $1.10,	330.00	2,730
	26		
✓	Bought of Howard Harrison, on ⨯,		
	1,500 brls. Flour, @ $5.50,		8,250
	27		
✓	Sold A. A. McHatton, on ⨯,		
	1,000 brls. Flour, @ $6.00,		6,000
	28		
✓	Received Cash in full for Sellers & Bro.'s Note,		515
	29		
	Sold Patrick Connolly, for Cash,		
✓	500 brls. Flour, @ $5.75,	$2,875.00	
	500 bu. Oats, @ 90¢,	450.00	3,32[illegible]
	31		
✓	Paid Clerk Hire, in Cash,	$60.00	
	Paid Store Rent,	40.00	100
			38,385

SET I. JOURNAL. (1.)

St. Louis, December 1, 19—

			Dr.	Cr.
1	CASH,	Dr.	2,000	
1	To STOCK,			2,000
	"			
1	MERCHANDISE,	Dr.	6,000	
1	To ARMSTRONG & CO.,			6,000
	3			
1	CASH,	Dr.	1,950	
1	To MERCHANDISE,			1,950
	5			
1	JOHN WILLIAMS,	Dr.	1,750	
1	To MERCHANDISE,			1,750
	7			
2	BILLS RECEIVABLE,	Dr	1,050	
1	To MERCHANDISE,			1,050
	10			
1	MERCHANDISE,	Dr.	500	
1	To BILLS PAYABLE,			500
	12			
1	CASH,	Dr.	800	
1	To MERCHANDISE,			800
	14			
2	EXPENSE,	Dr.	50	
1	To CASH,			50
	15			
1	MERCHANDISE,	Dr.	1,500	
1	To CASH,			1,500
	17			
1	CASH,	Dr.	600	
1	To MERCHANDISE,			600
	18			
1	MERCHANDISE,	Dr.	750	
2	To W. L. GEORGE,			750
	20			
2	BILLS RECEIVABLE,	Dr.	515	
1	To MERCHANDISE,			515
	22			
1	CASH,	Dr.	2,730	
1	To MERCHANDISE,			2,730
	26			
1	MERCHANDISE,	Dr.	8,250	
2	To HOWARD HARRISON,			8,250
	27			
2	A. A. MCHATTON,	Dr.	6,000	
1	To MERCHANDISE,			6,000
	28			
1	CASH,	Dr.	515	
2	To BILLS RECEIVABLE,			515
	29			
1	CASH,	Dr.	3,325	
:	To MERCHANDISE,			3,325
	31			
2	EXPENSE,	Dr.	100	
1	To CASH,			100
			38,385	38,385

SET I. LEDGER. (1.)

Dr. *Stock.* *Cr.*

[illegible]		[illegible]				19— Dec.	1	By Cash,	1	2,000
						"	31	" Loss and Gain,	L2	1,570
					3,570					3,570
						19— Jan.	1	By Balance,		3,570

Dr. *Cash.* *Cr.*

19— Dec.	1	To Stock,	1	2,000		19— Dec.	14	By Expense,	3	50
"	3	" Mdse.,	1	1,950		"	15	" Mdse.,	1	1,500
"	12	" "	1	800		"	31	" Expense,	1	100
"	17	" "	1	600				" [illegible]		
"	22	" "	1	2,730						
"	28	" Bills Receivable,	1	515						
"	29	" Mdse.,	1	3,325						
				11,920						11,920
19— Jan.	1	To Balance,		10,270						

Dr. *Merchandise.* *Cr.*

19— Dec.	1	To Armstrong & Co.,	1	6,000		19— Dec.	3	By Cash,	1	1,950
"	10	" Bills Payable,	1	500		"	5	" John Williams,	1	1,750
"	15	" Cash,	1	1,500		"	7	" Bills Receivable,	1	1,050
"	18	" W. L. George,	1	750		"	12	" Cash,	1	800
"	26	" Howard Harrison,	1	8,250		"	17	" "	1	600
		[illegible]				"	20	" Bills Receivable,	1	515
						"	22	" Cash,	1	2,730
						"	27	" A. A. McHatton,	1	6,000
						"	29	" Cash,	1	3,325
				18,720						18,720

Dr. *Armstrong & Co.* *Cr.*

[illegible]		[illegible]				19— Dec.	1	By Mdse.,	1	6,000
						19— Jan.	1	By Balance,		6,000

Dr. *John Williams.* *Cr.*

19— Dec.	5	To Mdse.,	1	1,75		[illegible]				
19— Jan.	1	To Balance,		1,750						

SET I. LEDGER. (2.)

Dr. — *Bills Receivable.* — *Cr.*

19— Dec.	7	To Mdse.,	1	1,050	19— Dec.	28	By Cash,	1	515
"	20	" "	1	515	"	31	" Balance,	L2	1,050
				1,565					1,565
19— Jan.	1	To Balance,		1,050					

Dr. — *Bills Payable.* — *Cr.*

19— Jan.	31	To Balance,	L2	500	19— Dec.	10	By Mdse.,	1	500
					19— Jan.	1	By Balance.		500

Dr. — *Expense.* — *Cr.*

19— Dec.	14	To Cash,	1	50	19— Dec.	31	By Profit and Loss,	L2	150
"	31	" "	1	100					
				150					150

Dr. — *W. L. George.* — *Cr.*

19— Jan.	31	To Balance,	L2	750	19— Dec.	18	By Mdse.,	1	750
					19— Jan.	1	By Balance,		750

Dr. — *Howard Harrison.* — *Cr.*

19— Dec.	31	To Balance,	L2	8,250	19— Dec.	26	By Mdse.,	1	8,250
					19— Jan.	1	By Balance,		8,250

Dr. — *A. A. McHatton.* — *Cr.*

19— Dec.	27	To Mdse.,	1	6,000	19— Dec.	31	By Balance,	L2	6,000
19— Jan.	1	To Balance,		6,000					

Dr. — *Balance.* — *Cr.*

19— Dec.	31	To Cash,	L1	10,270	19— Dec.	31	By Armstrong & Co.,	L1	6,000
"	31	" John Williams,	L1	1,750	"	31	" Bills Payable,	L2	500
"	31	" Bills Receivable,	L2	1,050	"	31	" W. L. George,	L2	750
"	31	" A.A. McHatton,	L2	6,000	"	31	" Howard Harrison,	L2	8,250
				19,070					19,070

Dr. — *Loss and Gain.* — *Cr.*

19— Dec.	31	To Expense,	L2	150	19— Dec.	31	By Mdse.,	L1	1,720
"	31	" Stock (Net Gain),	L1	1,570					
				1,720					1,720

SET I. TRIAL BALANCE.—FACE OF LEDGER.

Dr.		*Cr.*
	Stock	2,000
11,920	Cash	1,650
17,000	Merchandise	18,720
	Armstrong & Co.	6,000
1,750	John Williams	
1,565	Bills Receivable	515
	Bills Payable	500
150	Expense	
	W. L. George	750
	Howard Harrison	8,250
6,000	A. A. McHatton	
38,385		38,385

TRIAL BALANCE.—DIFFERENCES.

		Dr.	*Cr.*
1	Stock,		2,000
1	Cash,	10,270	
1	Merchandise,		1,720
1	Armstrong & Co.,		6,000
1	John Williams,	1,750	
2	Bills Receivable,	1,050	
2	Bills Payable,		500
2	Expense,	150	
2	W. L. George,		750
2	Howard Harrison,		8,250
2	A. A. McHatton,	6,000	
		19,220	19,220

DOUBLE SET II. ENTRY.

DAY-BOOK AND JOURNAL COMBINED.

IN the system given in the following pages, the main feature is the combination of the Day-Book and the Journal. This form is the most practical in use for general purposes, and has been adopted by accountants in all branches of business. Its chief advantage is in dispensing with a separate Journal, and in bringing the Day-Book and Journal entries into such immediate connection as to leave no doubt of their identity. In this set by Merchandise Companies is meant the temporary copartnership existing between the consignor and the consignee, having reference to the sale of particular consignments. In Merchandise Company business, one of the partners, the consignee, is the commission merchant, and, in that capacity, receives and disposes of the property as he would of a simple consignment, the only difference being that he is interested in the losses and gains. This species of copartnership differs from that of a general partnership only in its duration and the manner of conducting its sales. In the first method, exemplified by the three Merchandise Company accounts A, B and C, in the month of April, the principle recognized is that the holder of the property is responsible for it. Thus, when we receive from James A. Wright & Co. an invoice to be sold on joint account, we debit Mdse. Co. A with the invoice and expenses, and credit the consignor with the cost of the invoice, thus making ourselves responsible for the property as if it were all our own. The consignor's entry, if recognizing the same principle, will be to debit us for the entire cost of the merchandise. In the second method, shown by the three Mdse. Co. accounts D, E and F, the principle recognized is that the owner of the property is responsible. For example, when we receive from George Allen & Co. merchandise to be sold on joint account, we debit Mdse. Co. D with our own share only, and credit the consignor. The consignor's entry in this case, if made to correspond with ours, would be to debit us for our share, and "Shipment in Co., to St. Louis," for his share. However, the final result is the same in both cases. So far as absolute right and responsibility is concerned, the second method is correct, the principle recognized being that the owner of the property is responsible. The only advantage possessed by the first method is that the Mdse. Co. account shows its entire cost.

For the month of April the Ledger is closed without the use of a balance account by bringing down the resources and liabilities under their proper accounts. This is the business method, and if each month is supposed to represent a year, this would be a good instance of the manner of closing books at the end of each year. The method of closing by Journal entries as shown in the month of May is used frequently, though requiring more labor and possessing no advantage over the other. The books used in this set are the Journal Day-Book and Ledger.

SET II. JOURNAL DAY-BOOK. (I.)

St. Louis, April 2, 19—

John Adams and Arthur Astor have this day entered into copartnership, under the style and firm of Adams & Astor, in the prosecution of a general Commission and Grocery business; to invest in equal amounts and participate alike in gains and losses.

2	CASH,	Dr.		10,000	
1		To JOHN ADAMS,			10,000
		For amount of his investment.			
		"			
2	FIRST NATIONAL BANK,	Dr.		10,000	
1		To ARTHUR ASTOR,			10,000
		For amount of his investment.			
		"			
1	STORE AND FIXTURES,	Dr. To SUNDRIES,		12,500	
		Bo't of John Adams his store and fixtures.			
1	To MORTGAGE PAYABLE,	Assumed mortgage on the property,			9,000
2	" INTEREST,	Due on mortgage to date,			84
2	" CASH,	For balance,			3,416
		3			
3	MERCHANDISE,	Dr.		3,900	
4		To JOHN A. FARGO & CO.,			3,900
		Bo't on ⅋,			
		5 casks Brandy, 300 gals. @ $2,	$ 600		
		200 brls. Mess Pork, @ $9,	1,800		
		30,000 lbs. Bacon Sides, @ 5¢,	1,500		
		"			
3	EXPENSE,	Dr.		75	
2		To CASH,			75
		Paid for set of Books.			
		"			
4	MDSE. Co. A,	Dr. To SUNDRIES,		3,900	
		Received from James A. Wright & Co., Pittsburg, to be sold on our joint ⅋ and risk, each ½,			
		800 kegs Nails, @ $3	$2,400		
		20,000 lbs. Lead, @ 7¢,	1,400		
4	To JAMES A. WRIGHT & Co.,	Their invoice as above,			3,800
2	" CASH,	Paid freight,			100
		4			
4	MDSE. Co. B,	Dr.		4,000	
3		To BUTLER & CARLTON,			
		Received from B. & C., Sedalia, Mo., to be sold on our joint ⅋ and risk, each ½,			
		500 brls. Flour, @ $8,			4,000
		5			
2	CASH,	Dr.		1,400	
4		To MDSE. Co. A.,			
		Sold George Cooper,			
		400 kegs Nails, @ $3.50,			1,400
		6			
4	BILLS RECEIVABLE,	Dr.		3,300	
4		To MDSE. Co. A,			
		Sold Joseph Stanton, on his note @ 30 days,			
		20,000 lbs. Lead @ 9¢	$1,800		
		400 kegs Nails @ $3.75	1,500		
		"			3,300
4	MDSE. Co. A,	Dr. To SUNDRIES,		800	
		Closed Company sales with James A. Wright & Co., and rendered them an ⅋ of the same.			
4	To STORAGE AND ADV.,				10
5	" COMMISSION,	Our charges @ 2½ % on $4,700,			117 50
4	" J. A. WRIGHT & Co.,	Their ½ net gain,			336 25
3	" LOSS AND GAIN,	Our " "			336 25
				49,875	49,875

SET II. JOURNAL DAY-BOOK. (2.)

Saint Louis, April 6, 19—

	Amounts brought forward,			49,875	49,875
3	BUTLER & CARLTON,	Dr. To SUNDRIES,		2,915	
		Shipped them, to be sold on our joint ⅛, each ½,			
		20 hhds. Sugar, 24,000 lbs. @ 5¢	$1,200		
		100 bags Coffee, 14,000 lbs. @ 10¢	1,400		
		100 boxes Raisins @ $3	300		
		Bo't of J. Wills & Co., on our Note @ 90 days,			
5	To BILLS PAYABLE,	For above Note,			2,900
2	" CASH.	Paid Insurance, ½ % on $3,000,			15
		7			
5	JAMES SCOTT,	Dr.		4,500	
4		To MDSE. Co. B,			
		Sold him @ 30 days,			
		500 brls. Flour @ $9,			4,500
		"			
4	MDSE. Co. B,	Dr. To SUNDRIES,		500	
		Closed sales in Company with Butler & Carlton, of Sedalia, Mo., and rendered them an ⅛ of sales.			
4	To STORAGE AND ADV.,	Our Charges,			20
5	" COMMISSION,	2½ % on $4,500,			112 50
3	" BUTLER & CARLTON,	Their ½ net gain,			183 75
3	" LOSS AND GAIN,	Our " "			183 75
		9			
3	SUNDRIES,	Dr. To MERCHANDISE,			
		Sold John Tyler,			
		30,000 lbs. Bacon @ 6¢			1,800
2	CASH,	Received,		800	
4	BILLS RECEIVABLE,	His Note @ 30 days, for balance,		1,000	
		"			
4	JAMES A. WRIGHT & Co.,	Dr.		4,136 25	
5		To BILLS PAYABLE,			4,136 25
		Accepted their draft on us @ thirty days sight, favor F. B. Morse & Co., in full of their ⅛.			
		"			
5	MDSE. Co. C,	Dr. To SUNDRIES,		8,700	
		Received per Anchor Line, from Peter Curtis, Cairo, to be sold on joint ⅛ of himself, J. G. Holland, Memphis, and ourselves, each ⅜, as per contract,			
		1,000 brls. Flour, @ $8.50	$8,500		
5	To PETER CURTIS,	For his and our ⅜ above invoice,			5,666 67
6	" J. G. HOLLAND,	" ⅜ " "			2,833 38
2	" CASH,	Paid Freight			200
		12			
6	STR. MISSOURI BELLE ST'K,	Dr. To SUNDRIES,			
		Bo't of John Dunn, ½ Steamer Missouri Belle, for		10,000	
2	To CASH,	Paid in hand			5,000
5	" BILLS PAYABLE,	Gave our note @ ninety days, for			5,000
		13			
5	SUNDRIES,	Dr. To MDSE. Co. C,			
		Sold William Cook, Sedalia,			
		1,000 brls Flour, @ $10			10,000
4	BILLS RECEIVABLE,	His note @ forty days, for		7,000	
2	CASH,	For Balance,		3,000	
		"			
5	MDSE. Co. C,	Dr. To SUNDRIES,		1,300	
		Closed sales in Company with Curtis & Holland, and rendered them each an Account of the same.			
4	To STORAGE & ADVER.,	Our charges,			30
5	" COMMISSION,	2½ % on $10,000			250
5	" PETER CURTIS,	His ⅜ net gain,			340
6	" J. G. HOLLAND,	" " "			340
3	" LOSS AND GAIN,	Our " "			340
				93,726 25	93,726 25

SET II. JOURNAL DAY-BOOK. (3.)

Saint Louis, April 14, 19—

	Amounts brought forward,			93,726 25	93,726 25
2	CASH,	Dr.		900	
3		To MERCHANDISE,			
		Sold J. Collins, East St. Louis,			
		5 casks Brandy, 300 gals., @ $3			900
		16			
3	MERCHANDISE,	Dr. To SUNDRIES,			
		Bo't of J. Wills & Co.,			
		30 hhds. Sugar, 30,000 lbs., @ 6¢.		1,800	
2	To CASH,	Paid in hand,			800
6	" J. WILLS & CO.,	Balance on ℄,			1,000
		18			
2	SUNDRIES,	Dr. To CASH,			200
3	EXPENSE,	Paid clerk hire to 15th,		50	
6	ARTHUR ASTOR, PRIV.,	Paid him on ℄,		150	
		20			
4	SUNDRIES,	Dr. To BILLS RECEIVABLE,			1,000
		John Tyler has discounted his note in our favor, due May 12th.			
2	CASH,	Proceeds of note,		995 73	
2	INTEREST,	Discount off, 22 days,		4 27	
		"			
3	BUTLER & CARLTON,	Dr.		300	
3		To LOSS AND GAIN,			300
		Received on Account Sales of the Mdse. sent them to be sold on joint account on the 7th inst. Our ½ net gain as above.			
		23			
	SUNDRIES,	Dr. To SUNDRIES,			
		Shipped J. G. Holland, Memphis, to be sold on joint ℄ of J. G. Holland, Peter Curtis, of Cairo, and ourselves, each ⅓,			
		33 hhds. Sugar, 30,000 lbs., @ 6½¢.	$1,950		
		Freight on same	50		
			$2,000		
6	J. G. HOLLAND,	For his and our ⅔ above invoice,		1,333 34	
5	PETER CURTIS,	" " ⅓ " "		666 66	
3	To MERCHANDISE,	As above,			1,950
2	" CASH,	Paid Freight,			50
		25			
5	JOHN ADAMS, PRIV.,	Dr.		200	
2		To FIRST NATIONAL BANK,			200
		Drew on Private ℄.			
		"			
3	BUTLER & CARLTON,	Dr.		968 75	
2		To FIRST NATIONAL BANK,			968 75
		Paid their draft on us in favor of James Flood.			
		28			
2	CASH,	Dr.		1,500	
1		To STORE AND FIXTURES,			1,500
		Received rent for upper floors to date.			
		"			
6	STEAMER MISSOURI BELLE,	Dr.		250	
6		To STEAMER MISSOURI BELLE STOCK,			250
		For our share of earnings of last trip, as per statement rendered this day.			
		30			
3	EXPENSE,	Dr.		159	
2		To CASH,			159
		Sundry expenses to date, as per Expense-Book.			
		30			
3	LOSS AND GAIN,	Dr.		115	
6		To J. G. HOLLAND,			115
		For our ⅓ net loss on shipment of Sugar for joint ℄ of Holland, Curtis and ourselves, of the 22d inst., as per Account Sales this day received.			
				103,119	103,119

SET II. JOURNAL DAY-BOOK. (4.)

St. Louis, April 30, 19—

	Amounts brought forward.			103,119	103,119
2	CASH,	Dr.		2,688 90	
1		To JOHN ADAMS,			2,688 90
	Amount invested this day.				
				105,807 90	105,807 90

St. Louis, May 1st, 19—

6	MDSE. Co. D,	Dr. To SUNDRIES,		1,460	
	Received from George Allen, St. Joseph, to be sold on our joint ⅛, each ½,				
	100 brls. Cider Vinegar, @ $7		$700		
	50 do. Linseed oil, @ $40		2,000		
	40 h'f kegs White Lead, @ $3		120		
			$2,320		
7	To GEORGE ALLEN,	For our ½ above invoice,			1,410
2	"FIRST NATIONAL B'K,	Paid freight per check,			50
		"			
2	FIRST NATIONAL BANK,	Dr.		8,500	
2		To CASH,			8,500
	Deposited.				
		2			
	SUNDRIES,	Dr. To SUNDRIES,			
	Shipped Watson Weed, Springfield, Ill., to be sold on joint ⅛, each ½,				
	200 brls. Mess Pork @ $9		$1,800		
	Drayage charges,		18		
			$1,818		
7	WATSON WEED,	For his ½ above invoice,		909	
7	SHIPMENT IN CO. 1.	" our ½ " "		909	
3	To MERCHANDISE,	As above,			1,800
2	" CASH,	Paid Drayage,			18
		3			
2	CASH,	Dr.		750	
6		To MDSE. Co. D,			750
	Sold to Richard Pratt,				
	100 brls. Vinegar @ $7.50				
		"			
7	INSURANCE,	Dr.		37 50	
2		To CASH,			37 50
	Effected Insurance for $5,000 on any property that may be in our Warehouse.				
		"			
7	HENRY GREEN & Co.,	Dr.		2,370	
6		To MDSE. Co. D,			
	Shipped them to Chicago, as per their order,				
	50 brls. Linseed Oil @ $45.		$2,250		
	40 h'f kegs White Lead @ $3.		120		2,370
	Payable @ Sixty Days.				
		"			
6	MDSE. Co. D,	Dr. To SUNDRIES,		1,660	
	Closed Sales in Company with George Allen, and rendered him an Account Sales.				
7	To CHARGES,	Storage, Advertising and Insurance,			50
5	" COMMISSION,	2½ % $3,120			78
7	" GEORGE ALLEN,	For his ½ invoice $1,410 and net gain $61.			1,471
3	" LOSS AND GAIN,	" Our ½ net gain,			61
				16,595 50	16,595 50

SET II. JOURNAL DAY-BOOK. (5.)

St. Louis, May 5, 19—

	Amounts brought forward,			16,595 50	16,595 50
3	EXPENSE,	Dr.		150	
2		To FIRST NATIONAL BANK,			150
	Paid advertising bills per check.				
		7			
8	MDSE. Co. E,	DR. To SUNDRIES,		2,500	
	Received of George Emerson & Co., of Vicksburg, to be sold on joint ⅓ of themselves, M. S. Clay & Co. and ourselves, each ½,				
	100 hhds. Sugar @ $60.		$6,000		
8	To GEO. EMERSON & Co.,	For our ⅓ Invoice,			2,000
2	" FIRST NATIONAL BANK,	Paid freight per check,			500
		"			
8	MDSE. Co. F,	Dr. To SUNDRIES,		4,000	
	Received from Hugh Spencer, Topeka, to be sold on our joint ⅓, each ½,				
	500 brls. Pork, @ $9.		$4,500		
	250 do Lard, 50,000 lbs., @ 5¢.		2,500		
			$7,000		
8	To HUGH SPENCER,	Our ½ above invoice,			3,500
2	" FIRST NATIONAL BANK,	Freight per check,			500
		8			
8	SUNDRIES,	Dr. To MDSE. Co. E,			
	Sold George Jenks,				
	100 hhds. Sugar, @ $75.				7,500
4	BILLS RECEIVABLE,	Received in payment, Frank H. Wells' note, dated January 1, 1895, due one day after date,		5,000	
2	INTEREST,	Due to date on above note,		123 47	
2	CASH,	For balance,		2,376 53	
		"			
8	MDSE. Co. E,	Dr. To SUNDRIES,		5,000	
	Closed Mdse. Co. E., and rendered Account Sales of the same to George Emerson, and M. S. Clay & Co., of Vicksburg.				
7	To CHARGES,	Storage, Advertising, etc.,			50
5	" COMMISSION,	2½ % on $7,500			187 50
8	" GEO. EMERSON & Co.	Their net proceeds,			2,254 16
8	" M. S. CLAY & Co.,	Their net proceeds,			2,254 17
3	" LOSS AND GAIN,	Our ⅓ net gain,			254 17
		"			
2	CASH,	Dr.		3,300	
4		To BILLS RECEIVABLE,			3,300
	Joseph Stanton has paid his note, due this day.				
		10			
2	FIRST NATIONAL BANK,	Dr.		4,000	
2		To CASH,			4,000
	Deposited.				
		11			
2	SUNDRIES,	Dr. To FIRST NATIONAL BANK,			4,657 50
	Paid on mortgage, favor of Patrick Fields.				
1	MORTGAGE PAYABLE,	Amount applied on mortgage,		4,500	
2	INTEREST,	In full to date.		157 50	
		12			
5	BILLS PAYABLE,	Dr.		4,136 25	
2		To FIRST NATIONAL BANK,			4,136 25
	Paid our acceptance, favor James A. Wright & Co., due this day.				
		"			
4	JOHN A. FARGO & Co.,	Dr.		3,900	
5		To BILLS PAYABLE,			3,900
	Accepted their draft on us payable @ ten days sight.				
		14			
2	CASH,	Dr.		4,750	
8		To MDSE. Co. F.			
	Sold Adam Kauffman,				
	500 brls. Pork, @ $9.50				4,750
				60,489 25	60,489 25

SET II. JOURNAL DAY-BOOK. (6.)

St. Louis, May 15, 19—

		Amounts brought forward,	60,489 25		60,489 25
7	HENRY GREEN & Co.,	Dr.	275		
3		To LOSS AND GAIN,			275
		Received advice from H. G. & Co., Chicago, of an error in an Account Sales of last year's business, in which we were credited too little by the above amount.			
		"			
7	SUNDRIES,	Dr. To HENRY GREEN & Co.,			2,645
		Sold our draft on them @ thirty days sight.			
2	CASH,	Net proceeds,	2,600 05		
2	INTEREST,	Discount and exchange off,	44 95		
		17			
2	CASH,	Dr.	2,000		
8		To MDSE. Co. F,			2,000
		Sold John W. Welsh, 250 brls. Lard, 50,000 lbs., @ 4¢.			
		"			
	SUNDRIES,	Dr. To SUNDRIES,			
		Closed "Mdse. Co. F," and rendered Hugh Spencer, Topeka, an Account Sales of the same.			
8	MDSE. Co. F.,	To close ℄	2,750		
3	LOSS AND GAIN,	Our ½ net loss,	484 37		
7	To CHARGES,	Storage, cooperage, etc.,			50
5	" COMMISSION,	2½ % on sales,			168 75
8	" HUGH SPENCER,	His ½ invoice, $3,500			
		Less ½ net loss, 484 38			
		Leaves net proceeds,			3,015 62
		"			
8	HUGH SPENCER,	Dr.	6,515 62		
2		To CASH,			6,515 62
		Remitted him in full of ℄.			
		"			
2	CASH,	Dr.	7,000		
4		To BILLS RECEIVABLE,			7,000
		Received payment in full for William Cook's note of April 13th.			
		23			
2	FIRST NATIONAL BANK,	Dr.	10,000		
2		To CASH,			10,000
		Deposited.			
		25			
7	WATSON WEED,	Dr.	800		
7		To SHIPMENT IN Co. No. 1,			800
		Received an Account Sales of 200 brls. Mess Pork, shipped on the 2d inst. Our net proceeds as above.			
		26			
7	GEORGE ALLEN,	Dr.	2,881		
5		To BILLS PAYABLE,			2,881
		Accepted his draft on us @ thirty days sight, favor of W. H. Walker, for amount his due.			
		"			
5	BILLS PAYABLE,	Dr.	3,900		
2		To CASH,			3,900
		Paid our acceptance favor of John A. Fargo & Co., due this day.			
		28			
2	CASH,	Dr.	4,500		
5		To JAMES SCOTT,			4,500
		To balance ℄.			
		30			
6	J. WILLS & Co.,	Dr.	1,000		
2		To CASH,			1,000
		To balance ℄.			
			105,240 24		105,240 24

SET II. JOURNAL DAY-BOOK. (7.)

St. Louis, May 31, 19—

	Amounts brought forward,			105,240 24	105,240 24
1	JOHN ADAMS,	Dr.		200	
6		To JOHN ADAMS, PRIVATE,			200
	For amount charged to J. D.'s Private ⅋, now carried to his Stock ⅋.				
	"				
1	AUTHUR ASTOR,	Dr.		150	
6		To ARTHUR ASTOR, PRIVATE,			150
	For amount charged to Private ⅋, now carried to Stock ⅋.				
	"				
2	INTEREST,	Dr.		15 68	
1		To JOHN ADAMS,			15 68
	Allowed 7 % on his additional investment of April 30.			105,605 92	105,605 92
	CLOSING ENTRIES.				
	"				
S	BALANCE,	Dr.		15,000	
1		To STORE AND FIXTURES,			15,000
	Valuation of property.				
	"				
1	STORE AND FIXTURES,	Dr.		2,500	
3		To LOSS AND GAIN,			2,500
	For increase in value of property.				
	"				
1	MORTGAGE PAYABLE,	Dr.		4,500	
S		To BALANCE,			4,500
	Amount due on Mortgage.				
	"				
S	BALANCE,	Dr.		4,575 09	
2		To CASH,			4,575 09
	Amount on hand.				
	"				
S	BALANCE,	Dr.		21,337 50	
2		To FIRST NATIONAL BANK,			21,337 50
	Balance on deposit.				
	"				
2	INTEREST,	Dr.		18 37	
S		To BALANCE,			18 37
	Amount due from us to date on Mortgage.				
	"				
S	BALANCE,	Dr.		146 82	
2		To INTEREST,			146 82
	Amount due us on ⅋ F. H. Wells' note.				
	"				
3	LOSS AND GAIN,	Dr.		213 15	
3		To INTEREST,			213 15
	Cost over proceeds of Interest.				
	"				
3	LOSS AND GAIN,	Dr.		150	
3		To EXPENSE,			150
	Balance of Expense Account.				
	"				
S	BALANCE,	Dr.		5,000	
4		To BILLS RECEIVABLE,			5,000
	Note on hand (F. H. Wells).				
	"				
5	COMMISSION,	Dr.		434 25	
3		To LOSS AND GAIN,			434 25
	Gain on Commission.				
				53,875 18	53,875 18

SET II. JOURNAL DAY-BOOK. (8.)

St. Louis, May 31, 19—

	Amounts brought forward,			53,875 18	53,875 18
5	BILLS PAYABLE,	Dr.		10,781	
8		To BALANCE,			10,781
	Our outstanding Notes.				
		"			
5	PETER CURTIS,	Dr.		5,340 01	
8		To BALANCE,			5,340 01
	Amount due him.				
		"			
6	J. G. HOLLAND,	Dr.		1,954 99	
8		To BALANCE,			1,954 99
	Amount due him.				
		"			
8	BALANCE,	Dr.		10,000	
6		To STEAMER MISSOURI BELLE STOCK,			10,000
	Valuation of our interest in Steamer Missouri Belle.				
		"			
8	BALANCE,	Dr.		250	
6		To STEAMER MISSOURI BELLE,			250
	Amount due us.				
		"			
8	BALANCE,	Dr.		1,709	
7		To WATSON WEED,			1,709
	Balance due us.				
		"			
3	LOSS AND GAIN,	Dr.		109	
7		To SHIPMENT IN CO. 1,			109
	Our loss on shipment.				
		"			
4	LOSS AND GAIN,	Dr.		37 50	
7		To INSURANCE,			37 50
	Cost of insurance.				
		"			
7	CHARGES,	Dr.		150	
3		To LOSS AND GAIN,			150
	Gain on storage, advertising, etc.				
8	GEO. EMERSON & CO.,	Dr.		4,254 16	
8		To BALANCE,			4,254 16
	Amount due them.				
		"			
8	M. S. CLAY & CO.,	Dr.		2,254 17	
8		To BALANCE,			2,254 17
	Amount due them.				
		"			
3	LOSS AND GAIN,	Dr.	To SUNDRIES,	2,680 40	
	Net gain carried to Partners' ℔.				
1	To JOHN ADAMS,	His ½ net gain,			1,340 20
1	" ARTHUR ASTOR,	" " " "			1,340 20
		"			
1	JOHN ADAMS,	Dr.		15,785 14	
8		To BALANCE,			15,785 14
	For amount his net capital.				
		"			
1	ARTHUR ASTOR,	Dr.		13,130 57	
8		To BALANCE,			13,130 57
	For amount his net capital.				
				122,311 12	122,311 12

SET II. LEDGER. (I.)

Dr. *John Adams.* *Cr.*

					19—					
					Apr.	2	By Cash,	1	10,000	
					"	30	" "	4	2,688 90	
					"	30	" Loss and Gain,	L3	1,940 36	
				14,629 26						14,629 26
May	31	To J. A., Private,	7	200	May	1	By Balance,	L1	14,629 26	
"	31	" Balance,	8	15,785 14	"	31	" Interest,	7	15 68	
					"	31	" Loss and Gain,	8	1,340 20	
				15,985 14						15,985 14

Dr. *Arthur Astor.* *Cr.*

					19—					
					Apr.	2	By First National Bank,	1	10,000	
					"	30	" Loss and Gain,	L3	1,940 37	
				11,940 37						11,940 37
May	31	To A. A., Private,	7	150	May	1	By Balance,	L1	11,940 37	
"	31	" Balance,	8	13,130 57	"	31	" Loss and Gain,	8	1,340 20	
				13,280 57						13,280 57

Dr. *Store and Fixtures.* *Cr.*

19—					19—					
Apr.	2	To Sundries,	1	12,500	Apr.	28	By Cash,	3	1,500	
				14,000						14,000
May	1	To Balance,	L1	12,500	May	31	By Balance,	7	15,000	
"	31	" Loss and Gain,	7	2,500						
				15,000						15,000

Dr. *Mortgage Payable.* *Cr.*

19—					19—					
May	11	To First National Bank,	5	4,500	Apr.	2	By Store and Fixtures,	1	9,000	
"	31	" Balance,	7	4,500						
				9,000						9,000

SET II. LEDGER. (2.)

Dr. *Cash.* *Cr.*

19—						19—				
Apr.	2	To John Adams,	1	10,000		Apr.	2	By Store and Fixtures,	1	3,416
"	5	" Mdse. Co. A,	1	1,400		"	3	" Expense,	1	75
"	9	" Mdse.,	2	800		"	3	" Mdse. Co. A,	1	100
"	13	" Mdse. Co. C,	2	3,000		"	6	" Butler & Carlton,	2	15
"	14	" Mdse.,	3	900		"	9	" Mdse. Co. C,	2	200
"	20	" Bills Receivable,	3	995 73		"	12	" Str. Missouri Belle Stock,	2	5,000
"	28	Store and Fixtures,	3	1,500		"	16	" Mdse.,	3	800
"	30	" John Adams,	4	2,688 90		"	18	" Sundries,	3	200
						"	23	" "	3	50
						"	30	" Expense,	3	159
						"	30	" Balance,	L2	11,269 63
				21,284 63						21,284 63
May	1	To Balance,	L2	11,269 63		May	1	By First National Bank,	4	8,500
"	3	" Mdse. Co. D,	4	750		"	2	" Sundries,	4	18
"	8	" Mdse. Co. E,	5	2,376 53		"	3	" Insurance,	4	37 50
"	8	" Bills Receivable,	5	3,300		"	10	" First National Bank,	5	4,000
"	14	" Mdse. Co. F,	5	4,750		"	17	" Hugh Spencer,	6	6,515 62
"	15	" Henry Green & Co.,	6	2,600 05		"	23	" First National Bank,	6	10,000
"	17	" Mdse. Co. F,	6	2,000		"	26	" Bills Payable,	6	3,900
"	17	" Bills Receivable,	6	7,000		"	30	" J. Wills & Co.,	6	1,000
"	28	" James Scott,	6	4,500		"	31	" Balance,	7	4,575 09
				38,546 21						38,546 21

Dr. *First National Bank.* *Cr.*

19—						19—				
Apr.	2	To A. Astor,	1	10,000		Apr.	25	By John Adams,	3	200
						"	25	" Butler & Carlton,	3	968 75
						"	30	" Balance,	L2	8,831 25
				10,000						10,000
May	1	To Balance,	L2	8,831 25		May	1	By Mdse. Co. D,	4	50
"	1	" Cash,	4	8,500		"	5	" Expense,	5	150
"	10	" "	5	4,000		"	7	" Mdse. Co. E,	5	500
"	23	" "	6	10,000		"	7	" Mdse. Co. F,	5	500
						"	11	" Sundries,	5	4,657 50
						"	12	" Bills Payable,	5	4,136 25
						"	31	" Balance,	7	21,337 50
				31,331 25						31,331 25

Dr. *Interest.* *Cr.*

19—						19—				
Apr.	20	To Bills Receivable,	3	4 27		Apr.	2	By Store and Fixtures,	1	84
"	30	" *Loss and Gain,*	L3	79 73						
				84						84
May	8	To Mdse. Co. E,	5	123 47		May	31	By Balance,	7	146 82
"	11	" First National Bank,	5	157 50		"	31	" Loss and Gain,	7	213 15
"	15	" Henry Green & Co.,	6	44 95						
"	31	" John Adams,	7	15 68						
"	31	" Balance,	7	18 37						
				359 97						359 97

SET II. LEDGER. (3.)

Dr. — *Expense.* — *Cr.*

19—						19—				
Apr.	3	To Cash,	1	75		Apr.	30	By Loss and Gain,	L3	284
"	18	" "	3	50						
"	30	" "	3	159						
				284						284
May	5	To First National Bank,	5	150		May	31	By Loss and Gain,		150

Dr. — *Butler & Carlton.* — *Cr.*

19—						19—				
Apr.	6	To Sundries,	2	2,915		Apr.	4	By Mdse. Co. B,	1	4,000
"	20	" Loss and Gain,	3	300		"	7	" " "	2	183 75
"	25	" First National Bank,	3	968 75						
				4,183 75						4,183 75

Dr. — *Merchandise.* — *Cr.*

19—						19—				
Apr.	3	To John A. Fargo & Co.,	1	3,900		Apr.	9	By Sundries,	2	1,800
"	16	" Sundries,	3	1,800		"	14	" Cash,	3	900
"	30	" Loss and Gain,	L3	750		"	23	" Sundries	3	1,950
				6,450		"	0	" Balance, Inventory,	L3	1,800
										6,450
May	1	To Balance,	L 3	1,800		May	2	By Sundries,	4	1,800

Dr. — *Loss and Gain.* — *Cr.*

19—						19—				
Apr.	30	To J. G. Holland,	3	115		Apr.	6	By Mdse. Co. A,	1	336 25
"	30	" Expense,	L3	284		"	7	" Mdse. Co. B,	2	183 75
"	30	" John Adams, (net gain),	L1	1,940 36		"	13	" Mdse. Co. C,	2	340
"	30	" Arthur Astor (net gain),	L1	1,940 37		"	20	" Butler & Carlton,	3	300
						"	30	" Store and Fixtures,	L1	1,500
						"	30	" Interest,	L2	79 73
						"	30	" Mdse.,	L3	750
						"	30	" Storage and Adver.,	L4	60
						"	30	" Commission,	L5	480
						"	30	" Str. Missouri Belle Stock,	L6	250
				4,279 73						4,279 73
May	17	To Mdse. Co. F,	6	484 37		May	3	By Mdse. Co. D,	4	61
"	31	" Interest,	7	213 15		"	8	" Mdse. Co. E,	5	254 17
"	31	" Expense,	7	150		"	15	" Henry Green & Co.,	6	275
"	31	" Shipment in Co. 1,	8	109		"	31	" Store and Fixtures,	7	2,500
"	31	" Insurance,	8	37 50		"	31	" Commission,	7	434 25
"	31	" Sundries,	8	2,680 40		"	31	" Charges,	8	150
				3,674 42						3,674 42

SET II. LEDGER. (4.)

Dr. *John A. Fargo & Co.* *Cr.*

19—					19—				
May	12	To Bills Payable,	5	3,900	Apr.	3	By Mdse.,	1	3,900

Dr. *Mdse. Co. A.* *Cr.*

19—					19—				
Apr.	3	To Sundries,	1	3,900	Apr.	5	By Cash,	1	1,400
"	6	" "	1	800	"	6	" Bills Receivable,	1	3,300
				4,700					4,700

Dr. *James A. Wright & Co.* *Cr.*

19—					19—				
Apr.	9	To Bills Payable,	2	4,136 25	Apr.	3	By Mdse. Co. A,	1	3,800
					"	6	" " " "	1	336 25
				4,136 25					4,136 25

Dr. *Mdse. Co. B.* *Cr.*

19—					19—				
Apr.	4	To Butler & Carlton,	1	4,000	Apr.	7	By James Scott,	2	4,500
"	7	" Sundries,	2	500					
				4,500					4,500

Dr. *Bills Receivable.* *Cr.*

19—					19—				
Apr.	6	To Mdse. Co. A,	1	3,300	Apr.	20	By Sundries,	3	1,000
"	9	" Mdse.,	2	1,000					
"	13	" Mdse. Co. C,	2	7,000					
				11,300					11,300
May	1	To Balance,	L4	10,300	May	8	By Cash,	5	3,300
"	8	" Mdse. Co. E,	5	5,000	"	17	" "	6	7,000
					"	31	" Balance,	7	5,000
				15,300					15,300

Dr. *Storage and Advertising.* *Cr.*

19—					19—				
					Apr.	6	By Mdse. Co. A,	1	10
					"	7	" " " B,	2	20
					"	13	" " " C,	2	30
				60					60

SET II. LEDGER. (5.)

Dr. **Commission.** *Cr.*

					19—						
					Apr.	6	By Mdse. Co. A,	1	117 50
					"	7	" " " B,	2	112 50
					"	13	" " " C,	2	250
				480					480
May	31	To Loss and Gain,	7	434 25	May	3	By Mdse. Co. D,	4	78
					"	8	" " " E,	5	187 50
					"	17	" " " F,	6	168 75
				434 25					434 25

Dr. **Bills Payable.** *Cr.*

					19—				
					Apr.	6	By Butler & Carlton,	2	2,900
					"	9	" Jas. A. Wright & Co.,	2	4,136 25
					"	12	" Str. Missouri Belle Stock,	2	5,000
				12,036 25					12,036 25
May	12	To First National Bank,	5	4,136 25	May	1	By Balance,	L5	12,036 25
"	26	" Cash,	6	3,900	"	12	" John A. Fargo & Co.,	5	3,900
"	31	" Balance,	8	10,781	"	26	" Geo. Allen,	6	2,881
				18,817 25					18,817 25

Dr. **James Scott.** *Cr.*

19—					19—				
Apr.	7	To Mdse. Co. B,	2	4,500	May	28	By Cash,	6	4,500

Dr. **Mdse. Co. C.** *Cr.*

19—					19—				
Apr.	9	To Sundries,	2	8,700	Apr.	13	By Sundries,	2	10,000
"	13	" "	2	1,300					
				10,000					10,000

Dr. **Peter Curtis.** *Cr.*

19—					19—				
Apr.	23	To Sundries,	3	666 66	Apr.	9	By Mdse. Co. C,	2	5,666 67
					"	13	" " " "	2	340
				6,006 67					6,006 67
May	31	To Balance,	8	5,340 01	May	1	By Balance,	L5	5,340 01

SET II. LEDGER. (6.)

Dr. **J. G. Holland.** *Cr.*

19—					19—				
Apr.	23	To Sundries,	3	1,333 34	Apr.	9	By Mdse. Co. C,	2	2,833 33
"	30	" Balance,	L6	1,954 99	"	13	" " " "	2	340
					"	30	" Loss and Gain,	3	115
				3,288 33					3,288 33
May	31	To Balance,	8	1,954 99	May	1	By Balance,	L6	1,954 99

Dr. **Steamer Missouri Belle Stock.** *Cr.*

19—					19—				
Apr.	12	To Sundries,	2	10,000	Apr.	28	By Steamer Missouri Belle,	3	250
"	30	" Loss and Gain,	L3	250	"	30	" Balance, Inventory,	L6	10,000
				10,250					10,250
May	1	To Balance,	L6	10,000	May	31	By Balance,	8	10,000

Dr. **J. Wills & Co.** *Cr.*

19—					19—				
May	30	To Cash,	6	1,000	Apr.	16	By Mdse.	3	1,000

Dr. **Arthur Astor, Private.** *Cr.*

19—					19—				
Apr.	18	To Cash,	3	150	May	31	By A. A., Stock,	7	150

Dr. **John Adams, Private.** *Cr.*

19—					19—				
Apr.	25	To First National Bank,	3	200	May	31	By J. A., Stock,	7	200

Dr. **Steamer Missouri Belle.** *Cr.*

19—					19—				
Apr.	28	To Str. Missouri Belle Stock,	3	250	May	31	By Balance,	8	250

Dr. **Mdse. Co. D.** *Cr.*

19—					19—				
May	1	To Sundries,	4	1,460	May	3	By Cash,	4	750
"	3	" "	4	1,660	"	3	" Henry Green & Co.,	4	2,370
				3,120					3,120

SET II. LEDGER. (7.)

Dr. — *George Allen.* — *Cr.*

19—					19—				
May	26	To Bills Payable,	6	2,881	May	1	By Mdse. Co. D,	4	1,410
					"	3	" " " "	4	1,471
				2,881					2,881

Dr. — *Watson Weed.* — *Cr.*

19—					19—				
May	2	To Sundries,	4	909	May	31	By Balance,	8	1,709
"	25	" Shipment in Co. No. 1,	6	800					
				1,709					1,709

Dr. — *Shipment in Co. No. 1.* — *Cr.*

19—					19—				
May	2	To Sundries,	4	909	May	25	By Watson Weed,	6	800
					"	31	" Loss and Gain,	8	109
				909					909

Dr. — *Insurance.* — *Cr.*

19—					19—				
May	3	To Cash,	4	37 50	May	31	By Loss and Gain,	8	37 50

Dr. — *Henry Green & Co.* — *Cr.*

19—					19—				
May	3	To Mdse. Co. D,	4	2,370	May	15	By Sundries,	6	2,645
"	15	" Loss and Gain,	6	275					
				2,645					2,645

Dr. — *Charges.* — *Cr.*

19—					19—				
May	31	To Loss and Gain,	8	150	May	3	By Mdse. Co. D,	4	50
					"	8	" " " E,	5	50
					"	17	" " " F,	6	50
				150					150

SET II. LEDGER. (8.)

Dr. *Mdse. Co. E.* *Cr.*

19—					19—				
May	7	To Sundries,	5	2,500	May	8	By Sundries,	5	7,500
"	8	" "	5	5,000					
				7,500					7,500

Dr. *Geo. Emerson & Co.* *Cr.*

19—					19—				
May	31	To Balance,	8	4,254 16	May	7	By Mdse. Co. E,	5	2,000
					"	8	" " " "	5	2,254 16
				4,254 16					4,254 16

Dr. *Mdse. Co. F.* *Cr.*

19—					19—				
May	7	To Sundries,	5	4,000	May	14	By Cash,	5	4,750
"	17	" "	6	2,750	"	17	" "	6	2,000
				6,750					6,750

Dr. *Hugh Spencer.* *Cr.*

19—					19—				
May	17	To Cash,	6	6,515 62	May	7	By Mdse. Co. F,	5	3,500
					"	17	" " " "	6	3,015 62
				6,515 62					6,515 62

Dr. *M. S. Clay & Co.* *Cr.*

19—					19—				
May	31	To Balance,	8	2,254 17	May	8	By Mdse. Co. E,	5	2,254 17

Dr. *Balance.* *Cr.*

19—					19—				
May	31	To Store and Fixtures,	7	15,000	May	31	By Mortgage Payable,	7	4,500
"	31	" Cash,	7	4,575 09	"	31	" Interest Payable,	7	18 37
"	31	" First National Bank,	7	21,337 50	"	31	" Bills Payable,	8	10,781
"	31	" Interest Receivable,	7	146 82	"	31	" Peter Curtis,	8	5,340 01
"	31	" Bills Receivable,	7	5,000	"	31	" J. G. Holland,	8	1,954 99
"	31	" Str. Missouri Belle Stock.	8	10,000	"	31	" Geo. Emerson & Co.,	8	4,254 16
"	31	" Str. Missouri Belle,	8	250	"	31	" M. S. Clay & Co.,	8	2,254 17
"	31	" Watson Weed,	8	1,709	"	31	" John Adams,	8	15,785 14
					"	31	" Arthur Astor,	8	13,130 57
				58,018 41					58,018 41

SET II. TRIAL BALANCE, APRIL.

BALANCES.	TOTAL FOOTINGS.		TOTAL FOOTINGS.	BALANCES.
		John Adams (Stock)	12,688 90	12,688 90
		Arthur Astor (Stock)	10,000	10,000
11,000	12,500	Store and Fixtures	1,500	
		Mortgage Payable	9,000	9,000
11,269 63	21,284 63	Cash	10,015	
8,831 25	10,000	First National Bank	1,168 75	
	4 27	Interest	84	79 73
284	284	Expense		
	4,183 75	Butler & Carlton	4,183 75	
1,050	5,700	Merchandise	4 650	
	115	Loss and Gain	1,160	1.045
		John A. Fargo & Co.	3,900	3,900
	4,700	Mdse. Co. A.	4,700	
	4,136 25	Jas. A. Wright & Co.	4,136 25	
	4,500	Mdse. Co. B.	4,500	
10,300	11,300	Bills Receivable	1,000	
		Storage and Advertising	60	60
		Commission	480	480
		Bills Payable	12,036 25	12,036 25
4,500	4,500	James Scott		
	10,000	Mdse. Co. C.	10,000	
	666 66	Peter Curtis	6,006 67	5,340 01
	1,333 34	J. G. Holland	3,288 33	1,954 99
9,750	10,000	Steamer Missouri Belle Stock	250	
		J. Wills & Co.	1,000	1,000
200	200	John Adams (Private)		
150	150	Arthur Astor (Private)		
250	250	Steamer Missouri Belle		
57,584 88	105,807 90		105,807 90	57,584 88

Inventory.—Property Unsold, April 30.

Store and Fixtures, valued at cost	12,500
Mdse. on hand	1,800
Steamer Missouri Belle, at cost	10,000

SET II. TRIAL BALANCE, MAY.

BALANCES.	FOOTINGS.*		FOOTINGS.	BALANCES.
	200	John Adams	14,644 94	14,444 94
	150	Arthur Astor	11,940 37	11,790 37
12,500	12,500	Store and Fixtures		
	4,500	Mortgage Payable	9,000	4,500
4,575 09	38,546 21	Cash	33,971 12	
21,337 50	31,331 25	First National Bank	9,993 75	
341 60	341 60	Interest		
150	150	Expense		
	484 37	Loss and Gain	590 17	105 80
5,000	15,300	Bills Receivable	10,300	
		Commission	434 25	434 25
	8,036 25	Bills Payable	18,817 25	10,781
		Peter Curtis	5,340 01	5,340 01
250	250	Steamer Missouri Belle		
1,709	1,709	Watson Weed		
109	909	Shipment in Co. 1	800	
37 50	37 50	Insurance		
		Charges	150	150
		Geo. Emerson & Co.	4,254 16	4,254 16
		M. S. Clay & Co.	2,254 17	2,254 17
		J. G. Holland	1,954 99	1,954 99
10,000	10,000	Steamer Missouri Belle Stock		
56,009 69	124,445 18		124,445 18	56,009 69

* The amounts in this column do not comprise, like those in the preceding balances, the footings of *all* the Ledger accounts, but such only as do not balance or cancel. The footings of this column and its opposite will not, therefore, tally with the footings of the Journal. The method here adopted is the one most in use with accountants, but does not afford so sure a test of the correctness of the Ledger.

Inventory.—Resources and Liabilities not shown in Ledger Accounts.

Store and Fixtures, valued at			15,000
Steamer Missouri Belle Stock			10,000
Interest due us on Notes	$146.82		
Less, Interest due from us	18.37	128	45

ADAMS & ASTOR'S BALANCE SHEET.

Taken St. Louis, May 31, 19—	L. Folio.	Trial Balance. Dr.	Trial Balance. Cr.	Inventory.	Representative. Losses.	Representative. Gains.	John Adams. Dr.	John Adams. Cr.	Arthur Astor. Dr.	Arthur Astor. Cr.	Real. Resources	Real. Liabilities
John Adams	1	200 ..	14,644 94					14,444 94		11,790 37		
Arthur Astor	1	150 ..	11,940 37								15,000	
Store and Fixtures	1	12,500 ..		15,000 ..		2,500 ..						4,500
Mortgage Payable	1	4,500 ..	9,000 ..								4,575 09	
Cash	2	38,546 21	33,971 12								21,337 50	
First National Bank	2	31,331 25	9,993 75								128 45	
Interest	2	34. 60			213 15							
Expense	3	150 ..			150							
Loss and Gain	3	484 37	590 17			105 80						
Bills Receivable	4	15,300 ..	10,300 ..								5,000	
Commission	5		434 25			434 25						10,781
Bills Payable	5	8,030 25	18,817 25									5,340 01
Peter Curtis	5		5,340 01								250	
Steamer Missouri Belle	6	250 ..									1,709	
Watson Weed	7	1,709 ..										
Shipt. in Co. 1	7	909 ..	800 ..		109							
Insurance	7	37 50			37 50							
Charges	7		150			150						4,254 16
Geo. Emerson & Co	8		4,254 16									2,254 17
M. S. Clay & Co	8		2,254 17									1,954 99
J. G. Holland	6		1,954 99								10,000	
Steamer Missouri Belle Stock	6	10,000 ..										
		124,445 18	124,445 18									
John Adams' net gain								1,340 20				
Arthur Astor's net gain										1,340 20		
					3,190 05	3,190 05						
John Adams present interest								15,785 14				15,785 14
							15,785 14	15,785 14				
Arthur Astor's present interest									13,130 57			13,130 57
									13,130 57	13,130 57	58,000 04	58,000 04

The Columnar Journal.

Combining in one book the Day-Book, Journal, Cash-Book and Sales-Book,

AND INTRODUCING THE

COMBINED STATEMENT,

SHOWING, ON ONE SHEET, TRIAL BALANCE, LOSSES AND GAINS, ASSETS AND LIABILITIES.

A GREAT saving of space and time is effected by the use of the Columnar Journal. This plan essentially combines four books in one: Day-Book, Journal, Cash-Book and Sales-Book, and the classification of the entries obviates the necessity of carrying a multiplicity of items to the Ledger. In the pages immediately following, the transactions of Set I. are presented in the shape of a Six-column Journal — so called because it has six columns for figures — three debit and three credit columns. Merchandise and Cash, being the principal items in this set, are given special columns, and are posted to the Ledger in totals at the end of the month, or as often as the Journal is to be posted. All the amounts that pass immediately to the Ledger are placed in the General column, and to this column must be added the footings of the special columns whenever the Journal is to be fully posted. This plan may be extended to suit the requirements of any business, and instead of six columns, eight, ten, or even twenty, may be employed, the most frequently occurring items being given special columns. Besides the advantages mentioned above, the Columnar Journal presents a monthly summary, by which the business of a month or quarter may be compared with that of others, and the increase or decrease in trade may thus be more easily and definitely calculated.

By way of practice, the student of the science of accounts will do well to write up a Ledger conforming to the Six-column Journal here presented. The results will be identical with the Ledger of Set I., except that the Cash and Merchandise entries will be posted in totals at the end of the month, "By Sundries" and "To Sundries," when the footings of the special columns have been added to the General column. When this set is completed Set II. will furnish material for further study and practice.

How to Change Single Entry Books into Double Entry.

THE difference in the two systems, it should be remembered, is that in Double Entry you introduce Representative Accounts, representing the firm or business in every transaction under some one or other of the subdivisions adopted, as Stock, Cash, Merchandise, Expense, Bills Payable, Bills Receivable, Interest, Profit and Loss, etc. In changing single entry books into double entry the first step should be to make an inventory of stock, etc., and a statement of all accounts due to or by you, on separate sheets of paper. When this is done proceed to make the following entries in your Journal, entering, of course, the proper amounts in the debit and credit columns:

STOCK, DR. TO SUNDRIES.

BILLS PAYABLE, For my Notes due as per schedule hereto.

JOHN JONES, For amount due him as per schedule hereto.

PETER SMITH, For amount due him as per schedule hereto.

(*And so continue the list of parties you owe anything to.*)

SUNDRIES, DR. TO STOCK.

MERCHANDISE, For amount of stock on hand as per Inventory.

BILLS RECEIVABLE, For notes due me as per schedule hereto.

CHARLES GREY, For amount due me as per schedule hereto.

ROBERT BROWN, For amount due me as per schedule hereto.

(*And so continue the whole list.*)

Property account in the same way, if you have any; also Mortgages and Stocks.

When this has been accurately done and the amounts posted to the Ledger, the accounts will produce a positive balance-sheet—that is, the total credits will be equal to the total debits, for the following reasons:

1. Sundries is no actual account, but is used of necessity, meaning that a plurality is intended.

2. Stock Dr. to Sundries means that it is Dr. to all the accounts named, which are respectively Cr.'s, and therefore must be equal.

3. Sundries Dr. to Stock means that all the names and accounts stated are Dr., and Stock is Cr. for the aggregate of the several Debtors, and therefore must be equal.

NOTE.—The balance of Stock account will show what you are worth, or have in your business.

A SIX-COLUMN JOURNAL. (I.)

(The transactions of Set I. Written up in the form of a Columnar Journal.)

MDSE.	CASH.	GENERAL.	L.F.	*St. Louis, December 1, 19—*	L.F.	GENERAL.	CASH.	MDSE.
	2,000 00			CASH, To STOCK, ...		2,000 00		
				Commenced business this day with $2,000 cash on hand.				
				"				
6,000 00				MERCHANDISE, To ARMSTRONG & CO., . . .		6,000 00		
				Bought, on acc't, 1,000 brls. Flour, @ $6.00.				
				3				
	1,950 00			CASH, To MERCHANDISE, ...				1,950 00
				Sold to Jesse Jameson, 300 brls. Flour, @ $6.50.				
				5				
		1,750 00		JOHN WILLIAMS, To MERCHANDISE, ...				1,750 00
				250 brls. Flour, @ $7.00.				
				7				
		1,050 00		BILLS RECEIVABLE, To MERCHANDISE, ...				1,050 00
				Sold Wm. Moore, on his Note @ 30 days,				
				150 brls. Flour, @ $7.00.				
				10				
500 00				MERCHANDISE, To BILLS PAYABLE, ...		500 00		
				Bought of Joseph Wheelock, on our Note @ 60 days,				
				500 bu. Wheat, @ $1.00.				
				12				
	800 00			CASH, To MERCHANDISE, ...				800 00
				Sold Albert St. John,				
				100 bu. Wheat, @ $1.25, . . $125.00				
				100 brls. Flour, " 6.75, . . 675.00				
				14				
		50 00		EXPENSE, To CASH, ...			50 00	
				Stationery and Books for use of Store.				
				15				
1,500 00				MERCHANDISE, To CASH, ...			1,500 00	
				Bought of Edwin Ellerton, 300 brls. Flour, @ $5.00.				
				17				
	600 00			CASH, To MERCHANDISE, ...				600 00
				Sold Peter Potts, 100 brls. Flour, @ $6.00.				
				18				
750 00				MERCHANDISE, To W. L. GEORGE, . . .		750 00		
				1,000 bu. Oats, @ 75c.				
				20				
		515 00		BILLS RECEIVABLE, To MERCHANDISE, ...				515 00
				Sold Sellers & Bro., on their Note @ 5 days,				
				500 bu. Oats, @ 80c., . . $400.00				
				100 bu. Wheat, @ $1.15, . 115.00				
8,750 00	5,350 00	3,365 00				9,250 00	1,550 00	6,665 00

A SIX-COLUMN JOURNAL. (2.)

Mdse.	Cash.	General.	L.F.	*St. Louis, December 22, 19—*	L.F.	General.	Cash.	Mdse.
8,750 00	5,350 00	3,365 00		. . . . Amounts brought forward, ...		9,250 00	1,550 00	6,665 00
	2,730 00			Cash, To Merchandise, ...				2,730 00
				Sold Bernard Blair,				
				400 brls. Flour, @ $6.00, . $2,400.00				
				300 bu. Wheat, " 1.10, . 330.00				
				26				
8,250 00				Merchandise, To Howard Harrison, . .		8,250 00		
				Bought, on acc't, 1,500 brls. Flour, @ $5.50.				
				27				
		6,000 00		A. A. McHatton, To Merchandise, ...				6,000 00
				1 000 brls. Flour, @ $6.00.				
				28				
	515 00			Cash, To Bills Receivable, . . .		515 00		
				Sellers & Bro.'s Note paid in full this day.				
				29				
	3,325 00			Cash, To Merchandise, ...				3,325 00
				Sold Patrick Connolly,				
				500 brls. Flour, @ $5.75, . $2,875.00				
				500 bu. Oats, " .90, . 450.00				
				31				
		100 00		Expense, To Cash, ...			100 00	
				Paid Clerk Hire, ... $60.00				
				" Store Rent, ... 40.00				
17,000 00	11,920 00	9,465 00				18,015 00	1,650 00	18,720 00
		11,920 00		. . . . Dr. Cash, Cr.		1,650 00		
		17,000 00		. . . . Dr. Merchandise, Cr.		18,720 00		
		38,385 00				38,385 00		

COMBINED STATEMENT.—Trial Balance, Assets and Liabilities, Gains and Losses, all in one.

Losses.	Gains.	Debit Face of Ledger.	L.F.		Credit. Face of Ledger.	Assets.	Liabilities.
				. . . . . Stock, ...	2,000 00		
		11,920 00		. . . . . Cash, ...	1,650 00	10,270 00	
	3,220 00	17,000 00		. . . . . Merchandise, ...	18,720 00	1,500 00	
		1,565 00		. . . . . Bills Receivable, ...	515 00	1,050 00	
				. . . . . Bills Payable, ...	500 00		500 00
150 00		150 00		. . . . . Expense, ...			
				. . . . . Armstrong & Co., ...	6,000 00		6,000 00
		1,7[illegible]0 00		. . . . . John Williams, ...		1,750 00	
				. . . . . W. L. George, ...	750 00		750 00
				. . . . . Howard Harrison, ...	8,250 00		8,250 00
		6,000 00		. . . . . A. A. McHatton, ...		6,000 00	
				[illegible]			
				[illegible]			
				[illegible]			
3,220 00	3,220 00	38,385-00			38,385 00	20,570 00	20,570 00

SHORT-HAND AND TYPE-WRITING.

How to Acquire and How to Practice these Arts.

SHORT-HAND is the general term applied to all styles of brief or rapid writing, as distinguished from the ordinary writing, or long-hand. Numerous systems of abbreviated writing under various names, the principal of which were "Short-hand" and "Stenography," have been used and recommended by prominent men from the times of Socrates and Cicero down to the present day. It is commonly conceded that we are indebted for the first system of short-hand which has been preserved to the invention of Tiro, a freedman of Cicero, in the year 65 B.C., although it is recorded that Xenophon, the Greek philosopher and historian, used abbreviated characters for noting down the sayings of Socrates, and that these characters were adopted by the Romans and reduced by Ennius to a methodical scheme, about 150 B.C. Herodotus also informs us that traces of abbreviated writing were found among the Persians 480 B.C., at the time of the expedition of Xerxes into Greece. The Tironian characters were used for the preservation of speeches as delivered in the Roman Senate. Plutarch says that the oration of young Cato of Utica, delivered in the Roman Senate on December 5th, 63 B.C., was reported at Cicero's request. In the year 52 B.C., professional short-hand writers in Rome are mentioned for the first time.

Besides the use of short-hand by Tiro and his pupils in the Roman Senate, Cicero was accompanied by Tiro, as short-hand writer, in many of his travels, and many of his letters were written from dictation. Pliny is represented as never being abroad without a short-hand writer at his elbow; and St. Paul dictated to Tychicus, his amanuensis, some of his epistles. Under the Emperor Constantine, imperial or official reporters were among the court attachés. Mention is also made of them in other courts, and references to the quality of their work and the incidents connected with it, such as severe punishments for betrayal of professional secrets, and misreporting. All the facts collected from history clearly indicate the practical uses of short-hand as at the present time. From the verses of the Latin poet Ausonius, written about the year 380, we learn something of the manner of writing, in the following words: "Fly, young and famous reporter; prepare the tablets on which you express, with small dots, whole speeches as rapidly as others would trace one single word."

These early characters were called *notæ non literæ*, and the short-hand writers were called *notarii*. They were a numerous and respectable profession, including many of the well known names of history, such as Cicero, Augustus, Vespasian, Julius Cæsar and Cassienus.

Tracing short-hand from these earliest times, we find it under the titles of Brachygraphy, Characterie, Tachygraphy, Semigraphy, Criptography, Bodiography, Zeiglography, Polygraphy, Zeitography,

Radiography, Thoögraphy and Stenography. The last name is still applied to nearly all systems of short-hand writing in use on the continent of Europe.

By a careful study of the history and characters of the systems of short-hand, we find that they were based upon the common spelling, or ordinary alphabet, following the A B C order, until 1837, when Isaac Pitman, of Bath, England, invented a system of sound-writing based upon an analysis and philosophical arrangement of the different sounds of the English language, and in the year 1840 issued a small sheet entitled "Phonography; or, Writing by Sound: a New and Natural System of Short-hand," which sold for a penny a copy.

One of these original sheets is in the possession of a noted teacher of Chicago, who has had photographic copies made of it. The system of Isaac Pitman has passed through many editions, undergone frequent changes and improvements, and is now used more than any other system in England, although several others have been invented and published there.

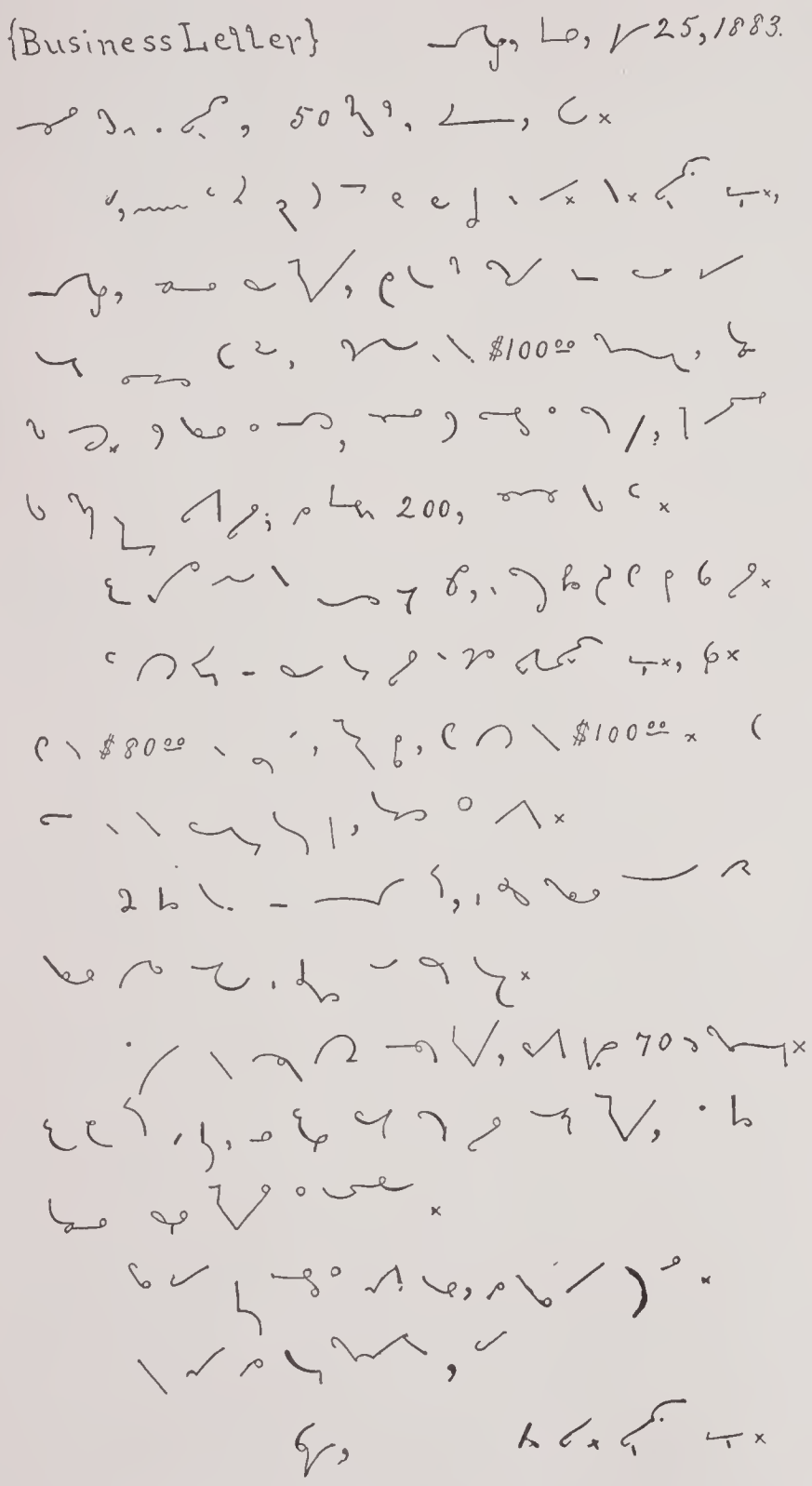
In the United States, Mr. Pitman's system was republished as early as 1845. In 1853, Mr. Benn Pitman, a brother of Isaac Pitman, who had been teaching phonography in England for ten years, came to this country and commenced the publication of phonographic works, which he has carried on ever since, at Cincinnati, Ohio. The early and continued dissemination of Pitman's phonography in the United States has given to that system the advantage of having the largest number of practitioners in this country, although many other systems of short-hand have been published. Those, however, having a phonetic basis have all been derived from, or, rather, are imitations of, Pitman's system. The changes made by Isaac Pitman in the various editions of his phonographic works in England, and by Benn Pitman in the various editions of his system in the United States, have caused these two systems to differ. Benn Pitman's system, although the oldest phonographic system in this country, has kept pace with all the recent improvements in the art. In illustrating the principles of phonography and its uses, in this article, we have selected this system, the alphabet of which will be found on this page.

SHORT-HAND OR PHONOGRAPHIC ALPHABET.

CHARACTER.	SOUND.	CHARACTER.	SOUND.
	p as in up.	*or* o	s as in us.
	b " be.	*or* o	z " zone.
	t " it.		sh " wish.
	d " do.		zh " azure.
	ch " each.		l " ale.
	j " joy.		y " ye.
	k " oak.	*or*	r " row.
	g " go.		w " we.
	f " if.		m " me.
	v " vie.		n " no.
	th " oath.		ng " sing.
	th " thy.	*or*	h " he.
	e " me.		i " it.
	a " day.		e " pet.
	a " alms.		a " at.
	a " all.		o " on.
	o " no.		u " up.
	oo " boot.		oo " foot.
	i " ice.		ow " owl.
	oi " oil.		u " use.

By a careful examination of this alphabet it will be seen that the forty sounds of the English language are represented in a philosophical arrangement, consisting of twenty-four consonants, twelve vowels and four diphthongs. The simplest geometric signs, a straight line and a curved line about one-sixth of an inch in length, written in four different directions, and made light and heavy, furnish sufficiently distinct characters for the representation of all the consonants. A small dot and dash are used to represent the vowels, being placed in three relative

positions to the consonant strokes, and, made light and heavy, are adequate for all practical purposes. A small angle placed in two positions to the consonants represents the diphthongs. The signs for the



vowels and diphthongs may be written on either side of the consonant stroke. For example, write the vertical shaded line *d* and make the second vowel, a heavy dot, on the left-hand side near the middle of the letter, for *a*, which will be read *a–d*, and represents the word *aid*. Make the same sign *d* and place the second-place vowel *a* on the opposite of right-hand side of the letter near the centre, and you have *d–a*, representing the word *day*. Write the horizontal consonant stroke *n*, and make a short dash above the centre of it, thus representing *o–n*, and spelling the word *own*. Write *n* and put the dash for the vowel *o* beneath it, and you spell the word *know*. This illustrates one of the principal features of phonographic writing or sound-writing, representing only the sounds in words as spoken. By the use of the above alphabet any word in the English language, and, indeed, in almost any other language, may be written much more briefly than in ordinary long-hand. By the combination of letters, writing all the consonants of a word without lifting the pen, and by the use of abbreviating principles, such as hooks and circles on the consonants and the combining of words into phrases, a speed in writing sufficient to keep pace with a rapid speaker may be attained. This is termed the "reporting style" of short-hand, in which the appended letter is written.

TYPE-WRITING.

It is not probable that any system of short-hand writing will ever be brought into common use and supplant the ordinary handwriting. The attainment of this end has been the fond delusion of many authors of short-hand systems, but years of labor and thought have as yet failed to produce such a system. The opinion held by some, that no short-hand writer can read the writing of another, is not a correct one, as there are, at the present time, hundreds of short-hand writers who read each other's writing in correspondence and in actual work, so that it is altogether possible that short-hand may be so written by one person as to be read by others. However, in the practical use of the art, this question is of little importance, as nearly all short-hand writing is transcribed, that is, written in ordinary long-hand, by the writer, or else in type form on the Type-writer, a machine which is now so familiar as to require no description here.

A Self-Instructor in Short-Hand Writing.

A COMPLETE COURSE, IN TWELVE PRACTICAL LESSONS, Based on the Benn Pitman System of Phonography.

Arranged by Brown & Holland, and used by them in their School during the past eleven years.

LESSON I.—THE ALPHABET.

Name.	Sign.	Sound.	Name.	Sign.	Sound.
pe		as in up.	es	*or* o	as in us.
be		" boy.	ze	*or* o	" zero.
te		" it.	esh		" ash.
de		" day.	zhe		" azure
che		" each.	el		" oil.
jay		" joy.	ye		" yet.
kay		" oak.	ar	*or*	" air.
gay		" go.	we		" way.
ef		" if.	em		" me.
ve		" vote.	en		" no.
eth		" oath.	ing		" sing.
the		" they.	he	*or*	" hat.
ee		" me.	i		" sit.
ay		" aim.	e		" let.
ah		" car.	a		" cat.
aw		" all.	o		" not.
oh		" old.	u		" nut.
ooh		" boot.	oo		" foot.
eye		" pile.	ow		" now.
oi		" toy.	ew		" you.

LEARN the names, by repeating them over several times, tracing the signs with a dry pen as you pronounce each name. Trace the short-hand signs several times, naming each as you trace it, according to the following directions: The signs *pe*, *be*, *ef*, *ve*, *ar*, *we*, slope from left to right, and are written downward; the signs *te*, *de*, *eth*, *the*, *es*, *ze* (stroke form), are upright, and are always written downward; the signs *che*, *jay*, *esh*, *zhe*, *ye*, slope from right to left, and are written downward; the signs *el*, *he*, slope from right to left, and are written upward, commencing at the line; the signs *kay*, *gay*, *em*, *en*, *ing*, are horizontal, and are written from left to right, the lower part of the letter touching the line.

WRITING EXERCISE I.

Write the consonant signs ten times on double-ruled paper, the lower part of each sign touching the line, according to the alphabetical arrangement—*pe*, *be*, *te*, *de*, *che*, *jay*, *gay*, *ef*, *ve*, *eth*, *the*, *es*, *ze*, *esh*, *zhe*, *el*, *ye*, *ar*, *we*, *em*, *en*, *ing*, *he*. The shaded straight letters are made heavy throughout. The shaded curve letters are made heavy in the center, tapering toward each end.

The vowels and diphthongs are written in three positions, beginning, middle and end of the consonant, and are called first-place, second-place, third-place. When written on the left hand of upright or sloping consonants, they are read before the consonant.

Write before the letter *te* the first-place vowels *ee*, *i*, *aw*, *o*, *eye*, *oi*; also write them before *pe*, *che*. When vowels are written above a horizontal letter they are read first. Write the first-place vowels before the letter *kay*. Write before the letters *pe*, *te*, *che* and *kay* the four second-place vowels, *ay*, *e*, *oh*, *u*. Write before these four consonants the six third-place vowels—*ah*, *a*, *ooh*, *oo*, *ow*, *ew*.

When the vowels are written on the right-hand side of upright and sloping consonants, and below horizontal ones, they are read after the consonants. Write after the consonants *pe*, *te*, *che* and *kay* all the first, second and third place vowels.

The student must become thoroughly familiar with the names and forms of the short-hand signs. He may then try how many words he can write containing one consonant with a vowel either before or after. Spell words in short-hand as they are pronounced, that is, represent by the short-hand sign the sounds as heard by the ear. For example, the word *though* is not spelled t-h-o-u-g-h, but the sounds are represented by the sign *the* and the second place heavy dash, *oh*.

The use of the second sign given in the alphabet for *es*, *ze*, *ar* and *he* will be explained in future lessons.

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LESSON II.--POSITION OF WORDS.

IN short-hand, words are written in three positions — those containing first-place vowels in the first position, those containing second-place vowels in the second position, and those containing third-place vowels in the third position.

At the beginning of the study, and until the hand is trained to an accurate and uniform style of writing, double-ruled paper should be used, that is, paper ruled with lines about one-eighth of an inch apart, and twice that distance between the lines. The lower line of double-ruled paper corresponds to the one line of single-ruled paper, and is the one referred to when "the line" is spoken of. On double-ruled paper upright and sloping letters in the first position are written through the upper line, second position between the lines, and third position through the lower line. Horizontal letters in first position immediately below the upper line, second position resting on the lower line, third position immediately below the lower line. When single-ruled paper is used, the first position is above the line, second position resting on the line, third position through the lower line, and horizontal letters under the line. The consonants form the basis or outline of a word, and must always be written first, and the vowels inserted afterward. When a vowel occurs before a consonant, it must be written on the left-hand side of upright and sloping letters, and above horizontal letters. When it is desired to represent a vowel after a consonant, it must be placed on the right-hand side of upright and sloping letters, and below horizontal letters. All dash vowels are made at right angles with the direction of the consonant to which they are placed.

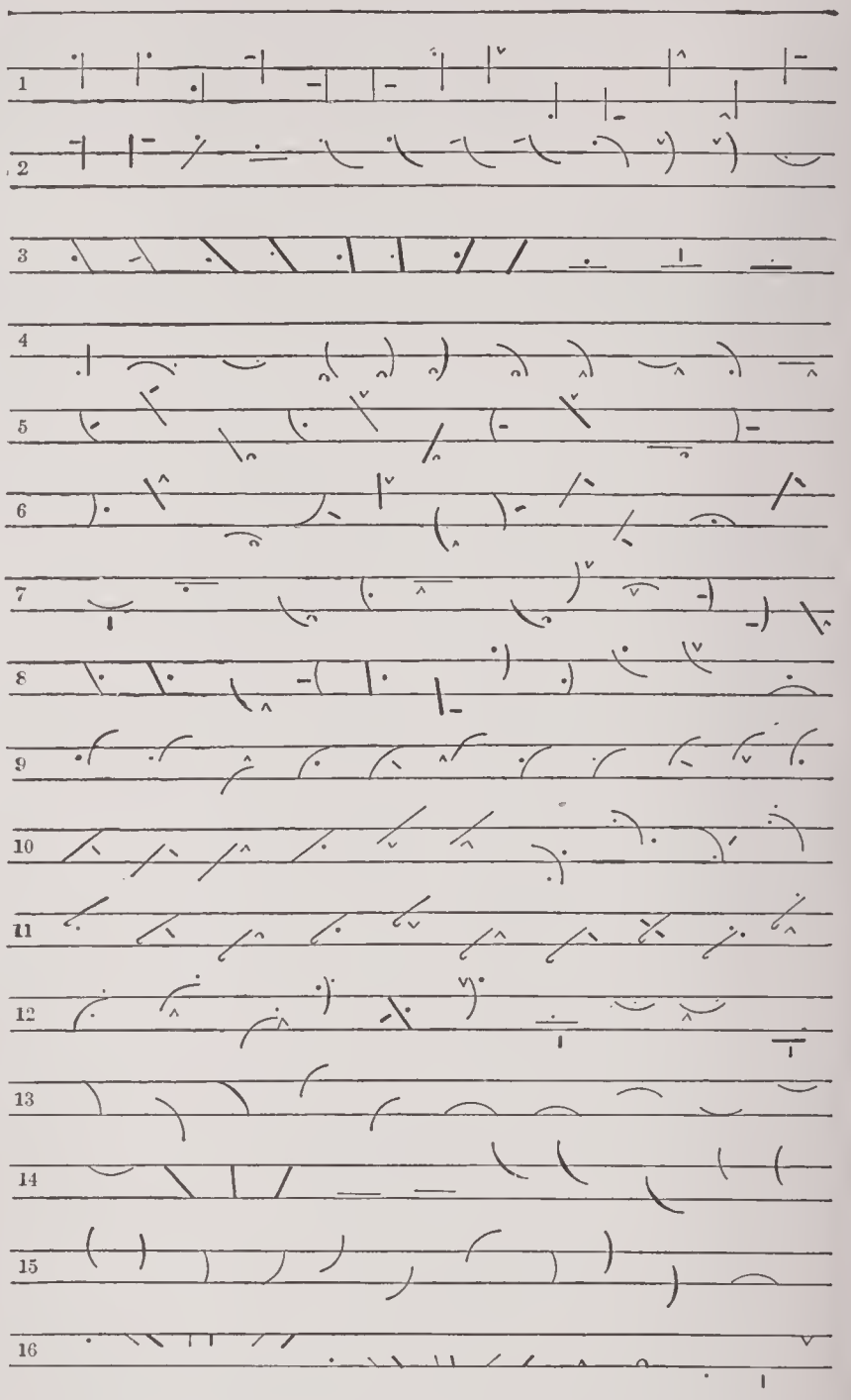
When vowels are inserted in words, the writing is called "vocalized," or "corresponding style;" when the vowels are omitted, it is called "unvocalized," or "reporting style."

In the short-hand lesson words are placed in three positions, according to the vowel used. Read aloud lines 1 to 8 inclusive, tracing each word with a dry pen as you read it.

Consonants which are written upward—*el*, *ray*, *he*—are vocalized from the bottom, which is the beginning of the letter. The first word in line 9 is *eel*. Read aloud and trace lines 9, 10, 11 and 12.

The object of writing words in three positions, according to the accented vowel, is to indicate the vowels in unvocalized words. Each of the letters in lines 13, 14 and 15 represents a word. Read these lines aloud, using one of the vowels indicated by the position of the letter, making a common word, and tracing each character as read. For example, the first word in line 13 may be read *air*, *ore*, or *err*. When words are grouped together in sentences, there is no difficulty in determining what word is intended to be represented by the consonant outlines, as the context will indicate the same.

When vowels alone are used to represent words, they are called vowel word signs. The vowel word signs in line 16 represent the following words: The, of, all, or, already, on, aught, and, to, two, but, before, should, who, how, you, ah, oh, I.

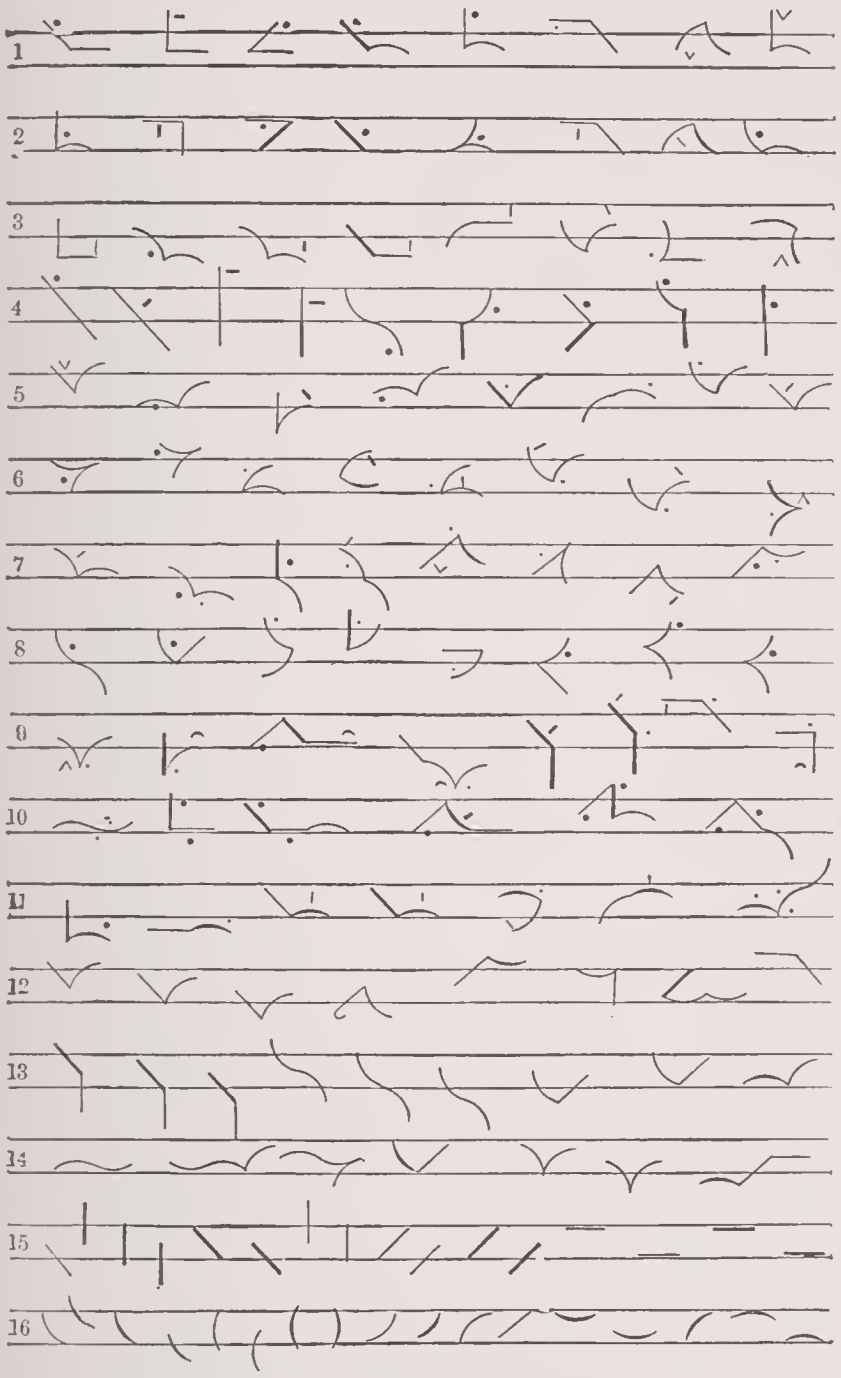


WRITING EXERCISE II.

Copy lines 1 to 16 inclusive ten times, and transcribe the lines into long-hand. Write the following words in short-hand:

Ate, at, awed, ape, Abe, ache, aid, add, are, am, an, all, air, aim, ale, age, ago, allow, alloy, allay, airy, arrow, away, Annie, annoy, anew, Anno, aha. Be, by, boy, bough, bow, bay. Cow, cue, coy, chew, chaw. Die, do, due, day, dough. Eat, each, eve, eel, ear, ebb, Edd, etch, edge, err, eyes, ell, echo, Eva, era, easy, Erie, Emma. Foe, fay, few, fee, fie. Go, gay, gnaw. High, hue, how, he, hay. It, itch, if, ill, ice, icy, in, issue. Jaw, jew, Joe. Key, knee. Lay, low, lee, law, lieu, lie. May, me, mew, mow. New, now, nay, no. Ought, oat, out, odd, off, of, or, oath, ope, ode, oak, ooze, oil, oily, owl, own, owes, obey, our. Pew, pea, paw, pie, pay, pshaw. Row, row, raw, rue, rye, ray. Say, so, show, see, sigh, shoe, she, sue, saw, shy. Tie, toe, toy, tea, to, the, they, though, thaw, thigh, thy, thou. Up, use, use. View, vow. Way, woe, we, woo, who. Yea, your, youth, ye, you.

LESSON III.—WORDS CONTAINING ONE OR MORE CONSONANTS.



IN combining consonants to form words, they are written in the same direction as when standing alone, the second beginning where the first ends, the third where the second ends, etc.

First-place vowels occurring between two stroke consonants must be placed *after* the first consonant, and third-place vowels *before* the second consonant.

The first upright or sloping letter in a combination determines the position of the word. In first-place words this upright or sloping letter is written halfway through the upper line (see line 1); second place words between the lines (see line 2); third-place words through the lower line (see line 3). In combinations containing two upright or sloping letters the first one determines the position of a word, as in line 4.

When the letter *el* is joined to other letters, it may be written either upward or downward, convenience in joining determining the direction. When *el* begins a word followed by *kay* or *em*, use the upward *el;* when a vowel precedes it, use the downward *el;* when *el* is the last letter in a word, write the *el* downward, if it joins conveniently; when there is a final vowel after it, write *el* upward, if it joins conveniently. See lines 5 and 6.

The curved sign *ar* is written downward, and should always be used before *em*. The straight sign for *ar* (called *ray*) is always written upward, and should be used before *ef*, *ve*, *ith*, *en*, *ing*. In other cases, when preceded by a vowel, use *ar;* when followed by a vowel, use *ray*. When it is the last letter of a word, use *ar;* when followed by a final vowel, use *ray*. See lines 8 and 9.

When words contain more than one vowel, the primary or accented vowel determines the position. When any doubt exists, write the word in the second position, it being the most convenient.

In the alphabet there is no shaded letter corresponding to *em*. This sign represents the double consonant *mp* or *mb*, called *emp*.

The reporting style of short-hand is writing consonant outlines in three positions, without vowels (or "unvocalized"), and the use of word-signs and phrases. Each of the consonants in lines 11, 12, 13, represents a common word.

A word-sign is one or more letters written in other than the position of the leading vowel, or a contraction representing the word. The single consonant word signs, lines 15 and 16, represent the following words: Party, dollar, do, had, be, to be, time, it, which, much, advantage, large, common, come, give, together, for, ever, have, however, think, thank, them, was, shall, issue, usual, will, are, thing, language, your, important, improvement.

Read and copy exercise 3 ten times, and transcribe it into long-hand, numbering each line of transcript.

WRITING EXERCISE III.

Write the following words three times vocalized, and three times unvocalized:

Acute, arm, ask, alum, arrive, abode, abide, ambush, ample, advantage, are, army. Beam, bought, babe, bell, bale, bellow, body, bump, bit, bite, bait, boat, bet, body, boot, bat, beauty, be, book, bake, become. Cheek, coat, code, cage, cud, cash, copy, camp, common, come, chalk. Date, dolly, dare, dish, dash, duly, decay, damp, dairy, dollar, do. Elm, error, earth, embark, embellish, ever, early. Fame, full, feed, foot, fill, folly, fully, fair, fairy, fish, fob, fire, far, fury, for. Genuine, give, hourly, have, however, half, had. Into, it, issue, improvement, important. Keep, kneel. Like, love, look, lamb, long, lamp, lump, large, language. Mouth, mule, male, meal, Mary, many, money, manual, much. Nail, namely. Occupy. Peak, pick, peep, pope, pure, pale, page, pull, purely, pump, party, pout, pile, pale, pier. Room, roam, roof, rainy, rebuke, revoke, redeem, repair, romp, ring, rosy. Shame, shade, shape, sheep, shore, sheer, share, shall. Talk, team, time, tame, take, took, taught, toad, tool, tide, to be, together, think, thank, them, thing. Vowel, very. Usual. Which, was, will. Your.

LESSON IV.—THE HALVING PRINCIPLE.

BY the mastery of lessons 1, 2 and 3 the student has already learned short-hand sufficiently to write any word in the English language, and has made all the progress that is claimed for any of the "shortest, easiest-to-be-learned" systems which have ever been invented. A study and practice in writing of what has already been learned equal to that which is devoted to learning long-hand writing, would enable the pupil to write sixty words a minute, or three times as fast as ordinary long-hand writing. This, however, would not be sufficient for reporting speeches in which the speed varies from 100 to 200 words a minute. In order to attain this higher rate of speed in writing it is necessary to use abbreviating principles. The simplicity of the primary principles of short-hand, as already given, allows the application of a variety of abbreviating principles, by the employment of which the highest possible rate of speed in writing may be attained. These principles will be introduced according to our own arrangement in this and subsequent lessons.

The halving principle is used as frequently as any other, and is always difficult to learn. We, therefore, give it as the first principle of abbreviation.

Each stroke consonant may be made half its usual length to add *t* or *d*. When a vowel is written after a half-length letter it is read between the consonant and the added *t* or *d*, as in "pet," first word line 1. When a vowel is written before a half-length letter it is read first, as in "apt," first word line 2. The first position for half-length letters is immediately under the upper line, second position resting on the lower line, third position below the lower line.

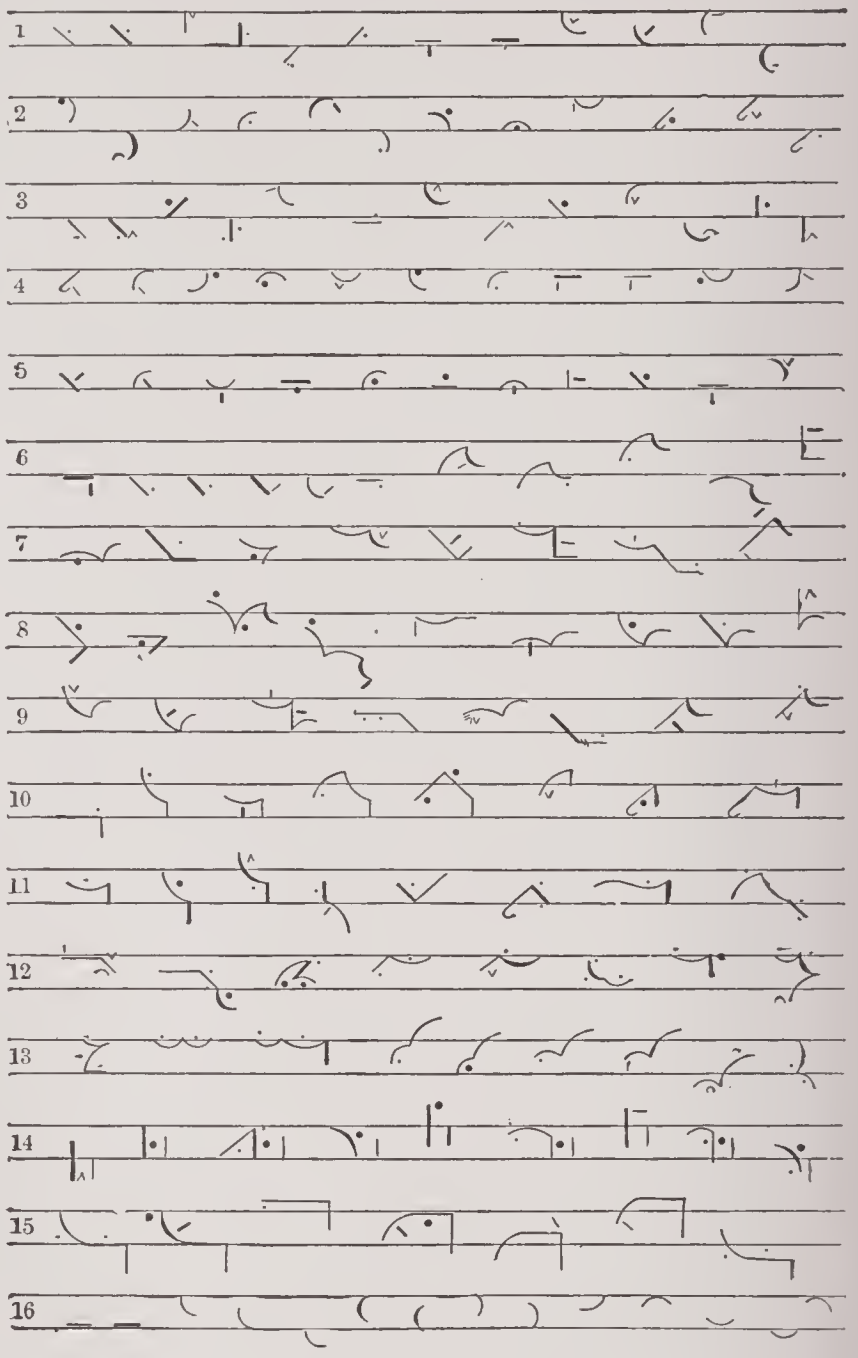
As either *t* or *d* is added by the halving principle, the half length letter *pe*, followed by the vowel *ay*, may represent either *pate* or *paid*, and similarly with many other simple words.

Read aloud and trace lines 1 to 4, inclusive.

In consonant combinations either one or all of the consonants may be made half-length. When a half-length letter is followed by another consonant the *t* or *d* is read before the additional consonant. See first word in line 13, "intellect." Read aloud and trace lines 6 to 13, inclusive.

The halving principle can be used only in combinations where a distinct angle is formed at the joining of letters. In some words it is better to write the half-length letter disjoined, as in line 14, the first word in which is "doubted." In other cases it is necessary to write the full consonant outline, as in line 15. Read aloud and trace lines 14 and 15.

The half-length word signs given in line 16 represent the following words: Could, good, feature, after, fact, that, without, astonish, establish, wished, immediate, nature, under, read. Read aloud and trace line 16.

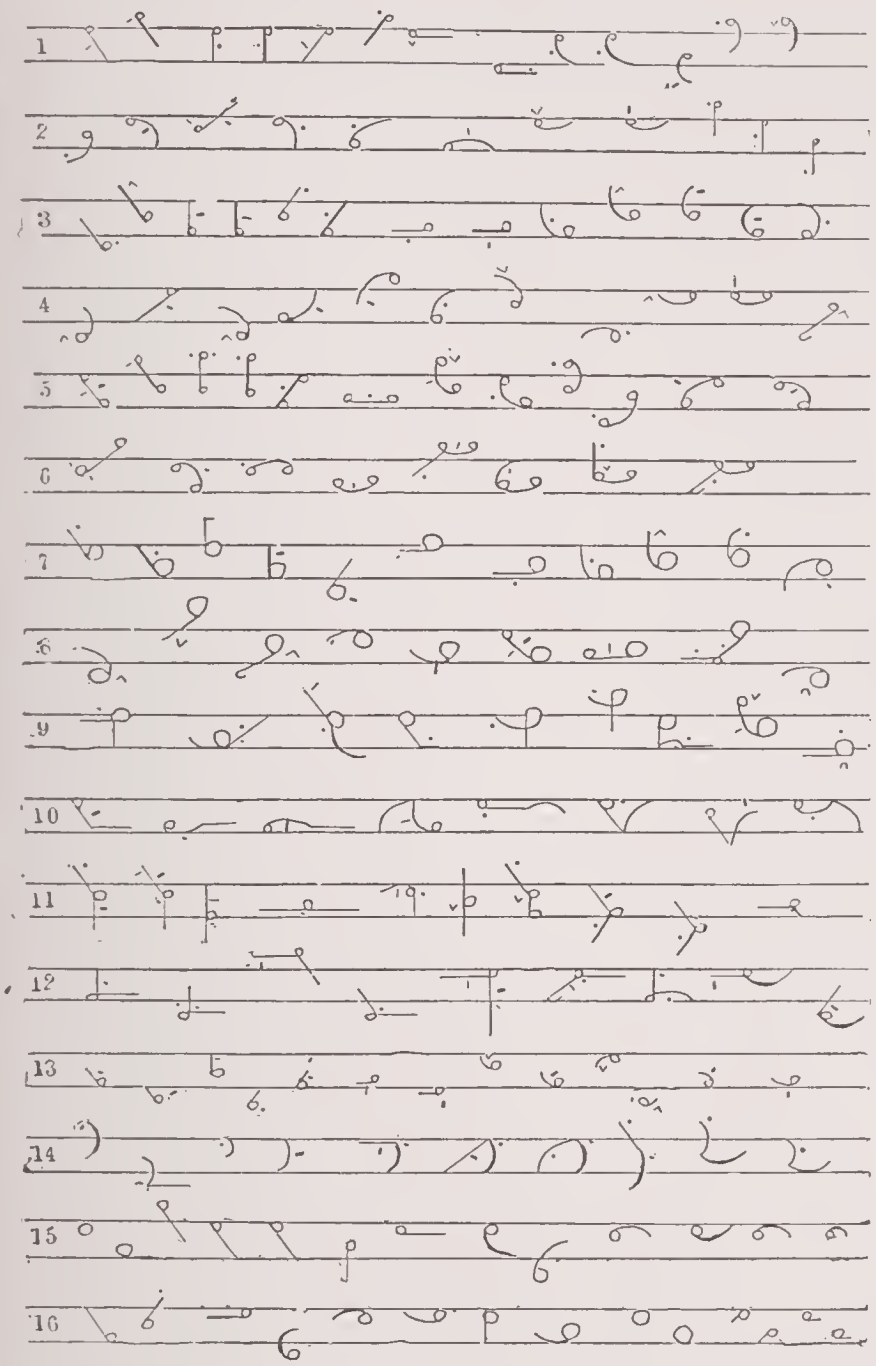


WRITING EXERCISE IV.

Copy short-hand lesson IV. ten times, and transcribe it in long-hand. Write the following words in short-hand:

Art, apt, about, aged, added, ached, arrived, acted, avoided, alphabet, assert, awaited, affect, after, astonish. Bet, boat, bait, bad, boot, begged, belt, backed, better. Chat, cut, cat, coat, cot, caged, captivate, could. Date, dead, doubted, dated, deeded, dotted. East, end, ended, editor, evident, effect, evoked, establish. Fight, foot, failed, filed, fold, fitted, faded, feature, future. Get, got, gate, good. Hate, height, hat, hot, hated, hunted, habit. Invite, induct, indeed, individual, imitated, intellect, intend, intended, immediate. Knocked, kicked. Let, light, lot, lit, load, laid, loved, laughed, lived, lighted, legitimate, little, lately, locate, locked, looked. Met, meat, mode, moved, mailed, mold, mild, mended, middle, model, mutual, meditated. Not, night, note, noted, nature. Oft. Pet, pad, paid, port, paged. Rout, robbed, relieved, removed, repeated, radiated, read. Shut, sheet, shot. That, talked, toiled. Used, unpacked, untold, under. Vote, viewed. Wait, weighed, written, writing, without. Yacht.

LESSON V.—THE CIRCLE "S" AND "Z."



THE frequently recurring sounds *es* and *ze* are provided for in short-hand by a small circle joined on the right-hand of upright and sloping *straight* letters, and above horizontal *straight* letters. The student must observe carefully the side of *straight* letters on which this circle is used, as by confining it uniformly to one side, we have the use of it on the opposite side for the representation of other abbreviating principles. This, however, does not apply to curved letters, as the circle *s* is always made inside the curve. The circle *s* at the beginning of a letter is always read first.

As there is no beginning, middle or end to the circle, it cannot be vocalized. The vowels must, therefore, be placed to the consonant to which the circle is joined, and read either before or after that consonant; if before, between the circle *s* and the consonant. See first word in exercise 5—*s-u-p*, "sup." When the circle is at the end of a letter, it is read last, after the vowels. The circle may be used both initial and final, as in the lines 5 and 6.

By making the circle double its usual size, it represents the syllables *ses* and *sez*, as in "pieces." See lines 7, 8 and 9. When the circle *s* occurs between two *straight* letters forming an angle, the circle is made outside the angle, which is the shortest direction for writing. If both letters are written in the same direction, the circle *es* must retain its position on the right-hand side of upright and sloping straight letters, and above horizontal straight letters. See line 2. The application of this principle makes it necessary, in placing the *es* on the outside of the angle, to join the circle on either side. See line 12.

The circle *s* used on half-length letters, is read after the added *t* or *d*. When *s* or *z* are the only consonants in a word, or when *s* or *z* is the first consonant, preceded by a vowel, or the last consonant, followed by a vowel, use the stroke form for *s* and *z*, as in line 14.

The word signs in lines 15 and 16 represent the following words: Is, as, speak, special, subject, satisfy, signature, several, salvation, similar, single, simple, somewhat, objects, religious, because, those, impossible, influence, system, United States.

When a sign represents more than one word it is called a phrase, as in line 16. The large circle, first position, represents *is-as:* second position, *as-is*. The remaining phrases in line 16 are: Is-the, as-the, is-a, as-a.

WRITING EXERCISE V.

Write the following words in short-hand: Assays, arise, arouses, accuses, amuses, accept, ask, asp, also, arts, as, as-is, as-the, and-is and-as. Boys, basis, bestow, besides, boots, busy, because, bask. Cheese, choose, case, custody, ceases, chooses, cask, choosing, chats, cuts, cosy, causing, cities. Does, doses, dusty, decide, desk, dismay, designs, dots. Eggs, exist, exercise, except, easy. Face, faces, fights. Goes, gazes, gossip, goods. House, hours, hisses, husk, hasten. Insist, induce, icy, is, impossible, influence, is-as, is-the. Joys, Jesus, jots. Kisses. Lace, lessons, listens, loosens, loses, loves, lazy, lights. Mass, mazes, misses, musty, meets. Nice, noses, necessary, necessity, notes. Oozes, owns, opposite, objects. Pays, pieces, possess, possessor, passage, pets. Rose, reasons, rises, rosy. Sup, sob, sorrow, sway, sighs, sash, stay, soar, shoes, suppose, series, speak, speedy, special, said, sale, sake, says, sobs, siezes, sways, sashes, supposes, systematic, spoke, shoots, several, signs, system, such, sum, seeds, souls, seems, success, snake, saying, salvation, sieges, signs, songs, sages, soars, sense, since, smoke, seeing, similar, simple, sky, sip, sex, stays, scheme, subject, single, somewhat, sage, safe, soap, sacks, suspect, saves, snare, sauce, sat, suffices, seek, signify. Toes, thaws, thus, tosses, thesis, task, thoughts. United States. Upset. Voice, vices, votes. Wise, ways, waits. Yes, yachts.

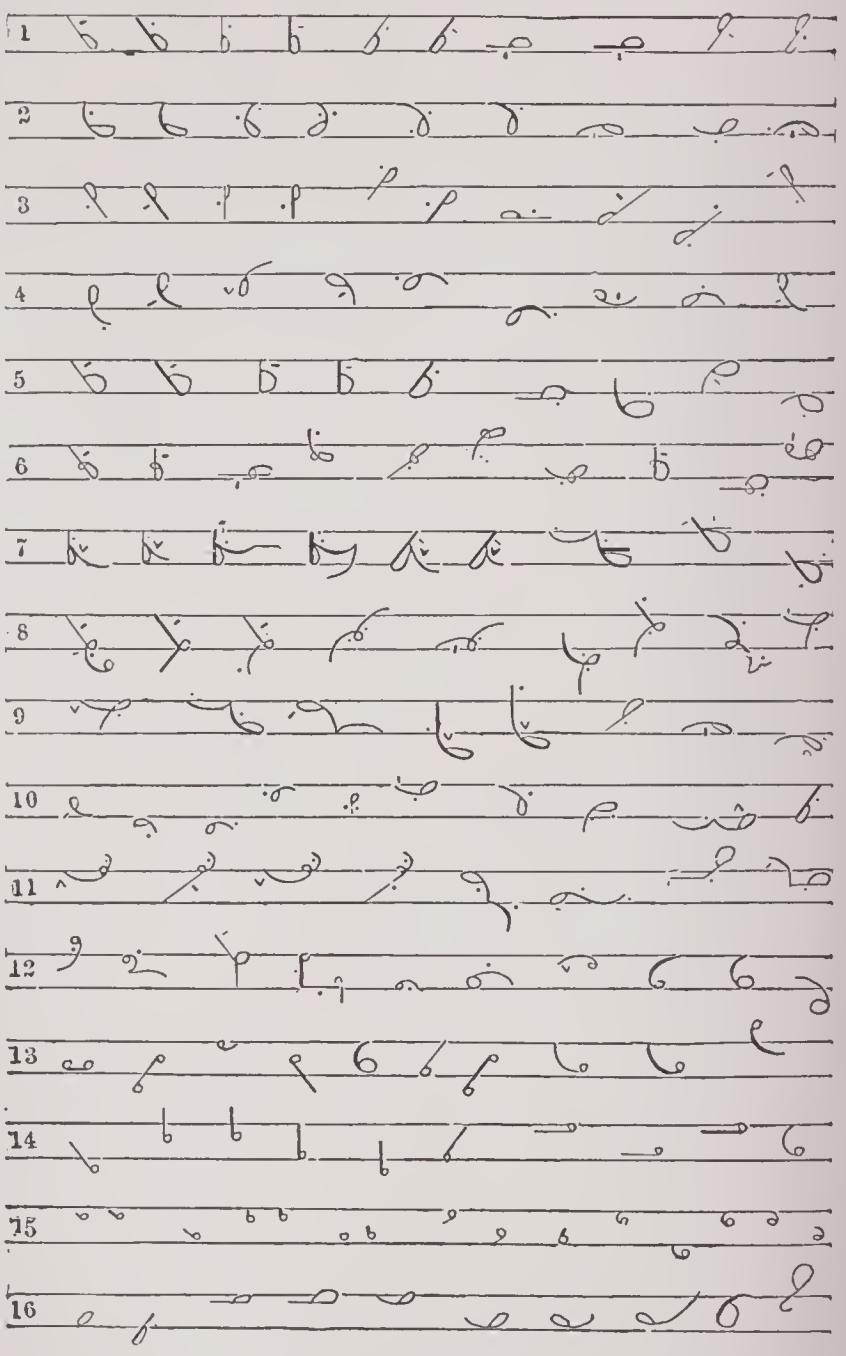
LESSON VI.—LOOPS "ST" AND "STR."

A LOOP the width of the circle *s*, and one-half the length of the consonant to which it is joined, represents the combination *st*. This loop is governed by the same rules as the circle *s*, and is made on the right-hand side of upright and sloping, and above horizontal, straight letters, and on the inside of curved letters. See lines 1 to 4. A large loop the width of the circle *sez*, represents the combination *str*. See line 5. The circle *s* may be made after the *st* and *str* loops, as in line 6. These loops may be used in the middle of words, as in line 7. The circle *s* sometimes represents *st*, where the loop cannot be conveniently made, as in line 8. The ending *st* is occasionally represented by the half-length *s*, written upward, as in the first four words of line 11.

The circle *s* represents the prefix *self* and the affix *self*; the large circle *ses* represents the affix *selves*, as in line 12. The circle *s* in phrases represents *is*, *as*, *his*, or *has*. The phrases in line 13 are: as-good-as, as-much-as, is-not, is-to-be, this-is, which-is, as-large-as, for-his, have-his, is-ever. The circle *s* is used to represent the plural of nouns the singular of verbs, and the possessive case. The word signs in line 14 are: Parties, times, dollars, does, advertisements, advantages, because, comes, gives, thinks.

The words and phrases in line 15 are: Of-his, all-is, to-his, or-is, already-has, but-as, before-his, on-his, should-his, whose, thoughts, facts, that-is, astonishes, establishments. The word signs in line 16 are: First, largest, commonest, extraordinary, influenced, next, stenography, stenographer, yesterday, history.

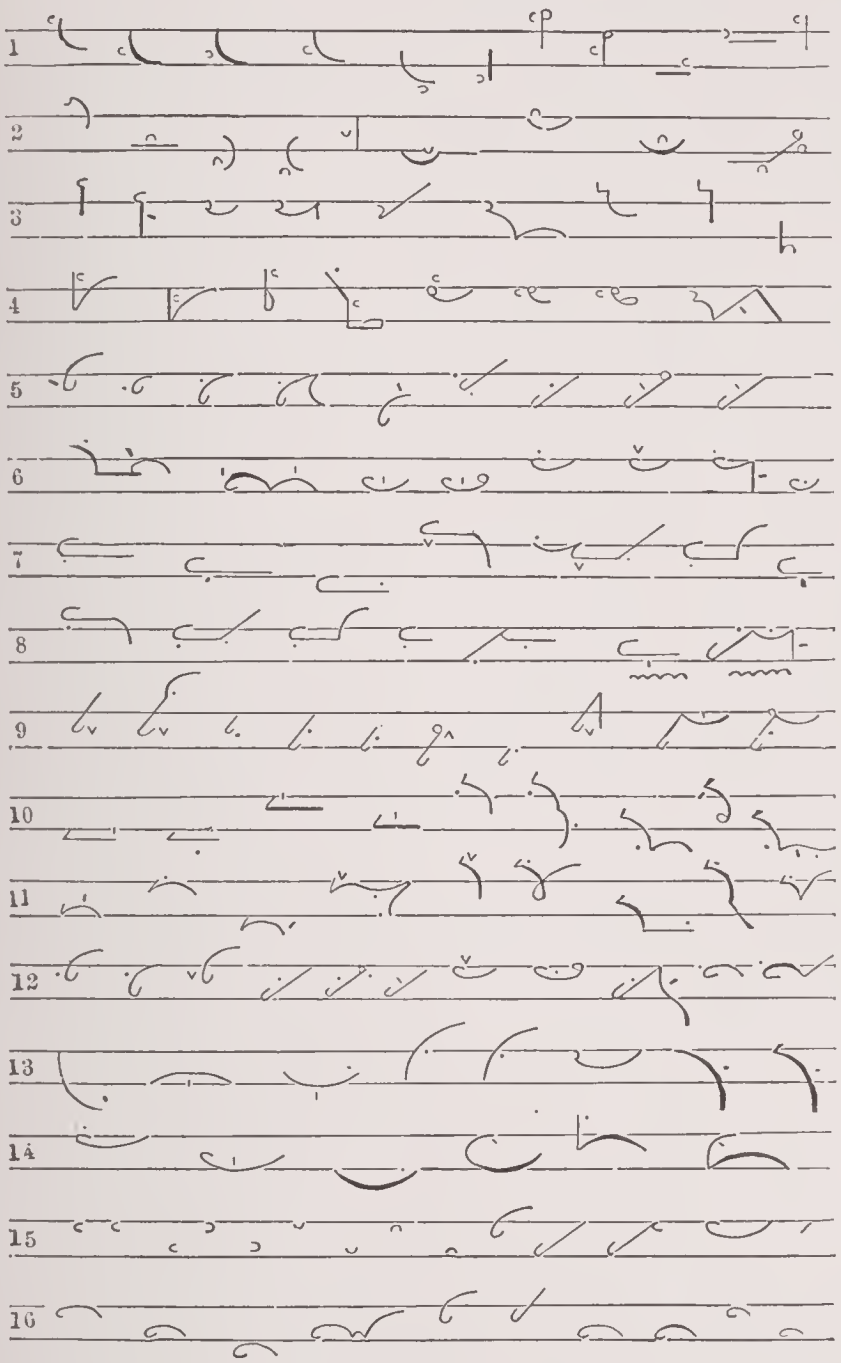
Read aloud lines 1 to 16 several times.



WRITING EXERCISE VI.

Copy exercise VI. ten times. Transcribe it into long-hand. Write the following words in short-hand: Atheist, assayist, arrest, amazed, amused, announced, antagonist, abstract, analyzed, as-good-as, as-much-as, as-large-as, advertisements, advantages, all-his, already-has, astonishes, answer. Beastly, before-his, best, boaster, boasts, but-has. Castor, castors, castle, caucuses, chaste, chests, chorister, coast, coaster, coasts, costly, comes, commons, commonest. Distinct, distinguish, does, dollars, dust, duster, dusters. Embarrass, embezzle, establishments, extraordinary. Faced, facts, fast, faster, feast, feasters, festers, first, for-his, foster, guest, gives. Hands, haste, has-not, have-his, his-has, history, honest, honesty. Influenced, invest, investigate, is-ever, its, itself, is-not, is-to-be, imposter. Jest, jester, jesters, joist, justify, justified. Largest, last, lastly, lists, luster. Master, midst, most, mostly, muster, must, myself. Orchestra, ourselves, obstruct, of-his, on-his, or-his, ought-his. Parties, past, pester, posts, postal, postage, post-office, poster. Raised, raciest, revised, received, rosiest, rooster. Stab, stack, stabbed, state, stage, stag, staff, stake, stare, starry, start, stamp, stain, stairway, stamina, step, stead, stem, steam, stealthy, steamed, stenographer, stenography, stamped, sting, stove, stole, story, stock, stoop, store, storm, stuff, stung, stitch, study, stuffed, songsters, sincere, selfish, selfsame, self-made, self-esteem, self-education, self-possessed, should-his, sometimes, style. Taste, tastes, testify, testified, times, this-is, thinks, thanks, thoughts, that-is, themselves, thyself, to-his. Vast, vaster, vastly, vest. Waste, west, westward, which-is, whose. Yesterday, yourself, yourselves. Zest.

LESSON VII.—"WE" AND "YE" DIPHTHONGS.



IN addition to the consonant signs for the coalescents *we* and *ye*, when these letters are used in connection with any of the vowels or diphthongs, they form what is called a coalescent diphthong, which is represented as follows: A small *the* curve, that is the curved sign resembling the letter *the*, but only about one-fourth the length of the letter, placed in the position of the three long-dot vowels, represents *we, wa, wah;* an *eth* curve, written in the position of the three short dot vowels, represents *wi, we, wa;* a *ze* curve in the position of the three long dash vowels represents *wau, wo, woo;* an *es* curve in the position of the three short dash vowels represents *wo, wu, woo;* a small right angle in the position of the diphthongs represents *wi, woi, wow.* Read line 1. A small *ing* curve in the position of the three long dot vowels represents *yee, ya, yah;* an *en* curve in the position of the three short dot vowels represents *yi, ye, ya;* an *emp* curve in the position of the three long dash vowels represents *yaw, yo, yoo;* an *em* curve in the position of the three short dash vowels represents *yo, yu, yoo.* Read line 2. These coalescent diphthongs in the first and third positions may be joined to the consonant when they will form a distinct angle. Read lines 3 and 4.

WE HOOKS.—A small initial hook on *l, ray, m, emp* and *n* represents the letter *w*, the hook is read first. Read lines 5 and 6. A large initial hook made above the letter *k* also represents the letter *w;* this hook is used in the class of words commencing with *qu*, pronounced *kw.* This hook is read after the *k.* Read lines 7 and 8.

HE SIGNS.—In addition to the stroke form for *he*, given in the alphabet, it is also represented by a *che* tick, that is, a small tick written downward in the direction of the letter *che.* The stroke form for *he* should be used in all words where *he* is the only consonant, and in many others beginning with the letter *he.* Read line 9. The tick *he* is only used before those consonants with which it will form a distinct angle, as *k, gay, r, m, z* and *we.* Read lines 10 and 11. The last five words in line 11, when written in longhand, commence with the letters *wh;* but as the *he* in this combination is pronounced first, in short-hand it is written first. When a word beginning with *hw* can be most conveniently written with the *w* hook on *l, ray, m* and *n*, the *he* may be omitted. Read line 12, commencing each word with *hw.*

DOUBLE-LENGTH LETTERS.—Any curved letter made double its usual length, represents the addition of *ther, ter* or *der.* Double-length *ing* also represents an added *ger*, and double-length *emp* an added *per* or *ber.* Read lines 13 and 14.

Line 15 contains the following word-signs: We, with, were, what, would, ye, yet, beyond, you, while, where, wherewith, when, he, their. With and we may be represented by a *we* hook in phrases. Line 16 contains the following phrases: With-me, with-him, with-whom, with-him-you-will, we-will, we-are, we-may, we-may-be, we-might, we-met.

WRITING EXERCISE VII.

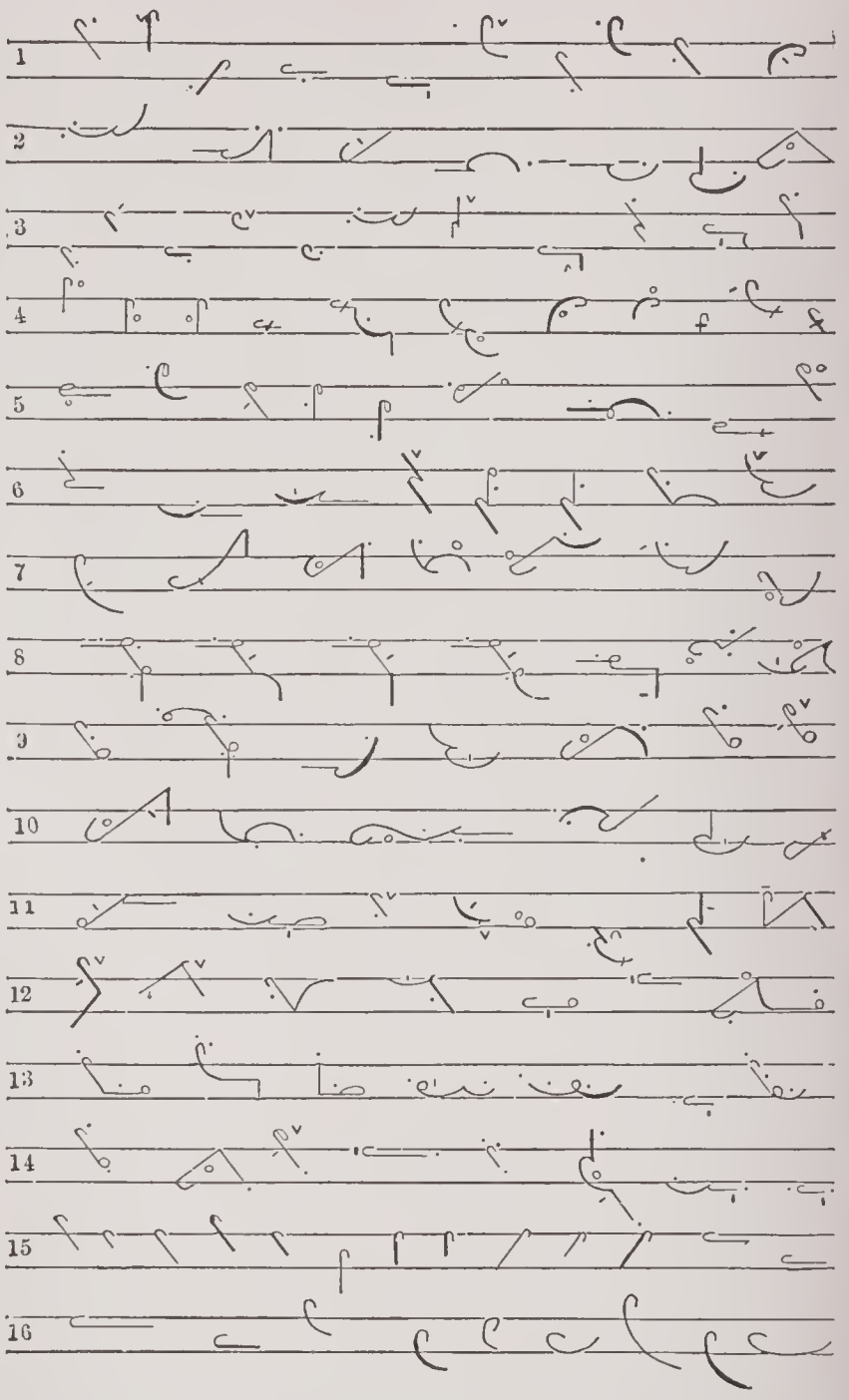
Copy lines 1 to 16 ten times. Write the following words in short-hand: Aha, another. Betwixt, beyond. Curious. Due, dwell. Father. High, highly, hip, hay, hate, hat, height, hung, hang, hasten, house, harmony, horse, harm, hearsay, her, here, hug, hog, hack, hook, home, hazy, hymn, huzzy, hymeneal. Inquiry. Leather, letter, latter, longer. Mother. Neither. One, once. Quick, quote, quake, quarrel, queer, quartz, "quo," quire, query, quack, quest, quilt, quit, qualify. Smoother, September, Swede, sweat, swift, swiftest, swing, superior. Twice, twill, timber, twist. Use. Weave wound, wave, walk, waif, wag, wove, wit, wooed, woof, widow, weed, wide, walked, wife, want, war, wanted, warm, Wabash, wardrobe, washing, worship, wall, weary, wilt, worse, wealth, work, well, wool, wear, went, wigwam, Winchester, wampum, window, win, wine, whimper, while, when, wheel, whale, whim, whence, wharf, where, whine, whither, weather, wander, winter, wonder, Walter, we, what, wherewith, would, with, were, with-me, with-whom, with-him-you-will, we-will, within, with-him, we-are, we-may-be, we-may, we-might, we-met. Year, young, yoke, yet, yon, youth, Yankee, you, ye.

LESSON VIII.—THE "L" HOOK.

THE letter *l* occurs frequently in connection with all other consonants, forming in many words a consonantal diphthong. It is conveniently represented by a small initial hook made on the right-hand side of upright and sloping, and above horizontal straight letters, as in line 1. To distinguish the *l* hook series of letters from the single consonants, the latter are called *pe-el*, *be-el*, and the former *pel*, *bel*, etc. Although the *l* hook is made on the beginning of a consonant, it is read after it.

A vowel after an *l* hook consonant is read last; the first word in line 1 is *plea*. A vowel before an *l* hook consonant is read first; the second word in line 1 is *idle*. Read line 1. The *l* hook on the *esh* and *zhe* cannot be made on the back of the letter, or on the right hand side, these letters are therefore struck upward, and are never used except when joined to other letters. The *l* hook on *ray*, *m*, *mp*, *n*, *ing* is made large to represent *rel*, *mel*, *empl*, *nel*, *ingl*, and to distinguish it from the *we* hook on those letters. The initial hook of *he* is also made large to represent *hel*. Read line 2. In half-length consonants on the *l* hook series, the added *t* or *d* is read after both consonants. Read line 3.

A vowel may be represented between the double consonants by making a small circle in the position of the vowel before the double consonant for the long dot vowels *ee*, *ay*, *ah*, and by a small circle after the double consonant for the short dot vowels *i*, *e*, *a*. The dash vowels are struck through the stem of the letter, except when they would interfere with a hook or circle, when they are written immediately before the consonant, if first-place; and immediately after it, if third-place. Read line 4. When a double consonant of the *l* hook series is preceded by the circle *s*, the circle is slightly flattened and made inside the hook, and is always read first. Read lines 5 and 6. Curved Consonants of this series may be made double length for adding *ther*, *ter*, *der*. Read line 7. In a few words, where the *l* hook is preceded by another consonant and a circle *s*, the hook cannot be made complete, but there is no difficulty in reading those words. Read lines 8 to 12.



The frequently recurring prefixes *com* and *con* are represented by a dot made before the beginning of the letter. Read line 13. The affix *ing*, when the consonant *ing* cannot be conveniently joined, is represented by a dot made after the end of the letter. Read line 14.

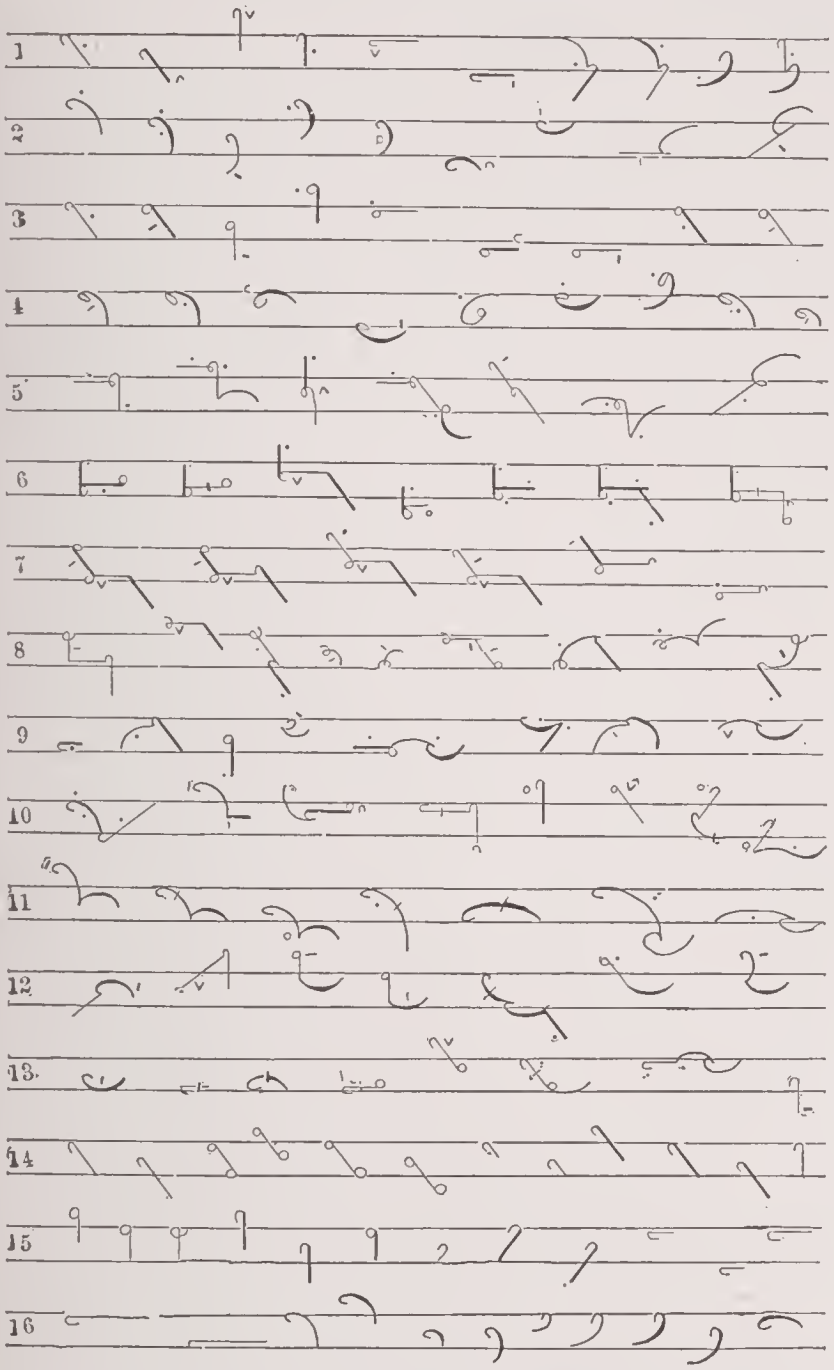
The word signs in lines 15 and 16 are: Comply, complete, people, belong, build, until, deliver, delight, children, child, angel, equal, difficult, collect, glory, follow, value, theology, only.

The curved word signs may be made double length for the addition of their-there in phraseography. The last three signs in line 16 represent the phrases: Follow-their, value-their, only-there.

WRITING EXERCISE VIII.

Transcribe exercise VIII. and copy lines 1 to 16 ten times. Write the following words in short-hand: Able, agile, angle, ankle, applied, apple, April, awful. Beautiful, belong, Bible, blame, blot, build. Call, camel, calling, canal, casual, casualties, child, children, civil, clay, clot, clothed, clouded, close, circle, connect, commencing, complacent, complete, compel, completing, complex, comply, conclude, concluding, conflict, consonant, context, cultivate. Dangle, delight, deliver, developing, difficulty, double. Enable, enclose, equal, evil, example, exclude, explicit, explode, explore, explosive. Fangle, family, female, final, flat, flight, flutter, fly, follow, follow-their, fulfill, funnel. Glad, girl, glory, glue, gold. Halifax, healing, help, helping. Idle, imperial, initial, initialed, including, involved. Melancholy, military. Oblige, official, only, oral. Pearl, people, peopled, pickled, place, plat, plea, please, pleasing. Railway, reality, relent, reply, rule. Saddle, sable, serial, settle, school, shouldered, simplicity, skill, stable, supple, supply, supplying. Table, tale, tell, theology, till, titled, told, tolerable, tunnel. Unable, uncle, unhealthy, until. Value, value-their, vocalize. Yale, yellow, yield.

LESSON IX.—"R" HOOKS.



A SMALL initial hook on the left-hand side of upright and sloping and below horizontal straight consonants represents *r*. This is called the *per* series of double consonants. When speaking of them we use the one-syllable name *per* to distinguish them from the single consonants *pe-ar* etc. Vowels are written either before or after double consonants of the *per* series, or may be expressed between the two consonants, the same as in the *pel* series, as follows: For the long dot vowels make a small circle in the position of the vowel before the double consonant; for the short dot vowels a small circle in the position of the vowel after the double consonant. Write the first-place dash vowels just off the beginning of the consonant; the second-place dash vowels through the consonant, and the third-place dash vowels just off the end of the consonant. The student will soon become familiar with the outlines of words, and full vocalization will not be necessary. It would not be convenient to make a hook on the back of the curved letters *f, v, ith, the.* These letters are therefore reversed to bring the hook on the left side and inside the curve. These forms will not be mistaken for the similar letters *r, we, s* and *z*, as the initial *r*, hook is not used on these four letters. The stem of the letter is shaded in *mer* and *ner* to distinguish them from *wem* and *wen*. Read lines 1 and 2.

On eight straight consonants of the *per* series the hook is made into a circle on the left side to represent the *str* series of treble consonants. Read line 3.

When the circle is used on the curved letters of the *per* series it is made inside the *r* hook, and is always read first. Read line 4.

When *s* occurs before the double consonant in the middle of a word, both the circle and the hook must be made. Read line 5.

When *ker* and *ger* follow *ts* and *ds*, the circle only is used and is written on the right side of *t* and *d* and below the *k* and *gay*. Read line 6.

After *p* and *b* the circle and hook cannot be distinctly made, but there will be no difficulty in reading this class of words. Read line 7.

The prefixes *in* and *un* before the *spr* series of consonants is represented by a small backward hook; also before *ser, sel* and *sem*. Read line 8.

When double consonants of the *per* series are made half-length, the added *t* or *d* is read after both consonants. Observe that although the hook representing *r* is initial, it is always read after the consonant on which it is used. Read lines 9 to 13 inclusive.

The word-signs in line 14 are: Principle, practice, experience, surprise, express, suppress, particular, opportunity, liberty, remember, number, truth.

In line 15; Strength, external, instruct, doctor, during, consider, charity, danger, larger, according, accurate, Christian.

In line 16: Correct, character, from, over, virtue, other, short, sure, pleasure, measure, Mr. or remark.

WRITING EXERCISE IX.

Copy exercise IX. ten times, and transcribe either in long-hand or on the type-writer.

Write the following words in short-hand: Archer, azure. Brow. Cedar, charming, charity, cheerful, christian, character, color, court, comprise, consider, correct, criminal, cry, culture. Danger, destroy, descry, discried, disgrace, disagree, describer, disagreeable, discursive, dear, doctor, dray, during. Either, energy, every, everywhere, extra, extreme, examiner, expert, express, expressive. Farmer, figures, former, forgot, from, fraternal, free, further. Greet, grow. Honor, humor. Instruct, instructor, inscribe, insert, insult, inseparable, invulnerable. Labor, larger, learner, lover, liberty. Masterly, Mr. measure, more, maternal, minor, murder. Number. Obscure, occurs, opportunity, over, other, owner. Pray, present, prescribe, practice, particular, prosper, proscribe, principle pleasure. Remember, roller, rumor. Saber, sadder, seeker, surely, sober, spray, strew, striver screw, suitor, supper, suffer, swimmer, sooner, sever, sinner, sailor, seizure, safer, suffering, subscribe, subscriber, scribe, severed, secure, short-hand, spry, strong, strength, sure, strung, spring, separate, suppress, surprise. Try, treasure, true, there, truth, through, toward. Unscrupulous, unseemly, unsalable, unsociable. Virtue. Wager, wager, westerly, writer, wrestler.

LESSON X.—"F," "V" AND "TION" HOOKS.

A SMALL final hook on the right hand side of upright and sloping and above horizontal and straight letters represenst either *f* or *v*. On *ray* and *he*, which are written upward, this hook is made above. The *f* and *v* hook is only on straight letters. Read line 1. *S* may be added after the *f* or *v* hook by making the circle inside the hook. Read line 2.

The *f* and *v* hooks may be used in the middle of words. Read lines 3 and 4.

A large final hook made on the right hand side of upright and sloping and above horizontal straight letters (the same side as the *f* and *v* hook) represents *tion* or *sion*. This hook is also used on the inside of curved letters. Read lines 5 and 6.

To represent *tions* and *sions* make the small circle *s* inside the hook. Read line 7.

The syllable *tion* is represented after the circle *s* and loops *st* and *str* by a small hook made on the opposite side of a consonant. This *s-tion* hook is vocalized by writing first place vowels before the end of the consonant, and second place vowels after it. Read line 8.

When *s* follows this *s-tion* hook the circle is made inside the small hook. Read lines 9 and 10.

The prefixes *inter*, *intro*, and *enter*, are represented by half-length *n* joined to the remainder of the word. Read line 11.

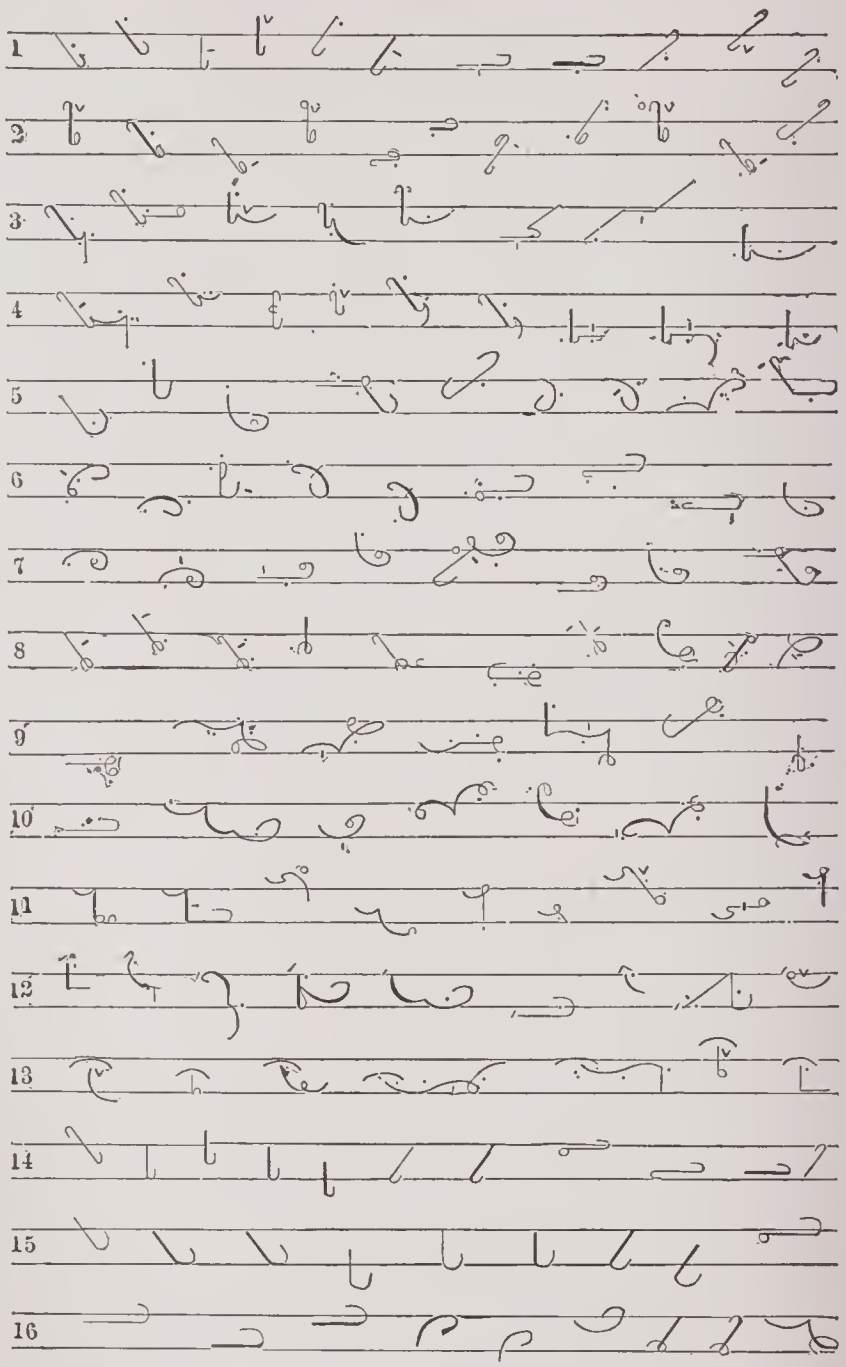
The prefixes *contra*, *contro*, *counter*, are represented by a disjoined *che* tick; that is a short tick made downward in the direction of *che* at the beginning of a word. Read line 12.

The prefixes *Magni* and *Magna* are represented by a disjoined *m*, the remainder of the word being commenced under and near the center of the *m*. Read line 13.

The *f* and *v* hook word signs in line 14 are: Perfect, whatever, divine, difference, advance, whichever, Jehovah, descriptive, careful, government, reverend.

The *tion* hook word signs in line 15 are: Option, objection, contribution, tuition, condition, generation, imagination, description.

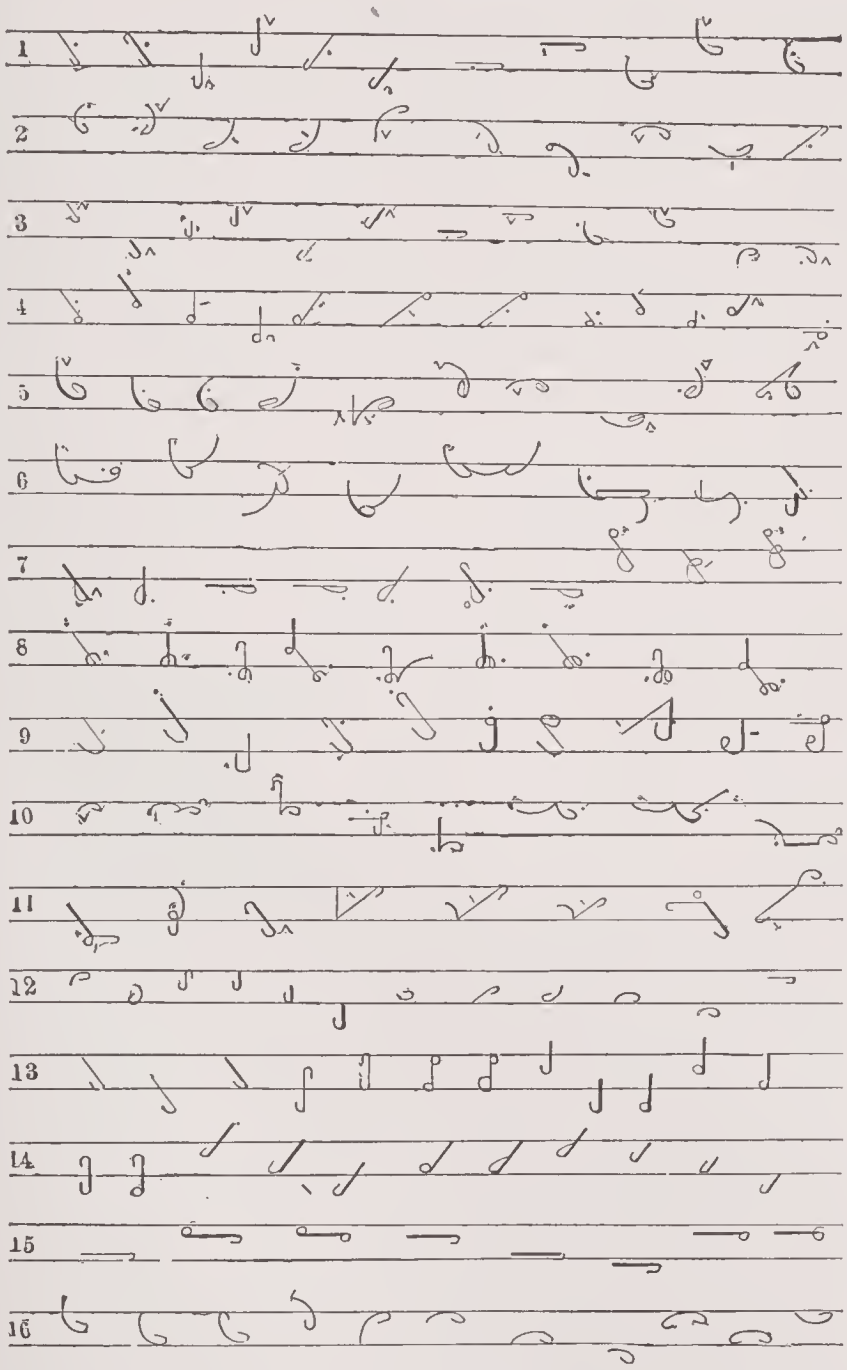
The word signs in line 16 are: Correction, glorification signification, revelation, revolution, information, justification, jurisdiction, investigation. Read lines 14, 15 and 16.



WRITING EXERCISE X.

Achieves, approves, adventure, advocate, advocacy, advent, addition, ambition, aversion, actions, acquisitions, arrestations, accusations, annexation, attestation, advance. Beef, braves, brevity, briefest, bravest. Cessation, cuff, craft, cover, contrivance, contrive, confusion, consummation, constitution, consecration, conclusion, confessions, centralization, civilization, connections, contradict, counterfeit, counterfeited, controversy, contradistinction, contravention, counteraction, counter-irritation, counterpart, countersign, creative, construction, condition, correction, chief. Dive, drove, drives, derives, differ, descriptive, directions, description. Edition, exhibition, emulation, exception enterprise. Fashion. Gave, gifts, govern, generation, glorification. Hive, half, hallucination, heaven. Intervention, introduce, interline, introduction, intercept, interfered, intercourse, interview, intercede, interest, imagination, investigation, information, illustration. Jove, Jehovah, jurisdiction. Mission, manifestations, molestations, moralization, magnify, Magna Charta, magnitude, magnetic, magnificent, magnanimous, magnetize, mention. Notions. Oration, obligation, omissions, occasions, oppositions. Pave, proves, prefix, profanity, prevent, position, possession, procession, persuasion, physician. Reverend, revelation, revolutions. Strives, session, stations, suggestion, symbolization. Tough, tuition, twelve. Version, vision. Whatever, whichever.

LESSON XI.—THE "N" HOOK.



A SMALL final hook on the left-hand side of upright and sloping and below horizontal straight letters and on the inside of curved letters, represents *n*. Read lines 1 and 2.

When the *n* hook is used on half-length letters, the added *t* or *d* is read after the hook. The first word in line 3 is "point." Read line 3.

The hook being on the opposite side from the circle *s*, it is made into a circle on the left-hand side of upright and sloping and below horizontal straight letters to represent *ns*. Read line 4.

When the *n* hook is followed by the circle *s* on curved letters the *s* is made inside of the hook. In order to do this, do not enlarge the hook, but flatten the circle. Read line 5.

The *n* hook is used to advantage in the middle of many words. Read line 6.

On straight letters, the *n* hook may be followed by the *st* and the *str* loops by making the hook into a small or large loop. Read line 7.

The *ns* circle on straight letters may be followed by the back hook *tion*. Read line 6.

A large final hook on the *n* side of straight letters represents the termination *n-tion*. The first word in line 9 is "pension." Read lines 9, 10 and 11.

The *n* hook and halving principle are conveniently used to represent *not* in phrases. The phrases in line 12 are: Will-not, was-not, did-not, do-not, had-not, have-not, are-not, shall-not, may-not, am-not, cannot.

The final *n* hook logographs in line 13 are: Upon, punish, been, at-length, eternal, circumstance, denomination, providential, denominations, audience, providence.

The logographs in line 14 are: Darken, darkens, religion, general, imagine, religionist, generalized, generalization, gentlemen, gentleman, imagined.

Those in line 15 are: Question, signify, significance, begin, begun, began, organize, organization.

Those in line 16 are: Often, phonography, philanthropy, herein, alone, men, man, human, women, woman, opinion.

WRITING EXERCISE XI.

Copy short-hand Exercise XI. ten times and transcribe it once. Write the words in Exercise XI. in position, unvocalized.

Write the following words in short-hand: Abandoned, abscond, adamant, against, alone, am-not, around, are-not, argument, apprehension, attends, attention, at-length, audience, assign, assigns, assistant. Balanced, been, beans, begin, begun, began, bound, bonds, bounced, brain, brown. Cane, canst, canister, carbon, cannot, chain, circumstance, circumstances, chant, chance, chanced, counts, conscience, compensation, condensation, condensations, combinations, consequence, consequential, comprehension, consternation, Danced, darken, darkness, denomination, denominations, dine, dined, dispensation, dispensations, did-not, donations, dunce. Earn, eternal, event, extend, extension. Fan, find, finds, finish, finance, financial, furnish. Gained, general, generalization, gentlemen, gentleman, gone. Had-not, hence, have-not, hen, heathen, herein, hints, Holland. Imagine, imagined, infant, infantry, irons. Joints, joined, June. Kind, known. Land, line. Man, may-not, men, mind, mine, minds, monument. Nouns. Often, one, ocean, opinion, organize, organization, ordination, outline. Pain, pens, paints, pension, phonography, philanthropy, point, providence, providential, punish, punster, punsters, question. Rain, return, returned, runs, religion, religionist. Shall-not, shown, spinster, spinsters, suspicion, swoon. Then, thin, tent, tendency, thence, town, towns, torment, turn, transition, transitions, transitional. Upon. Vagrancy, vanish, veins, vine. Was-not, will-not, women, woman.

LESSON XII.—CONTRACTIONS, ETC.

AS in long-hand contractions are often used, so it is found that principles of contraction can be employed in short-hand writing, which will materially increase the speed of writing, without sacrificing legibility. These principles need to be understood. As a general rule, many derivatives may be represented by the short-hand form adopted for the root of the word. As derivatives usually form different parts of speech, there is no difficulty to the experienced phonographer in readily deciphering them. A few special directions in regard to abbreviations is all that will be found necessary in this connection.

The letter or letters representing the portion of the prefix preceding *con*, *com*, *cog*, may be joined to the remainder of the word. The words in lines 1 and 2 are: accommodate, accommodation, accompany, incomplete, incompatible, inconceivable, recommend; recommendation, unconcern, unconditional, unconscious, magnanimous, magnificent. Read lines 1 and 2.

The letter *k* following *ing* may be omitted in many words. The words in line 3 are: Anxious, anxiety, bank, bankable, banking, bankrupt, sanction. Read line 3.

The letter *k* may be omitted in many words commencing with *ex*. The words in line 4 are: Expression, expressive, explain, explicit, explore, explode, explanation, expiration, extension. Read line 4.

The prefixes *con*, *com*, are frequently omitted. The words in line 5 are: Condition, condensation, combine, combination, contend, comprehend, consideration, inconsideration, construction, instruction, completion. Read line 5.

The dot for the affix *ing* is generally omitted. The words in line 6 are: Doing, trying, combining, compounding, craving, crossing, explaining, banking, recommending, buying. Read line 6.

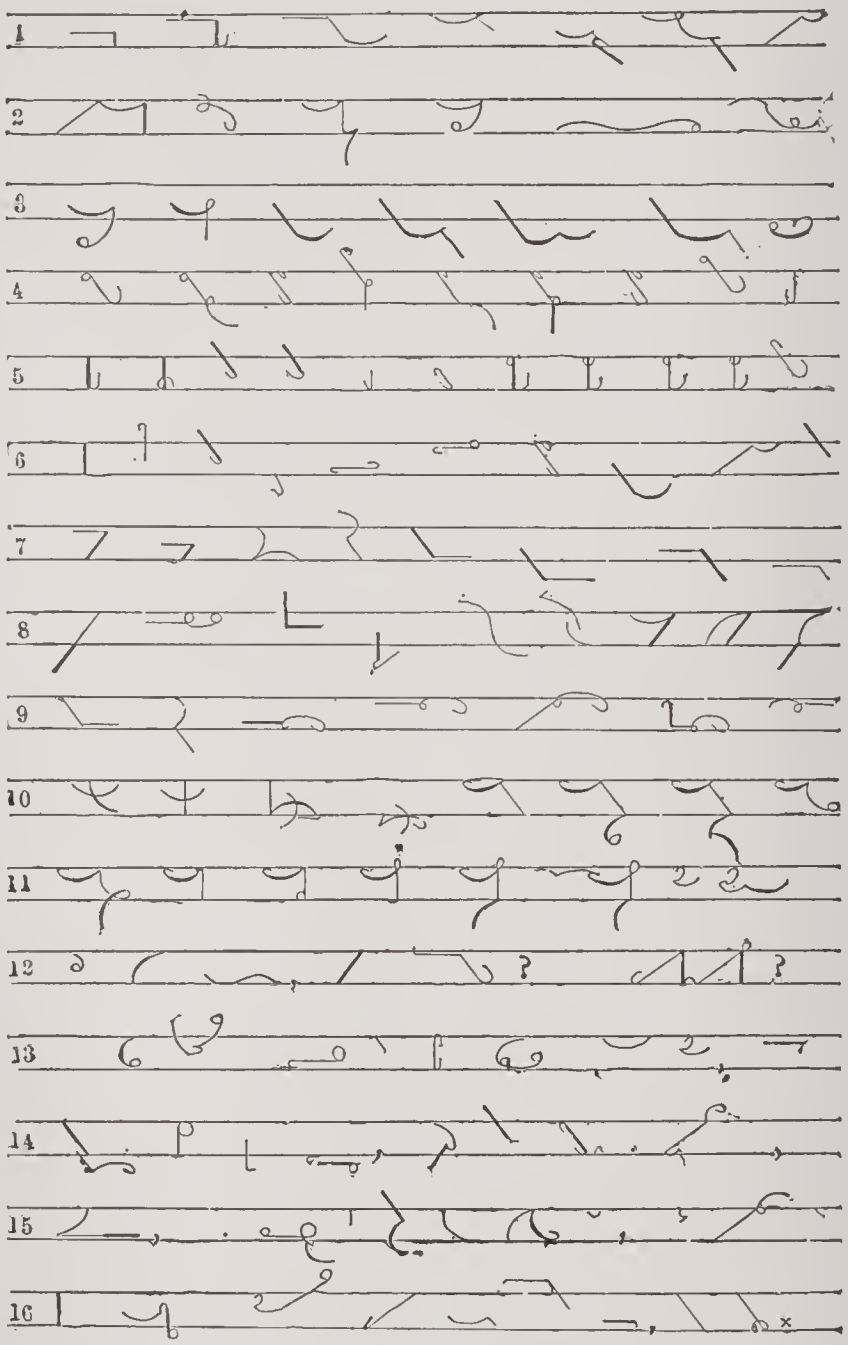
Many words which would make lengthy and difficult forms, if written in full, are represented by two or more consonants of the word. Word signs may be joined either as prefixes or as affixes. The words in line 7 are: Acknowledge, acknowledged, assemble, auspicious, become, to become, cabinet, captain.

Line 8: Change, common-sense, dignity, downward, heretofore, hereafter, knowledge, legible, illegible.

Line 9: Peculiar, especially, examination, cross-examination, re-examination, direct-examination, mistake.

Words and phrases in line 10: Nevertheless, notwithstanding, temperance-society, humane-society, in-reply-to-yours, in-reply-to-your favor, in-reference.

Line 11: In-reference-to-your, inherit, inheritance, in-receipt, in-receipt-of-your, I-am-in-receipt-of-your, short-hand, short-hand-writer.



Line 12: What is your name, age, and occupation? Where do you reside?

Line 13: This finishes a course of 12 lessons in short-hand, giving the

Line 14: Benn Pitman system at a glance, arranged by Brown & Holland,

Line 15: Chicago, and successfully taught by them for more than ten years, with the result of

Line 16: educating hundreds of short-hand writers, who are now occupying good, paying positions.

Read lines 7 to 16.

ENGLISH LANGUAGE

ORIGIN, DEVELOPMENT, AND PRESENT FORM

INTRODUCTION.

LANGUAGE is a collection of certain articulate sounds used as the signs of our ideas, or of certain written characters which represent those sounds. Language owes its origin to the imitation and modification, aided by signs and gestures, of various natural sounds, the voices of other animals and man's own instinctive cries. Language consists in the oral utterances of sounds which usage has made the representatives of ideas. When two or more persons customarily annex the same sounds to the same ideas the expression of these sounds by one person communicates his ideas to another. This is the primary sense of *language*, the use of which is to communicate the thoughts of one person to another through the organ of hearing. Articulate sounds are represented by letters, marks or characters, which form words.

Language is sometimes denoted by other terms; as speech, tongue, idiom, dialect.

Language is generic, denoting any mode of conveying ideas; as the language of the deaf and dumb.

Speech is the language of articulate sounds and contemplates language as broken or cut into words of different kinds; as the parts of speech, the gift of speech.

Tongue is the Anglo-Saxon term for the language of a particular people; as the English tongue.

Idiom denotes the form of the construction peculiar to a language.

Dialects are varieties of expression which spring up in different parts of a country, or in different professions, etc.

Origin of Language.

There are various ways by which men can communicate with one another. They can make *gestures*, utter *cries*, speak *words*, draw *pictures*, write *characters* or *letters*. Articulate language is peculiar to man; but he uses, in common with the lower animals, inarticulate cries to express his meaning, aided by gestures and the movements of the muscles of his face. This especially holds good with the more simple and vivid feelings which are but little connected with our higher intelligence. Our cries of pain, fear, surprise, anger, together with their appropriate

actions, and the murmur of a mother to her beloved child, are more expressive than any words. It is not the mere power of articulation that distinguishes man from other animals, for, as every one knows, parrots can talk; but it is his large power of connecting definite sounds with definite ideas; and this obviously depends on the development of his mental faculties.

Gesture Language.

When for any reason people cannot talk together by word of mouth, they take to conversing by *gestures*, in what is called dumb show or pantomime. Imagine a simple case. A boy opens a parlor door; his brother sitting there beckons to him to be quiet, for his father is asleep; the boy now intimates by signs that he has come for the key of the box, to which his brother answers by signs that it is in the pocket of his coat hanging in the hall, concluding with a significant gesture to be off and shut the door quietly after him. This is the gesture language. Gesture language has little power of expressing abstract ideas.

The next step in the origin of language is to show the workings of another sort of signs, namely, the sounds of the human voice. Sounds of voice may be spoken to express our feelings and thoughts on much the same principle that gestures are made, except that they are heard instead of seen. One kind of sounds used by men as signs consists of emotional cries or tones. Men show pain by uttering groans as well as by distortion of the face; joy is expressed by shouts as well as by jumping; when we laugh aloud, the voice and features go perfectly together. Such sounds are gestures made with the voice —sound-gestures.

The next class of sounds used as expressive signs are imitative. As a deaf and dumb child expresses the idea of a cat by imitating the creature's act of washing its face, so a speaking child will indicate it by imitating its *miaou*.

Natural Language.

Now, joining gesture-actions and gesture-sounds, they will form together what may be called a Natural Language. This natural language really exists, and in wild regions really has some practical value, as when a European traveller makes shift to converse in it with a party of Australians around their camp-fire or with a Mongol family in their felt tent. What he has to do is to act his most expressive mimic gestures, with a running accompaniment of exclamations and imitative noises. Here there is found a natural means of intercourse, much fuller than mere pantomime of gestures only. It is a common language of all mankind, springing so directly from the human mind that it must have belonged to our race from the most remote ages and most primitive conditions in which man existed. Language is one branch of the great art of sign-making or sign-choosing, and its business is to hit upon some sound as a suitable sign or symbol for each thought. It is maintained by the best philologists that emotional and imitative sounds are the very source of all language, and that, although most words now show no trace of such origin, this is because they have quite lost it in the long change of pronunciation and meaning they have gone through, so that they have now become mere symbols. Besides the emotional and imitative ways, there were several other devices by which man chooses sounds to express thoughts. That there was always some kind of fitness or connection which led to each particular sound being taken to express a particular thought is more than likely, and in this seems to lie the most reasonable opinion to be held as to the famous problem of the origin of language. So far as language can be traced to its actual source, that source does not lie in some lost gifts or powers of man, but in a state of mind still acting, and not above the level of children and savages. The origin of language was not an event which took place long ago, once for all, and then ceased entirely.

On the contrary, man still possesses, and uses when he wants it, the faculty of making new, original words by choosing fit and proper terms. But he now seldom puts this faculty to serious use, for this good reason, that whatever language he speaks has its stock of words ready to furnish an expression for almost every fresh thought that crosses his mind.

Articulate Language.

A sentence being made up of its connected sounds as a limb is made up of its joints, we call language *articulate*, or jointed, to distinguish it from the *inarticulate*, or "unjointed," sounds uttered by the lower animals. Conversation by gestures and exclamations, as was shown above to be a natural language common to mankind, is half-way between the communications of animals and full human speech. Every people, even the smallest and most savage tribe, has an articulate language carried on by a whole system of sounds and meanings which serves the speaker as a sort of catalogue of the contents of the world he lives in, taking in every subject he thinks about, and enabling him to say what he thinks about it. As in the course of ages man's knowledge became wider and his civilization more complex, his language had to keep up with them. Comparatively few and plain expressions had sufficed for his early rude condition, but now more and more terms had to be added for the new notions, implements, arts, offices and relations of more highly organized society. New words were made by adding and combining old ones, carrying on old words from the old state of things to do duty to the new, shifting their meanings and finding in any new thought some resemblance to an old one that would serve to give it a name. As terms increase in every nation and the vast field of language is filled up, words, by a thousand fanciful and irregular methods of derivation and composition, deviate widely from the primitive character of their roots and lose old resemblance in sound of the things signified. Words as we now use them, taken in general, may be considered as symbols, not imitations; as arbitrary or instituted, not natural, signs of ideas.

Classification of Languages.

The classification of the different languages of the earth into a few great families is due to the science of comparative philology and is of recent origin. Till the latter end of the 18th century the preference as to the antiquity of language was usually given to the Hebrew, but a striking improvement of linguistic study is dated from the discovery of the Sanskrit, the ancient language of the northern parts of Hindustan, in the latter part of the 18th century. A belief in an affinity between languages and a separation of them into certain great groups or families then arose.

The languages of the world are divided into four great branches, viz., the **Aryan,** or Indo-European, the most important; next the **Semitic,** the **Turanian** and the **Dravidian.**

The **Turanian** family, called also the Tataric, or Altaic, includes the numerous and widely different languages of the Manchoos, the Mongols, the Turks (in Asia and Europe), the Magyars (in Hungary), the Finns (in Russia), and a multitude of other tribes.

The **Dravidian** includes the Tamil and the dialects in Ceylon and the islands off Asia, etc.

The **Semitic** includes the Hebrew, Syriac, Arctic and Ethiopic, Basque (in the Pyrenees), etc.

The **Indo-European,** to which extensive family the English language belongs, is divided into six principal branches.

I. The *Indian* branch, represented by the Sanskrit, which has now ceased to be spoken, but is the mother of the Hindustani, Bengali, Mahratti and the other numerous dialects of modern India.

II. The *Medo-Persic* branch, at the head of which is the Zend, in which the Zend-Avesta is composed and the cuneiform inscriptions of

Cyrus, Darius and Xerxes. Next follow the Pehlevi, of the Sarsanian dynasty; the Parsee, in which the national poem of Ferdusi is written (A. D. 1000), and lastly the modern Persian.

III. The *Celtic* branch, divided into two dialects, the Gaelic and the Cymric; the former comprising the Irish or Erse, the Scottish Gaelic or Highland-Scotch, and the Manx of the Isle of Man; and the latter Welsh, the Cornish (now extinct) and the Armorican of Britanny.

IV. The *Græco-Latin* branch, comprising the two ancient classical languages, and the so-called Romanic languages, derived from the Latin, which are six in number, namely; the French, Italian, Spanish, Portuguese, Wallachian, and the Roumanish or Romanese spoken in the Grisons in Switzerland.

V. The *Teutonic* branch, which comprises all the different German and Scandinavian dialects.

VI. The *Slavonic* branch, divided into three principal classes: 1. The Lettic, comprising the Lithuanian, the Old Prussian (now extinct) and the Lettish, the language of Kurland and Livonia. 2. The Western Slavonic, comprising the Polish; the Bohemian or Tchechian, spoken in Bohemia; the Slovakian, spoken by the Slovaks in Hungary, and the Wendian, spoken in Lusatia. 3. The Eastern Slavonic, comprising the Old Slavonic, preserved in the translations of the Bible made by Cyrillus in the ninth century, and its derivate dialect, the Bulgarian; the Russian, Servian, Croatian and Slovinian.

The **Teutonic** branch of the Indo-European family of languages is divided into two great branches, the German and Scandinavian.

The **German** is divisible into three principal dialects, the Mœso-Gothic, the Low German and the High German, the two latter being so called because the Low German is spoken by the inhabitants of the low or flat country near the shores of the German Ocean, while the High German belongs to the higher country in the interior.

1. The **Mœso-Gothic,** the most easterly of all the German dialects, has long ceased to be spoken, but is preserved in the translation of the gospels by Ulfilas.

2. The **Low German** comprised the following dialects: (1) *Anglo-Saxon,* which was cultivated with great success in England, and in which the second most ancient specimens of the Germanic language are preserved. (2) The *Old Saxon,* so called to distinguish it from the Anglo-Saxon in England, formerly spoken in Westphalia. (3) The *Frisian,* now confined to a small district in Holland. (4) The *Dutch,* the present language of Holland. (5) The *Flemish,* spoken in many parts of Belgium.

3. The **High German** comprises the Old High German, from the seventh to the eleventh century; the Middle High German, from the twelfth century to the Reformation, and the New High German, which since Luther's time has been the literary language of Germany.

The **Scandinavian** branch, of which the most ancient language is the Old Norse, the language of Norway, is represented by the Icelandic, which was carried into Iceland by the Norse colonists in the ninth century and which continues to be spoken on that island with little alteration. On the Continent the Old Norse is represented by the Swedish, Danish and Norwegian, of which the last has now become a mere *patois.*

The following table exhibits the relationship of the different Teutonic languages:

- **Teutonic**
  - I. German
    - 1. *Mœso-Gothic.*
    - 2. *Low German.*
      - (i.) Anglo-Saxon. English.
      - (ii.) Old Saxon.
      - (iii.) Frisian.
      - (iv.) Dutch.
      - (v.) Flemish.
    - 3. *High German.*
      - (i.) Old High German.
      - (ii.) Middle High German.
      - (iii.) New High German.
  - II. Scandinavian
    - 1. *Old Scandinavian.*
      - (i.) Icelandic.
      - (ii.) Ferroic.
    - 2. *Modern Scandinavian.*
      - (i.) Danish.
      - (ii.) Swedish.
      - (iii.) Norwegian.

THE ENGLISH LANGUAGE

Its Origin, Development, and Present Form.

THE English Language is the descendant and representative of the Anglo-Saxon. It has lost very much of the inflection and very many of the words which belong to the parent language; and on the other hand it has borrowed words largely, to the extent even of half its vocabulary, from other languages, especially the French and the Latin. Yet all the inflections that remain in it, and most of its formative endings, the pronouns and particles, and in general the words which are in most frequent and familiar use, have come to it from the Anglo-Saxon. All the constituents of the English Language as it now exists are presented in a condensed form as follows:

1st. Saxon and Danish words, of Teutonic and Gothic origin.
2nd. British or Welsh, Cornish and Armoric, of Celtic origin.
3rd. Norman, a mixture of French and Gothic.
4th. Latin.
5th. The French, chiefly Latin corrupted.
6th. Greek.
7th. A few words directly from the Italian, Spanish, German, and other Continental languages of Europe.
8th. A few foreign words introduced by commerce or by political and literary intercourse.

"Suppose," says Dr. Trench (*English Past and Present*), "the English language to be divided into a hundred parts; of these, to make a rough distribution, sixty would be Saxon, thirty would be Latin (including of course the Latin which has come to us through the French), five would be Greek; we should then have assigned ninety-five parts, leaving the other five, perhaps too large a residue, to be divided among all the other languages from which we have adopted isolated words."

The English Language from the time of its first formation has been subject to continual changes. Old words have been from time to time falling away, and new ones have been formed and brought into use.

The oldest Saxon manuscript dates about A.D. 700, and the Lord's Prayer then ran thus:

"Uren fader thic arth in heofnas, sic gehalgud thin noma, to cymeth thin ric, sic thin willa sue is in heofnas, and in eortho," etc.

The Modern Period of English commenced with the middle of the sixteenth century, and its present form was then assumed.

Though it is impossible to assign any exact date to the change of Anglo-Saxon into English, the chief alterations in the language may be arranged approximately under the following epochs:

I. Anglo-Saxon, from A.D. 450 to 1150.
II. Semi-Saxon, from A.D. 1150 to 1250, so called because it partakes strongly of the characteristics of both Anglo-Saxon and Old English.
III. Old English, from A.D. 1250 to 1350.
IV. Middle English, from A.D. 1350 to about 1550.
V. Modern English, from A.D. 1550 to the present day.

ANGLO-SAXON.

A.D. 700.

From the Anglo-Saxon Version of Matthew, Eighth Chapter.

Sódlice thâ se Hælend of tham munte nydher astâh, thâ fyligdon him mycle mänio. Thâ genéalæhte ân hreófla tô him and hine tô him ge-eádhmêdde, and thus cwädh: Drihten, gyf thu wylt' thu miht me geclænsian. Thâ âstrehte se Hælend hys hand and hrepode hyme and thus cwädh: Ic wylle, béo geclænsod And hys hréofla wäs hrädlice geclænsod. Thâ cwädh se Hælend tô him: Warna the thäl thu hyt nænegum men ne secge; ac gang, äteów the tham sacerde, and bring hym tha lâc the Moyses bebeád, on hyra gecydhnesse.

Translation.—[Words wanting in the original are introduced in italics; explanations or kindred words are inserted in brackets.] Shortly when the Savior from the mountain came-down, there followed him *a* great multitude [mickle, many]. Then came-near a leper to him, and him[self] to him humbled and thus said [quoth]: Lord, if thou wilt, thou mayest me cleanse. Then stretched-out the Savior his hand and touched him and thus said: I will, be cleansed. And his leprosy was quickly cleansed. Then said the Savior to him: Beware [warn thee] that thou it to no man say; but go, show thee to-the priest [Latin, sacerdos] and bring them the gift that Moses bade, for their information.

A.D. 700.

From Beowulf.

Thâ com of môre under mist-hleodum
Grendel gongan, godes yrre bär.
Mynte se mânscadha manna cynnes
sumne besyrwan in sele thäm heán,
wôd under wolcnum tô thäs the he winreced
goldsele gumend gearwost wisse
fættum fähne: ne wäs thät forma sidh
thät he Hrôdhgâres hâm gesôhte.

Translation.—Then came from *the* moor under mist-hills Grendel to-go, God's ire *he* bare. *He* meant, the wicked destroyer [scather], of men's kin some *one* to-ensnare in the high hall, raging under welkin, seeing that *the* friend-mansion, *the* gold-hall of men, he most-readily knew, with jewels bedecked; nor was that *the* first [foremost] time that Hrothgar's home he visited [sought].

A.D. 800.

From King Alfred's Translation of Boethius.

On thäre tîde the Gotan of Scidhdhiu-mægdhe widh Rômanarice gewin upâhôfon, and mid heora cyningum, Rædgota and Eallerîca wæron hätne, Rômana-bwih âbræcon and call Italiarîce, thät is betwux tham muntuin and Sicilia tham eálonde, in anwald gerehton; and thâ äfter thâm foresprecenan cyningum Theódrîc fêng tô tham ilcan rice.

Translation.—In the time that *the* Goths from Scythia-country against *the* Roman-empire commenced war [war upheaved], and with their kings, *who* Rhadagast and Alaric were called [hight], *the* Roman-city sacked [broke] and all Italy-realm, that is betwixt the mountains and Sicily the island, into *their* dominion reduced; and when after the aforesaid [fore-spoken] kings Theodoric obtained [took to] the same kingdom.

A.D. 1100.

From the Latter Part of the Saxon Chronicle.

Thissum thus gedône, se cyng Willem cearde ongeán tô Normandige. Reówlic thing he dyde and reówlicor him gelamp. Hû reówlicor? Him geyfelade, ôdh thät hïm stranglice eglade. Hwät mäg ic teollan? Se scearpa deádh, the ne forlæt ne rice menn ne heáne, se hine genam. He swealt on Normandige on thone nêhstan däg äfter nativitas Sce Marie; and man bebyrgede hine on Cathum ät Sce Stephanes mynstre; ærer he hit ârærde, and sidhdhan mänifäldlice gegôdade.

Translation.—This being thus done, the king William returned again to Normandy. *A* rueful thing he did and *a* ruefuller befel him. How ruefuller? He [literally, to him] grew-ill, till that *it* strongly ailed him. What may I tell? The sharp death, that *does* not let-pass neither rich men nor poor, thus took him. He died in Normandy on the next day after the nativity of St. Mary; and men [man] buried him in Caen at St. Stephen's minster; earlier he up-reared it and afterward [sithence] manifoldly enriched [conferred-goods-on] *it*.

SEMI-SAXON.

A. D. 1150.

From Layamon's Brut.—Earlier Text.

An preost wes on leoden,
Layamon wes ihoten:
he wes Leouenadhes sone;
lidhe hein beo drihten;
he wonede at Ernleye,
at œdhelen are chirechen,
uppen Scuarne stathe.

Translation.—There was a priest on earth [*or* in *the* land] *who* was named Layamon; he was son of Leovenath—may *the* Lord be gracious to him!—he dwelt at Ernley at a noble church upon Severn's bank.

A.D. 1250.

From Layamon's Brut.—Later Text.

A priest was in londe
Laweman was [i] hote:
he was Leucais sone;
lef him beo drihte:
he wonede at Ernleie
wid than gode cnithe,
uppen Scuarne.

Translation.—There was a priest in *the* land *who* was named Layamon; he was a son of Leuca—may *the* Lord be gracious to him!—he dwelt at Ernley with the good knight upon *the* Severn.

A.D. 1250.

From the Ormulum.

Nu, brotherr Wallterr, brotherr min
affterr the plæshess kinde;
annd brotherr min i Crisstenndom
thurrh fulluhht annd thurrh trowwthe;
annd brotherr min i Godess hus,
yet o the thride wise,
thurrh thatt witt hafenn takenn ba
an reyhellboc to follyhenn,
unnderr kanunnkess had annd lif,
swa summ Sannt Awwstin sette.

Translation.—Now, brother Walter, brother mine after the flesh's kindred; and brother mine in Christendom through baptism and

through truth; and brother mine in God's house, yet on the third wise, seeing [through] that we-two have taken both one rule-book to follow, under *a* canonic's hood and life, so as St. Austin set.

OLD ENGLISH.

A.D. 1300.

From the Chronicle of Robert of Gloucester.

Thus com lo! Engelond into Normannes honde,
and the Normans ne couthe speke tho bote her owe speche,
and speke French as dude atom, and here chyldren dude al so
so that heymen of thys lond, that of her blod come, [teche:
holdeth all theilke speche that hii of hem nome.
vor bote a man couthe French, me tolth of hym wel lute.

Translation.—Thus came, lo! England into *the* Normans' hand, and the Normans knew not *how to* speak then but their own speech, and spoke French as *they* did at home, and their children did all so teach, so that *the* high-men of this land, that of their blood came, hold all the-same [the ilk] speech that they of them took: for unless [but] a man should-know French, men reckon [tell] of him very [well] little.

MIDDLE ENGLISH.

A.D. 1350.

From the Travels of Sir John Mandeville.

After for to speke of Jerusalem the holy cytee, yee schull understonde that it stont* full faire betwene hilles, and there be no ryveres ne welles, but water cometh by condyte from Ebron. And yee schulle understonde that Jerusalem of old tyme, unto the tyme of Melchisedech, was cleped† Jebus; and after it was clept Salem, unto the tyme of Kyng David, that put these two names to gider, and cleped it Jerosolomye. And after that men cleped it Jerusalem, and so it is clept yit.

A.D. 1350.

From the Vision of Pier's Ploughman.

In a somer seson when softe was the sonne,
I shoop me into shroudes‡ as I a sheep§ weere.
in habit as a heremite unholy of werkes,
wente wide in this world wondres to here.

A.D. 1375.

From the Prologue to Chaucer's Canterbury Tales.

When that Aprille with his schowres swoote‖
the drought of Marche hath perced to the roote,
and bathud evrry veyne in swich licour,
of which vertue engendred in the flour.

A.D. 1380.

From Wycliffe's Translation of the Bible.

Forsothe when Jhesus hadde comen doun fro the hill, many cumpanyes folewiden hym. And loo! a leprouse man cummynge worshipide hym, sayinge: Lord yif thou wolt, thou maist make me clene. And Jhesus holdynge forthe the hond, touchide hym, saying: I wole, be thou maad clene. And anoon the lepre of hym was clensid. And Jhesus saith to hym: See, say thou to no man: but go shewe thee to prestis, and offre that yifte that Moyses comaundide, into witnessing to hem.

* *Stont*, standeth.
† *Cleped*, *clept*, called.
§ *Sheep*, shepherd.
‡ *Shoop me into shroudes*, put me into clothes.
‖ *Swoote*, sweet.

A.D. 1400.

From Purvey's Recension of Wycliffe's Translation.

But whanne Jhesus was come doun fro the hil, mych puple suede hym. And loo! a leprouse man cam and worschipide hym and seide: Lord if thou wolt thou maist make me clene. And Jhesus helde forth the hoond and touchide hym and seide: Y wole: be thou maad cleene. And anoon the lepre of hym was clensid.

A.D. 1450.

From Caxton's Prologue to Malory's Morte d'Arthur.

For it is notoyrly knowen thorugh the unyversal world that there been IX worthy and the best that ever were, that is to wete, thre paynyms, thre jewes, and thre crysten men. As for the paynyms, they were tofore the incarnacyon of Cryst, whiche were named, the fyrst Hector of Troye, of whome thystorye is comen bothe in balade and prose; the second Alysaunder the grete; and the thyrd Julyus Cezar, emperour of Rome, of whome thystoryes ben wel kno and had.

A.D. 1500.

From Tyndale's New Testament.

When he was come downe from the mountayne, moch pecple folowed him. And lo! ther came a lepre and worsheped him, sayinge: Master if thou wylt thou canst make me clene. And Jesus put forthe hys hond and touched hym; saying: I wyll, be thou clene, and immediately his leprosie was clensed. And Jesus sayde vnto him: Se thou tell no man, but go and shewe hy selfe to the preste and offer the gyfte that Moses commaunded, in witness to them.

MODERN ENGLISH.

A.D. 1550.

From a Letter of the Duke of Northumberland.

Honble Lord, and in this distress my especiall refuge, most wofull was the newes I receyved this evenynge by Mr Lieutenant that I must prepare myselfe against tomorrowe to receyve my deadly stroke. Alas, my good lord, is my cryme so heynous as noe redemcion but my blood can washe awaye the spottes thereof? An old proverb ther is, and that most true, that a lyving dogge is better than a dead lyon.

A.D. 1650.

From a Letter of Queen Henrietta Maria.

This day I received yours of the 21, to which, being streightened in tyme, I shall answer in English that it may be soonest put into cypher. In the first place you conclude right, that nothing but the abundance of my love could make me take upon me the harsher part of pressing things which are inacceptible to you.

A.D. 1750.

From a Letter of John Wesley.

Always take advice or reproof as a favour: it is the surest mark of love. I advised you once and you took it as an affront: nevertheless I will do it once more. Scream no more at the peril of your soul. God now warns you by me, whom He has set over you.

A.D. 1850.

From a Letter of Wm. M. Thackeray.

My dear Reed—Though I am rather slow in paying the tailor, I always pay him: and as with tailors so with men; I pay my debts to my friends, only at rather a long day. Thank you for writing to me so kindly, you have so much to do. I have only begun work ten days since, and now, in consequence, have little leisure.

ENGLISH GRAMMAR.

English Grammar is the art of speaking, reading and writing the English language correctly.

It is divided into four parts: **Orthography, Etymology, Syntax** and **Prosody.**

Orthography treats of letters, syllables, separate words and spelling.

Etymology treats of the different parts of speech with their classes and modifications.

Syntax treats of the relation, agreement, government and arrangement of words in sentences.

Prosody treats of punctuation, utterance, figures and versification.

LETTERS.

A **Letter** is an alphabetic mark or character commonly representing some elementary sound of a word.

An **elementary sound** of a word is a simple or primary sound of the human voice used in speaking.

The sound of a letter is commonly called its **power:** when any letter of a word is not sounded it is said to be **silent** or **mute.**

The letters in the English language are twenty-six; the simple or primary sounds in the language are forty-one.

The **letters** are: A a; B b; C c; D d; E e; F f; G g; H h; I i; J j; K k; L l; M m; N n; O o; P p; Q q; R r; S s; T t; U u; V v; W w; X x; Y y; Z z.

The letters are divided into two general classes, **vowels** and **consonants.**

A **vowel** is a letter which forms a perfect sound when uttered alone; as, *a, e, o.*

A **consonant** is a letter which cannot be perfectly uttered till joined to a vowel; as, *b, c, d.*

The **vowels** are *a, e, i, o, u,* and sometimes *w* and *y.*

W or *y* is called a consonant when it precedes a vowel heard in the same syllable; as in *wine, twine, ye, yet.* In all other cases these letters are vowels; as, *newly, dewy, eye-brow.*

Consonants are divided into **semi-vowels** and **mutes.**

A **semi-vowel** is a consonant which can be imperfectly sounded without a vowel, so that at the end of a syllable its sound may be protracted; as, *l, n, z,* in *al, an, az.*

A **mute** is a consonant which cannot be sounded at all without a vowel, and which at the end of a syllable suddenly stops the breath; as, *k, p, t,* in *ak, ap, at.*

The **semi-vowels** are *f, h, j, l, m, n, r, s, v, w, x, y, z,* and *c* and *g* soft; but *w* or *y* at the end of a syllable is a vowel.

The **mutes** are eight: *b, d, k, p, q, t,* and *c* and *g* hard; three of these—*k, q,* and *c* hard—sound exactly alike.

The four semi-vowels, *l, m, n* and *r,* are also called **liquids,** because they readily unite with other consonants, flowing, as it were, into their sounds.

The following consonants are styled **dentals,** viz.: *d, j, s, t, z,* and *g* soft, being pronounced chiefly by the aid of the teeth.

D, g, j, k, l, n and *q* are called **palatals,** from the use made of the palate in pronouncing them.

B, p, f, v and *m* are called **labials,** being pronounced chiefly by the lips.

M, *n* and the digraph *ng* are called **nasals,** being sounded through the nose.

K, *q* and *c* and *g* hard are called **gutturals,** being sounded by the throat.

Peculiarities in Sounds of Consonants.

B preceded by *m* in the same syllable is generally silent; as, *lamb*, *limb*, *comb;* but *succumb* is an exception. It is silent before *t* in the same syllable; as in *debt*, *doubt*, etc.

The letter **c** is hard and sounds like *k* before *a*, *o* and *u;* it is soft and sounds like *s* before *e*, *i* and *y;* except in *sceptic*, *scirrhus*, and their derivatives, in which it is hard, like *k*. In the words *indict*, *indictable*, *indictment*, *czar* and *victuals*, *c* is silent. Where *c* comes after the accent and is followed by *ea*, *ia*, *io* or *eous*, it takes, like *s* or *t* under the same circumstances, the sound of *sh;* as, *ocean*, *social*, *tenacious*, *cetaceous*. In the words *discern*, *sacrifice* and *suffice*, *c* has the sound of *z*.

The regular sound of the digraph **ch** is the same as that of *tch* or *tsh;* as in *chair*, *child*, *rich*. In words from the French it has the sound of *sh;* as in *chagrin*, *chaise*. In words derived from the ancient languages *ch* is generally hard, like *k;* as, *chemistry*, *choler*, *echo*, *chorus*, *stomach*. Exceptions, *cherub*, *charity*, *chart*, *charter*. *Ch* is hard in all words where it is followed by *l* or *r;* as, *Christian*, *chlorosis*. When *arch*, signifying *chief*, begins a word from the Greek language, followed by a vowel, it is pronounced *ark;* as, *archangel*, *architect;* but when *arch* is prefixed to an English word it is pronounced so as to rhyme with *march;* as, *archbishop*, *archduke*. In *drachm*, *schism* and *yacht*, *ch* is silent.

D is silent in *Wednesday* and *handkerchief*.

G, like *c*, has two sounds, one hard and the other soft. It is hard before *a*, *o* and *u*. The only exception is *gaol*, which is commonly written as well as pronounced *jail*. *G* followed by *n* at the beginning of a word is silent; as, *gnarl*, *gnash*, *gnat*. It is also silent when followed by *n* at the end of a word; as, *arraign*, *design*, *impugn*. *G* before *e*, *i* and *y* is sometimes hard and sometimes soft. It is generally soft before words derived from the Greek, Latin and French, and hard before words from the Saxon.

Gh. At the beginning of a word the *h* is silent; as *ghost*, *ghastly*. At the end of words both letters are commonly silent; as, *sigh*, *nigh*, *weigh*. In some words it has the sound of *f;* as, *rough*, *laugh;* and in some the sound of *k;* as, *hough*, *lough*.

The combination of letters **ough** at the end of words has no less than seven different sounds, which are exhibited in the following lines:

'Tis not an easy task to show
How *o-u-g-h* sounds; since, *though*
An Irish *lough* and English *slough*
And *cough* and *hiccough*, all allow,
Differ as much as *tough and through*,
There seems no reason why they do.

Ght. In this termination the letters *gh* are always silent; as, *fight*, *right;* except in *draught*, which is pronounced, and in some of its senses usually written, *draft*.

The letter **h** is a note of aspiration, and it is silent at the beginning of a number of words; as, *heir*, *heiress*, *honor*, *honesty*, *honorable*, *honor*, *hour*, *hostler*, etc. In *hospital*, *humble*, *humor*, *herb*, etc., according to some authorities, it is silent; according to others it is sounded. It is always silent after *r*; as, *rheum*, *rhetoric*, *rhapsody*.

J has the same sound as soft *g*.

K has the same sound as *c* hard. It is always silent before *n;* as, *knee*, *know*. It is also silent after *c;* as, *barrack*, *back*.

L is silent in many words; as, *calf*, *half*, *talk*, *balm*, *calm*, *would*, *should*, etc.

M always preserves its sound except in *accompt*, *accomptant*, *comptroller*, pronounced and more commonly written *account*, *accountant*, *controller*. *M* is silent when it precedes *n;* as, *mnemonics*.

N is mute when it ends a syllable and is preceded by *l* or *m*; as in *kiln*, *hymn*, *limn*, *solemn*, *column*.

P is silent before *n*, *s* and *t* at the beginning of words; as, *psalm*, *psalter*, *ptisan*, *pneumonia*.

Ph has generally the sound of *f;* as, *physic*, *philosophy*. In *nephew* and in *Stephen* it has the sound of *v;* and in *diphthong*, *triphthong*, *naphtha*, the *h* is silent.

Q is always followed by *u*, and *qu* has commonly the sound of *kw;* as, *queen*, *quart;* but in many words, mostly from the French, it has the sound of *k;* as *coquette*, *etiquette*, *liquor*, *mosque*.

S final has the sound of *z* when it immediately follows any consonant except the mutes *k*, *p*, *t*, the semi-vowel *f* and *th* aspirated, as in *ribs*, *heads*, *hens;* also when it forms an additional syllable with *z* before it, in the plural of nouns and the third person singular of verbs, as *churches*, *boxes*, *teaches*; likewise in some verbs ending in *se* to distinguish them from nouns and adjectives of the same form, as *abuse*, *use*, *close*, *diffuse*, as distinguished from the nouns *abuse*, *use*, and the adjectives *close* and *diffuse*.

S takes the sound of *sh* in words ending in *sion* preceded by a consonant; as *diversion*, *passion*, *mission*; also in *censure*, *sure*, *sugar*, *fissure*, etc.

S has the sound of *zh* in the termination *sion* preceded by a vowel; as *evasion*, *decision*, *explosion;* also in a number of words in which *s* is preceded by an accented vowel and followed by the termination *ure*, as in *measure*, *pleasure*, *treasure*, *leisure;* also in several words ending in *sier*, as *crosier*, *osier*, *hosier;* also in *ambrosia*, *ambrosial*, *elysium*, *elysian*; also in the words *abscission*, *scission*, and *rescission*. **S** is silent in the words *aisle*, *isle*, *island*, *demesne*, *puisne*, *viscount*, and generally at the end of French words adopted into English, as *chamois*, *corps*, *vis-a-vis*, etc.

T, when it comes immediately after the accent and is followed by the vowels *ia*, *ie* or *io*, takes the sound in these cases of *sh*; as, *partial*, *patient*, *nation*, *militia*.

Th. The *h* is silent in the words *Thomas*, *thyme*, *phthisic*, *Thames*. The *th* is silent in *asthma* and *isthmus*.

W is always silent before *r;* as, *write*, *wren*, *wrist*. It is also silent in *answer*, *sword*, *toward* and *two*.

X at the beginning of words has the sound of *z*; as, *Xenophon*, *xylography*.

Z is silent in *rendezvous*.

Combinations of Vowels.

The **power** of a letter is its sound in a given word. Some letters stand for more than one sound; as *a* in *ale, are, awl.* Some sounds have more than one letter to stand for them; thus in *her, sir, fur*, the same sound is represented by *e, i* and *u.* Our twenty-six letters represent forty-one sounds.

A **Diphthong** is two vowels formed in one syllable; as *ea* in *beat, ou* in *sound.*

A **proper diphthong** is one in which both the vowels are sounded; as, *oi* in *voice.*

An **improper diphthong** is one in which only one of the vowels is sounded; as, *oa* in *loaf.*

A **Triphthong** is three vowels joined in one syllable; as, *eau* in *beau, iew* in *view.*

A **proper triphthong** is one in which all the vowels are sounded; as, *uoy* in *buoy.*

An **improper diphthong** is one in which only one or two of the vowels are sounded; as, *eau* in *beauty, iou* in *anxious.*

SYLLABLES.

A **Syllable** is one or more letters pronounced in one sound and is either a word or a part of a word; as, *a, an, ant.*

In every word there are as many syllables as there are distinct sounds; as, *gram-ma-ri-an.*

A word of one syllable is called a **monosyllable;** as, *home.* A word of two syllables, a **dissyllable;** as, *he-ro.* A word of three syllables, a **trisyllable;** as, *he-ro-ic.* And a word of four or more syllables, a **polysyllable;** as, *im-per-a-tive, dis-con-nect-ed-ly, sex-a-ge-na-ri-an.*

In dividing words into syllables we are to be directed chiefly by the ear; it may, however, be proper to observe, as far as practicable, the following rules:

Consonants should generally be joined to the vowels or diphthongs which they modify in utterance; as, *ap-os-tol-ic-al.*

Two vowels coming together, if they do not make a diphthong, must be parted in dividing the syllables; as, *a-e-ri-al.*

Derivative and grammatical terminations should generally be separated from the radical words to which they are added; as, *harm-less, great-ly, con-nect-ed.*

Prefixes in general form separate syllables; as, *mis-place, out-ride, up-lift;* but if their own primitive meaning be disregarded, the case may be otherwise; thus, *re-create* and *rec-reate* are words of different import.

Compounds, when divided, should be divided into the simple words which compose them; as, *no-where.*

At the end of a line a word may be divided if necessary; but a syllable must never be broken.

ACCENT.

Accent is stress of voice laid on a certain syllable when a word is uttered. The syllable that receives the stress is said to be *accented.* It may be denoted by a mark called the acute accent (′), placed above it to the right; as, *lem′on, engrave′.*

Accent is of two kinds: **primary,** as in *in-tend′*, where the full force of the voice is on the last syllable; and **secondary,** as in *su′per-in-tend*, where the first syllable is distinguished by a stress greater than that laid on the second and third syllables, though less than that laid on the last. In some words there are two secondary or subordinate accents; as, *in-com′pre-hen′si-bil′i-ty.*

There are about eighty dissyllables in which the same word is used for a verb on the one hand and a noun or adjective on the other. To distinguish them we accent the *nouns* and the *adjectives* on the *first* syllable, and the *verbs* on the *last;* as, a *con′vert,* to *convert′;* a *con′tract,* to *contract′;* an *ob′ject,* to *object′;* an *o′verflow,* to *overflow′;* a *per′fume,* to *perfume′*, etc.

There are a few dissyllables which are at once nouns and adjectives. These are distinguished by accenting the nouns on the *first* syllable and the adjectives on the *last.*

NOUNS.	ADJECTIVES.
Au′gust, the month.	**August′,** noble.
Com′pact, an engagement.	**Compact′,** close.
Ex′ile, banishment.	**Exile′,** small, slender.
In′stinct, an impulse.	**Instinct′,** animated.
Min′ute, of time.	**Minute′,** very small.
Su′pine, in grammar.	**Supine′,** indolent.

The word *gallant* departs from the above rule. When it denotes a suitor or "attentive to ladies," it is accented *gallant′*, and is changed into *gal′lant* when it means high-spirited or daring.

Simple words of two syllables have only one syllable accented, except the word *amen,* which Walker says "is the only word in the language which has necessarily two consecutive accents."

WORDS.

A **Word** is one or more syllables spoken or written as the sign of some idea, or of some manner of thought.

Words are distinguished as **primitive** or **derivative,** and as **simple** or **compound.** The former division is called their **species;** the latter, their **figure.**

A **primitive** word is one that is not formed from any simpler word in the language; as, *harm, great.*

A **derivative** word is one that is formed from some simpler word in the language; as, *harmless, greatly, disconnect, unconnected.*

A **simple** word is one that is not compounded, not composed of other words; as, *watch, man, never, the, less.*

A **compound** word is one that is composed of two or more simple words; as, *watchman, nevertheless.*

Permanent compounds are consolidated; as, *bookseller, schoolmaster.* Others, which may be called temporary compounds, are formed by the hyphen; as, *glass-house, negro-merchant.*

Words regularly or analogically united, and commonly known as forming a compound, should never be needlessly broken apart.

When the simple words would only form a regular phrase of the same meaning, the compounding of any of them ought to be avoided.

Words otherwise liable to be misunderstood must be joined together or written separately as the sense and construction may happen to require.

When two or more compounds are connected in one sentence none of them should be split to make an ellipsis of half a word.

When the parts of a compound do not coalesce, as, *to-morrow, to-night, to-day,* or when each retains its original accent, so that the compound has more than one, or one that is movable, as, *first-born, hanger-on, laughter-loving,* the hyphen should be inserted between them.

When a compound has but one accented syllable in pronunciation, as, *watchword, statesman, gentleman,* and the parts are such as admit of a complete coalescence, no hyphen should be inserted between them.

WORD-BUILDING.

The primitive words of the English language are few compared with the derivatives. This is because many derivatives sometimes come from a single primitive. Thus from the primitive *part* are formed counter*part,* de*part,* im*part, party, part*-isan, *part*icle, im*part*ed, co*part*ner, etc.

A **Prefix** is a letter or letters placed before a primitive or compound to modify its meaning; as, *de* in *depart, un* in *ungentlemanly.*

A **Suffix** is a letter or letters placed after a primitive or compound to modify its meaning; as, *isan* in *partisan, ly* in *ungentlemanly.*

Some derivatives come from roots not separately used as words. Thus *avert, revert, convertible,* etc., come from the root *vert,* meaning to turn.

These roots are mostly from Latin words, and some of them enter into a great number of derivatives. The most important of these **inseparable roots** are:

cede, ceed, cess, to go.	**lude, lus,** to play.
ceive, cept, to take.	**mit, miss,** to send.
clude, clus, to shut.	**pel, puls,** to drive.
cur, curs, to run.	**pend, pens,** to hang.
dict, to say or speak.	**pone, pose,** to place.
duce, duct, to lead.	**port,** to carry.
fect, fici, to do, make.	**scribe, script,** to write.
fer, to bear, to carry.	**sist,** to stand.
fuse, to pour.	**tain, tent,** to hold.
ject, to cast.	**tend, tens,** to shield.
late, bear, carry.	**tract,** to draw.
lect, to choose, gather.	**vene, vent,** to come.

A derivative may be formed by uniting two or more prefixes or suffixes with a primitive or inseparable root; as, *re-ex*-port, to carry-*out-again;* just-*ify-ing, continuing-to-make*-just; *re-col*-lect-*ions, more-than-one-act-of*-gathering-*together-again.*

A derivative may be formed by uniting a prefix or suffix with a compound; as, good-humor-*ed.*

Compounds may be formed by uniting two primitives; as, *moon-beam;* a primitive and derivative, as, *bright-eyed;* two derivatives, as, *brightest-eyed;* an inseparable root and a primitive, as, *multiform;* two inseparable roots, as, *geography.*

The Prefixes.

In the formation of words, the particles which are employed as prefixes generally have some peculiar import, which may be separately explained. A few of them are of Anglo-Saxon origin, and the greater part of these are still employed as separate words in our language. The rest are Latin, Greek and French prepositions. The roots to which they are affixed are not always proper English words. Those which are such are called separable **radicals**, and those which are not such, **inseparable radicals.**

English or Anglo-Saxon Prefixes.

A, as an English prefix, signifies *on, in, at* or *to;* as in *a-broad, a-shore, a-sleep, a-far, a-field.* The French *à* (*to*) is probably the same particle; as in *a-dieu.* This prefix is sometimes redundant; as in *a-wake, a-rise.*

Be signifies *upon, to, by* or *for;* as in *be-spatter, be-times, be-tide, be-speak.* It is sometimes redundant; as in *be-gird, be-deck, be-loved.*

Counter means *against* or *opposite;* as in *counter-poise, counter-evidence, counter-natural.*

For, in composition, seems to signify *from.* It is found in the irregular verbs *for-bear, for-bid, for-get, for-give, for-sake, for-swear;* and in *for-do, for-pass, for-pine, for-say, for-think, for-waste,* which last are now seldom used.

Fore, prefixed to verbs, signifies *before;* as, *fore-know, fore-tell;* prefixed to nouns it is an adjective and signifies *anterior;* as, *fore-side, fore-part.*

Half, signifying *one of two equal parts,* is much used in composition, and often merely to denote imperfection; as, *half-sighted,* seeing imperfectly.

Mis signifies *wrong;* as, *mis-do, mis-place.*

Out, prefixed to verbs, generally denotes excess; as, *out-do, out-leap;* prefixed to nouns it is an adjective and signifies *exterior;* as, *out-side, out-parish.*

Over usually denotes superiority or excess; as, *over-power, over-strain, over-large, over-dose.*

Self signifies *one's own person* or *belonging to one's own person.* It is much used in composition; as, *self-love, self-willed, self-accusing.* Sometimes *self* means *very;* as, *self-same.*

Un denotes negation or contrariety; as, *un-kind, un-load.*

Under denotes inferiority; as, *under-value, under-clerk.*

Up denotes motion upwards; as, *up-lift;* sometimes subversion; as, *up-set.*

With, as a prefix (unlike the common preposition *with*), signifies *against, from* or *back;* as, *with-stand, with-hold, with-draw.*

Latin Prefixes.

Not many of the primitives to which these are prefixed are employed separately in English. The final letter of the prefix *ad, con, ex, in, ob* or *sub* is often changed before certain consonants.

A, ab, abs, means *from* or *away;* as, *a-vert,* to turn from; *ab-duce,* to lead from; *abs-tract,* to draw away.

Ad, ac, af, al, an, ap, as, at, mean *to* or *at;* as, *ad-vert,* to turn to; *ac-cede,* to yield to; *af-flux,* a flowing-to; *al-ly,* to bind to; *an-nex,* to link to; *ap-ply,* to put to; *as-sume,* to take to; *at-test,* to witness to.

Ante, *before;* as, *ante-cedent,* going before; *ante-mundane,* before the world; *ante-date,* to date before.

Circum, *around* or *about;* as, *circum-volve,* to roll around.

Con, com, co, col, cor, *together;* as, *con-tract,* to draw together; *com-pel,* to drive together; *co-erce,* to force together; *col-lect,* to gather together; *cor-rade,* to scrape together; *con-junction,* a joining-together.

Contra, *against;* as, *contra-dict,* to speak against.

De, *of, from* or *down;* as, *de-note,* to be a sign of; *de-tract,* to draw from; *de-pend,* to hang down; *de-press,* to press down.

Dis, di, *away* or *apart;* as, *dis-pel,* to drive away; *dis-sect,* to cut apart; *di-vert,* to turn away. *Dis,* before English words, generally reverses their meaning; as, *please, dis-please.*

E or **ex, ec, ef,** *out;* as, *e-ject,* to cast out; *ex-tract,* to draw out; *ec-stacy,* a raising-out; *ef-face,* to blot out.

Extra, *beyond;* as, *extra-vagant,* wandering beyond.

In, il, im, ir, *in, into, against* or *upon;* as, *in-spire,* to breathe in; *il-lude,* to draw in by deceit; *im-mure,* to wall in; *ir-ruption,* a breaking-in; *in-cur,* to run into; *in-dict,* to declare against; *im-pute,* to charge upon. These syllables prefixed to nouns or adjectives generally reverse their meaning; as, *ir-religion, ir-rational, in-secure, in-sane.*

Inter, *between;* as, *inter-sperse,* to scatter between; *inter-jection,* something thrown in between.

Intro, *within;* as, *intro-vert,* to turn within

Ob, oc, of, op, *against;* as, *ob-trude,* to thrust against; *oc-cur,* to run against; *of-fer,* to bring against; *op-pose,* to place against; *ob-ject,* to cast against.

Per, *through* or *by;* as, *per-vade,* to go through; *per-chance,* by chance; *per-cent,* by the hundred.

Post, *after;* as, *post-pone,* to place after.

Præ or **pre,** *before;* as, *pre-sume,* to take before; *pre-position,* a placing-before or something placed before.

Pro, *for, forth* or *forwards;* as, *pro-vide,* to take care for; *pro-duce,* to bring forth; *pro-trude,* to thrust forward.

Preter, *past* or *beyond;* as, *preter-it,* gone by; *preter-natural,* beyond what is natural.

Re, *again* or *back;* as, *re-view,* to view again; *re-pel,* to drive back.

Retro, *backwards;* as, *retro-cession,* a going backwards.

Se, *aside* or *apart;* as, *se-duce,* to lead aside; *se-cede,* to go apart.

Semi, *half;* as, *semi-colon,* half a colon; *semi-circle,* half a circle; *semi-vowel,* half a vowel.

Sub, sup, sur, *under, beneath;* as, *sub-terranean,* beneath the earth; *sub-scribe,* to write under; *sup-ply,* to put under; *sur-reption,* a creeping-under; *sub-ject,* cast under.

Subter, *beneath;* as, *subter-fluous,* flowing beneath.

Super, *over* or *above;* as, *super-fluous,* flowing over; *super-lative,* carried over.

Trans, *beyond, over, to another state or place;* as, *trans-gress,* to pass beyond or over; *trans-mit,* to send to another place; *trans-form,* to change to another shape.

Greek Prefixes.

A, an, denote *privation;* as, *a-nomalous,* wanting rule; *an-onymous,* wanting name; *an-archy,* want of government.

Amphi, *both* or *two;* as, *amphi-bious,* living in two elements.

Anti, *against;* as, *anti-acid,* against acidity; *anti-febrile,* against fever; *anti-thesis,* a placing-against.

Apo, aph, *from;* as, *apo-strophe,* a turning-from; *aph-æresis,* a taking-from.

Dia, *through;* as, *dia-gonal,* through the corners; *dia-meter,* the measure through.

Epi, eph, *upon;* as, *epi-demic,* upon the people; *eph-emera,* upon a day.

Hemi, *half;* as, *hemi-sphere,* half a sphere.

Hyper, *over;* as, *hyper-critical,* over-critical.

Hypo, *under;* as, *hypo-stasis,* substance or that which stands under; *hypo-thesis,* supposition or a placing-under.

Meta, *beyond, over, to another state or place;* as, *meta-morphose,* to change to another shape; *meta-physics,* beyond physics.

Para, *against; para-dox,* something contrary to common opinion.

Peri, *around;* as, *peri-phery,* the circumference or measure around.

Syn, sym, syl, *together;* as, *syn-tax,* a placing-together; *sym-pathy,* a suffering-together; *syl-lable,* what is taken together.

French Prefixes.

A is a preposition of very frequent use in French and generally means *to.* We have suggested that it is probably the same as the Anglo-Saxon prefix *a.* It is found in a few English compounds that are of French and not of Saxon origin; as, *a-dieu,* to God; *a-bout,* to the end or turn.

De, *of* or *from;* as in *de-mure,* of manners; *de-liver,* to ease from or of.

Demi, *half;* as, *demi-man,* half-man; *demi-god,* half-god.

En, em, *in, into* or *upon;* as, *en-chain,* to hold in chains; *em-brace,* to clasp in the arms; *en-tomb,* to put into a tomb; *em-boss,* to stud upon. Many words have wavered between the French and the Latin orthography of this prefix; as, *embody* or *imbody, ensurance* or *insurance, ensnare* or *insnare, enquire* or *inquire.*

Sur, *upon, over* or *after;* as, *sur-name,* a name upon a name; *sur-vey,* to look over; *sur-vive,* to live after, to outlive.

Suffixes.

Able, ible, ble, denote *that may or can be, worthy to be, worthy of;* as, attain*able,* that may be attained; blam*able,* that may be blamed, worthy of blame; laud*able,* worthy of praise.

Ac denotes *of, pertaining to;* as, cardi*ac,* pertaining to the heart; elegi*ac,* pertaining to elegy.

Aceous denotes *resembling or having the nature of, consisting of;* as, aren*aceous,* consisting of sand; foli*aceous,* resembling leaves, consisting of leaves, leafy.

Acious denotes *very* or *greatly, accustomed to* or *greatly addicted to, strongly;* as, aud*acious,* daring much, very daring; cap*acious,* taking or containing much; ten*acious,* holding strongly or firmly.

Acy denotes *—ness, state of being, quality or attribute of office;* as, accur*acy,* the quality of being accurate, accurateness; cur*acy,* the office of a curate; celib*acy,* the state of being unmarried.

Age denotes *act of, —ing, state or condition of being, allowance for;* as, marri*age*, the act of marrying, the state of being married; bond*age*, the state of being in bonds; foli*age*, a collection of leaves; peer*age*, the condition or rank of a peer, the peers taken collectively; wharf*age*, allowance for use of the wharf.

Al denotes *of, pertaining to, befitting, done* or *made by;* as, celesti*al*, of or pertaining to heaven; manu*al*, of the hand, done by hand; matern*al*, of a mother, befitting a mother.

An, ean, ian, in nouns, denote *one who, one who belongs to, native, inhabitant of;* as, artis*an*, one who practices some art; Christ*ian*, one who belongs to Christ; Europe*an*, a native or inhabitant of Europe.

Ance, ancy, ency, denote *the act of, —ing, state of being, quality or attribute of;* as, accept*ance*, the act of taking to or of receiving; assist*ance*, a standing by, aid; const*ancy*, a standing together, the state or quality of being constant; inno*cence*, the state or quality of being harmless.

Ant, ent, in adjectives, denote *–ing;* as, milit*ant*, fighting; pend*ent*, hanging.

Ar denotes *in the form of, like, of, pertaining to, having;* as, angul*ar*, having angles, in the form of an angle; annul*ar*, in the form of a ring.

Ar denotes also *one who;* as, li*ar*, one who lies.

Ard denotes *one who has an habitual fault;* as, drunk*ard*, one who gets drunk habitually; slugg*ard*, one who is habitually sluggish.

Arious denotes *pertaining to;* as, greg*arious*, pertaining to flocks.

Ary in nouns denotes *one who, the thing that* or *that which;* as, advers*ary*, one who is against or opposed to; bound*ary*, that which bounds; vag*ary*, a thing or thought that wanders, a whim.

Ary in adjectives denotes *of* or *pertaining to, by;* as, epistol*ary*, pertaining to letters, by letters.

Ate denotes *office;* as, consul*ate*, the office of consul; also, *one who;* as, leg*ate*, one who is sent as ambassador.

Ate in adjectives denotes *having, —ed* or *—d;* as, fortun*ate*, having fortune; illiter*ate*, unlettered.

Ate in verbs denotes *to make, to give, to put, to take;* as, antiqu*ate*, to make ancient; depopul*ate*, to take the people from; incarcer*ate*, to put into prison.

Atic denotes *one who;* as, lun*atic*, one who is afflicted with lunacy.

Cle, cule, ule, denote *little, minute;* as, animal*cule*, a minute animal; glob*ule*, a little globe.

Dom denotes *the place in which dominion or jurisdiction is exercised, rank, quality* or *state;* as duke*dom*, the place or territory in which a duke exercises jurisdiction, the rank or quality of a duke; wis*dom*, the quality or attitude of being wise.

Ee denotes *one to whom* something is done or given, *one who;* as, absent*ee*, one who is absent; trust*ee*, one to whom a trust is given.

Eer, ier, denotes *one who manages or has charge of, one who engages in or passes his time in;* as, charioteer, one who manages or drives a chariot; mountain*eer*, one who passes his time or lives in the mountains; mutin*eer*, one who engages in mutiny.

En, n, in adjectives derived from nouns, denote *made of, like;* as, braz*en*, made of brass, like brass.

En in verbs mostly derived from adjectives denotes *to make;* as, dark*en*, to make dark.

Eous denotes *consisting of, like, pertaining to, —y;* as, ign*eous*, pertaining to fire, consisting of fire, like fire, fiery.

Er denotes *one who;* as, build*er*, one who builds.

Escence denotes *state of growing or becoming, period of growing or becoming;* as, convales*cence*, the state or period of growing entirely strong.

Escent denotes *growing* or *becoming, somewhat;* as, rub*escent*, growing red, somewhat red.

Etic denotes *having;* as, path*etic*, having feeling.

Ey denotes *consisting of;* as, clay*ey*, consisting of clay.

Fic denotes *making* or *causing;* as, horri*fic*, causing horror.

Ful denotes *full of;* as, hope*ful*, full of hope.

Fy denotes *to make;* as, forti*fy*, to make strong.

Hood, head, denote *state of being, the nature or distinguishing attitudes of being;* as, child*hood*, state of being a child; God*head*, the *attitude* or nature of God, divinity.

Iac denotes *one who;* as, man*iac*, one who is mad.

Ic denotes *thing, art, science;* as, fabr*ic*, the thing made, log*ic*, the science of words.

Ic denotes also *one who;* as, crit*ic*, one who judges.

Ic, ical, denote *of, pertaining to, like;* as, angel*ic*, or angel*ical*, of or pertaining to an angel, like an angel; hero*ic*, or hero*ical*, like a hero.

Ice denotes *quality or attitude of being;* as, avar*ice*, the quality of being avaricious; just*ice*, the quality of being just.

Ician denotes *one versed or skilled in;* as, arithmet*ician*, one versed in arithmetic; mus*ician*, one versed or skilled in music.

Icle denotes *little;* as, part*icle*, a little part.

Ics denotes *the science or art of;* as, tact*ics*, the science or art of military arrangement; econom*ics*, the science of household affairs.

Id denotes *—ing;* as, ferv*id*, burning, glowing.

Ile denotes *of, pertaining to, like, that may or can be easily;* as, doc*ile*, that may be easily taught; juven*ile*, of or pertaining to youth.

Ine denotes *one who;* as, mar*ine*, one who serves at sea; also, *of* or *pertaining to, like;* as, can*ine*, pertaining to dogs, like dogs; crystall*ine*, of crystal, like crystal; div*ine*, pertaining to God, like a god.

Ion denotes *the act of, state of being;* as, probat*ion*, a trying or proving; salvat*ion*, the act of saving, the state of being safe or saved.

Is denotes *act of, state of;* as, synthes*is*, act of putting together; cris*is*, state or point of judging.

Ish in adjectives denotes *somewhat, of* or *belonging to, like;* as black*ish*, somewhat black; Span*ish*, of or belonging to Spain; child*ish*, like a child.

Ish in verbs denotes *to make;* as, fin*ish*, to make an end of.

Ism denotes *state or quality of being, an idiom, doctrine or doctrines of;* as, barbar*ism*, the state of being barbarous; Gallic*ism*, a French idiom; Calvin*ism*, the doctrines of Calvin.

Ist denotes *one who,* generally one who is engaged in some pursuit or study; as, art*ist*, one who practices an art.

Ite denotes *a descendant of, a follower of, a sectarian or party leader;* as, Amalek*ite*, a descendant of Amalek; Huss*ite*, a follower of John Huss.

Ite also denotes *having;* as, defin*ite*, having bounds; oppos*ite*, having opposition.

Ity, ty, denote *state or quality of being;* as, am*ity*, the state of being friends, friendliness, friendship; antiqu*ity*, ancientness, ancient times.

Ive in nouns denotes *one who, that which;* as, capt*ive*, one who is taken; mot*ive*, that which moves or actuates.

Ive in adjectives denotes *having the power, disposed* or *having the disposition;* as, adhes*ive*, having the power of sticking to, having a tendency to adhere.

Ize, or **ise,** denotes *to make, to give, to act or do like;* as, fertil*ize*, to make fertile; author*ize*, to give authority; critic*ise*, to act the judge or critic.

Kin denotes *little;* as, lamb*kin*, a little lamb.

Less denotes *free from, without;* as, care*less*, free from care, without care.

Let, et, denote *little, young;* as, cygn*et*, a young swan; eye*let* (literally, a little eye), the hole or eye of a needle; mall*et*, a little mall.

Like denotes *resembling;* as, child*like*, resembling a child; God*like*, like or resembling God.

Lin, denotes *little, young;* as, found*ling*, a little child found without parent or owner; gos*ling*, a little or very young goose.

Ly in adjectives denotes *like;* as, beast*ly*, like a beast.

Ly in adverbs denotes *in a manner or way;* as, joyful*ly*, in a joyful manner.

Ment denotes *the act of, state of being, that which;* as, accomplish*ment*, the act of accomplishing, the state of being accomplished; pay*ment*, the act of paying, that which is paid.

Mony denotes *state of being, quality of being, that which;* as, acri*mony*, the quality of being sharp or acrid; matri*mony*, the state of being a mother or wife, marriage; patri*mony*, that which is inherited from a father.

Oid, or **oidal,** denotes *having the form or appearance of, resembling;* as, ov*oid*, or ov*oidal*, having the form of an egg; variol*oid*, a disease resembling small-pox.

Ness denotes *state of being, quality or attribute of being;* as, bald*ness*, the state of being bald; bold*ness*, the quality or attribute of being bold.

Or denotes *one who;* also, *the act of, sensation or emotion, that which causes or brings sensation;* as, audit*or*, one who hears, a hearer; col*or*, a peculiar sensation in the eye, that which causes the sensation of color; fav*or*, the act of favoring, that which causes or brings favor; splend*or*, brightness.

Ory in nouns denotes *the place or thing where;* as, arm*ory*, the place where arms are kept.

Ory in adjectives denotes *giving, making or causing, pertaining to;* as, adulat*ory*, giving flattery, flattering; amat*ory*, pertaining to love or lovers, causing love.

Ose denotes *full of;* as, jo*cose*, full of jokes.

Ous denotes *full of, consisting of;* as, cartilagin*ous*, consisting of cartilage, like cartilage; timor*ous*, fearful, fearing.

Ry denotes *state or quality of being, the art or practice of, the place where,* things of a certain kind or class *taken collectively;* as, gallant*ry*, the quality or attribute of being gallant, gallantness, nobleness, bravery; slave*ry*, the state of a slave; brew*ery*, the place where beer is brewed; cutle*ry*, knives and other cutting instruments taken collectively; also, the art or business of a cutler.

Ship denotes *office of, state or relation of;* as, clerk*ship*, the office of clerk; friend*ship*, the state or relation of a friend.

Some denotes *full of, making or causing;* as, blithe*some*, full of gayety, causing gayety or blitheness; weari*some*, making weary.

Ster denotes *one that;* as, song*ster*, one that sings songs.

T denotes *a thing done;* as, gif*t*, a thing given; draf*t*, a drawing; join*t*, a joining.

Th denotes *the act of, state of being, that which;* as, bread*th*, broadness; grow*th*, growing or the act of growing, that which is growing, increase; weal*th*, the state of being well off or rich, that which makes rich.

Tude, or **ude,** denotes *—ness;* as, alti*tude*, highness, height; solicit*ude*, anxiousness, anxiety.

Ulent, olent or **lent** denotes *full of;* as, fraud*ulent*, full of fraud, deceitful, dishonest; pesti*lent*, full of plague or pestilence, corrupt, troublesome; vi*olent*, full of force or violence.

Ure denotes *the act of, state of being, that which;* as, creat*ure*, that which is created; curvat*ure*, a bending; rapt*ure*, the state of being carried away (with joy); seiz*ure*, the act of seizing.

Ward denotes *towards;* as, home*ward*, towards home.

Y in nouns denotes *the state or quality of being;* as, anarch*y*, the state of being without government; lithograph*y*, engraving on stone.

Y in adjectives formed by adding this suffix to nouns denotes *full of, consisting of, like;* as, rock*y*, full of rocks, like a rock; sand*y*, full of sand, consisting of sand, like sand.

SPELLING.

Spelling is the art of expressing words by their proper letters.

Before the invention of the art of printing little attention was paid to the mode of spelling words either in Anglo-Saxon or the English language, and, the orthography of most of the words being wholly unsettled, every writer, having no guide but his own ear, was at liberty to follow his own fancy or judgment. In the writings of the Anglo-Saxons and the early English authors almost all the words are spelled in more than one way, and for a long time subsequent to the invention of the art of printing the spelling of the English language remained in a very un-

settled state. As an illustration of this unsettled state, nearly a century after this invention, it may be mentioned that in the translation of the New Testament by Tindale, who was distinguished for talents and learning, the pronoun *it* is spelled in no less than eight different ways, as follows: *it, itt, yt, ytt, hit, hitt, hyt, hytt;* and in some cases four or five different modes are to be found in the same chapter.

The spelling of the language has been undergoing continual changes from the time of its first formation to the present day, although for a century or upwards it may be regarded as having assumed a comparatively settled form.

The dictionary of Samuel Johnson, first published in 1755, has contributed more than any work written before or since to introduce something like consistency into English orthography, and succeeding lexicographers have followed in his footsteps.

Rules for Spelling.

Monosyllables ending in *f, l* or *s*, preceded by a single vowel, double the final consonant; as, *staff, mill, pass;* except three in *f*, viz.: *clef, if, of;* four in *l: bul, nul, sal, sol;* and eleven in *s: as, gas, has, was, yes, is, his, this, us, thus, pus.*

Words ending in any other consonant than *f, l* or *s* do not double the final letter; except *abb, ebb, add, odd, egg, inn, err, burr, purr, yarr, butt, buzz, fuzz*, and some proper names.

Monosyllables and words accented on the last syllable, when they end with a single consonant preceded by a single vowel, or by a vowel after *qu*, double their final consonant before an additional syllable that begins with a vowel; as, *rob, robber; permit, permitting; acquit, acquittal, acquitting. X*, being equivalent to *ks*, is never doubled.

A final consonant, when it is not preceded by a single vowel, or when the accent is not on the last syllable, should remain single before an additional syllable; as, *toil, toiling; visit, visited; general, generalize.*

Words ending with any double letter preserve it double before any additional termination not beginning with the same letter; as in the following derivatives: *seeing, blissful, oddly, hilly, stiffness, agreeable.* The irregular words *fled, sold, told, dwelt, spelt, spilt, shalt, wilt, blest, past*, and the derivatives from the word *pontiff*, are exceptions to this rule.

The final *e mute* of a primitive word is generally omitted before an additional termination beginning with a vowel; as, *rate, ratable; force, forcible; rave, raving; eye, eying.* Words ending in *ce* or *ge* retain the *e* before *able* or *ous*, to preserve the soft sound of *c* and *g;* as, *peace, peaceable; change, changeable; outrage, outrageous.*

The final *e* of a primitive word is generally retained before an additional termination beginning with a consonant; as, *pale, paleness.* When the *e* is preceded by a vowel it is sometimes omitted; as, *true, truly; awe, awful;* and sometimes retained; as, *rue, rueful; shoe, shoeless.*

The final *y* of a primitive word, when preceded by a consonant, is changed into *i* before an additional termination; as, *merry, merrier, merriest, merrily, merriment; pity, pitied, pities, pitiful.* Before *ing, y* is retained to prevent the doubling of *i;* as, *pity, pitying.* Words ending in *ie* drop the *e* and change the *i* into *y* for the same reason; as, *die, dying.* When a vowel precedes, *y* should not be changed; as, *day, days, money, moneys.*

Compounds generally retain the orthography of the simple words which compose them; as, *hereof, horseman, uphill.* In permanent compounds the words *full* and *all* drop one *l;* as, *handful, careful, always, withal;* in others they retain both; as, *full-eyed, all-wise.*

I before *e*, except after *c*, is a rule worth remembering in such words as *believe, conceive, deceive.*

In derivatives formed from words ending in *c* by adding a termination beginning with *e, i* or *y*, the letter *k* is inserted after the *c;* as, *zinc, zincky; colic, colicky; traffic, trafficky.*

Verbs of one syllable ending with a single consonant preceded by a single vowel (as, *plan*), and verbs of two or more syllables ending in the same manner and having the accent on the last syllable (as, *regret*), double the final consonant of the verb on assuming an additional syllable; as, *plan, planned; regret, regretted.* But if a dipthong precedes the last consonant, or the last syllable is not accented, then the consonant is not doubled; as *join, joined; suffer, suffered.*

REFORMED SPELLING.

Many efforts have been made to secure a reform in the mode of spelling, and many philological associations have earnestly advocated a system of phonetic orthography, or spelling by sound. The English language contains over 100,000 words, although in ordinary conversation only from 3,000 to 5,000 are used. Few writers or speakers use more than 15,000. Shakespeare is said to have only used 24,000, Milton 17,000, and in the Bible, exclusive of the proper names, there are said to be only 7,000 words. The mixed origin of the English language, with its constant modifications, will in some degree account for the striking anomalies which appear in our spelling. Signs representing sounds were multiplied especially by the introduction of the printer's art, and thus letters or combinations of letters for a single sound occur frequently. Many plans have been devised at dif-

ferent times, especially in late years, for reducing the spelling of words to absolute uniformity and the greatest simplicity by a complete reform in the method of representing the sounds of words by written characters, that is, by employing a new alphabet in which each sign stands for one, and only one, definite sound, and each sound is represented by one and only one character. The American Philological Association took up the matter in 1875, and in the succeeding year an international convention was held and a Spelling Reform Association organized. Meetings were held by several educational societies both in England and this country, urging on the work of reform, but after all there has really been very little practical result. The Spelling Reform Association adopted a phonetic alphabet on the principles enumerated above. The association advocated the dropping of silent letters on the score of economy, etc., and formulated the following five rules:

1. Use *e* for *ea* when equivalent to short *e*.
2. Omit silent *e* after a diphthong or a short vowel, unless preceded by *o* or *g*.
3. Use *f* for *ph*.
4. Omit one letter of a double consonant, unless both are pronounced.
5. Use *t* instead of *ed* when it represents the sound.

Some of the newspapers then began advocating reform in spelling, and in 1879 the Chicago *Tribune* appeared in improved orthography, and was followed by the *Home Journal* of New York and other papers. The rules adopted by these journals for their amended spelling were as follows:

1. Drop *ue* at the end of words like *dialogue, catalogue,* etc., where the preceding vowel is short. Thus spell *demagog, pedagog, epilog,* etc. Change *tongue* for *tung*. When the preceding vowel is long, as in *prorogue, vogue, rogue,* retain final letters as at present.

2. Drop final *e* in such words as *definite, indefinite, favorite,* where the preceding vowel is short. Thus spell *opposit, hypocrit, preterit.* When the preceding vowel is long, as in *polite, finite, unite, write,* etc., retain present form unchanged.

3. Drop final *te* in words like *quartette, coquette, cigarette.* Thus spell *roset, epaulet, gazet, vedet.*

4. Drop the final *me* in words like *programme.* Thus spell *program, oriflam, gram,* etc.

5. Change *ph* for *f* in works like *phantom, telegraph, phase,* Thus spell *alfabet, paragraf, filosofy, fonetic, fotograf,* etc.

P.S. No change in proper names.

The newspapers, however, have not continued to follow these rules, and in most cases have lapsed into the accustomed form of spelling, and the present outlook is not very flattering for the universal introduction of phonetic or reformed spelling.

FORMS OF LETTERS.

Different sorts of types or styles of letters are employed in the English language. Generally the Roman characters are used; sometimes the Italic, and occasionally the Old English. In writing we use the Script.

Roman. *Italic.* Old English. *Script.*

The letters have severally *two forms,* by which they are distinguished, as *capitals* and *small letters.*

Small letters constitute the body of every work; capitals are used for the sake of eminence and distinction.

The improper use of capitals or their omission is a common fault in composition, and should be guarded against. Sometimes more capitals are used than are necessary. The great number of words begin nearly all with small letters. When capitals are to be used is explained in the following rules.

The Use of Capital Letters.

Begin with a capital:

1. Every sentence and every line of poetry.

Examples.—Forget others' faults. How bright the day! What is fame? Custom forms us all.

"Time is the warp of life; oh! tell
The young, the fair, to weave it well."

2. All proper nouns, and titles of office, honor and respect.

Examples.—Henry the Fowler, Emperor of Germany; Robert Roe, Esquire; His Honor the Mayor; Elizabeth Barrett Browning; the Red River; Union Square; the Superior Court of the City of New York.

3. All adjectives formed from proper names.

Examples.—African, Italian, Welsh, Ciceronian.

Also adjectives denoting a sect or religion.

Examples.—Methodist, Puritan, Catholic.

4. Common nouns, where personified in a direct and lively manner; not where sex is merely attributed to an inanimate object.

Examples.—Then *War* waves his ensanguined sword, and fair *Peace* flees sighing to some happier land. But, the *sun* pursues his fiery course; the *moon* sheds her silvery beams.

5. All appellations of the Deity. The personal pronouns *Thou* and *He* standing for His name are sometimes capitalized.

Examples.—The Almighty; the King of kings; the Eternal Essence; Jehovah; the Supreme Being; our Father.

In the standard editions of the Bible, the pronouns, when referring to God, are never capitalized, not even in forms of direct address to the Deity.

6. The first word of a complete quoted sentence not introduced by *that. if* or any other conjunction.

Examples.—Thomson says, "Success makes villains honest." But, Thomson says that success makes villains honest.

7. Every noun, adjective and verb in the title of books and headings of chapters.

Examples.—Butler's "Treatise on the History of Ancient Philosophy;" Cousins' "Lectures on the True, the Beautiful and the Good."

8. Words that denote the leading subjects of chapters, articles or paragraphs.

A word defined, for instance, may commence with a capital. Do not introduce capitals too freely under this rule. When in doubt use a small letter.

9. The pronoun *I* and the interjection *O*.

10. Words denoting great events, eras of history, noted written instruments, extraordinary physical phenomena and the like.

Examples.—The Creation; the Confusion of Languages; the Restoration; the Dark Ages; the Declaration of Independence; the Aurora Borealis.

11. Letters standing for words are generally written as capitals.

Example.—A.D. for *Anno Domini*, the year of our Lord.

12. The months of the year, and the days of the week. The names of the seasons, however, should not generally be capitalized, although it is customary with some authors.

13. The words *North*, *South*, *East* and *West*, and their compounds, as *Northwest*, when they signify a section of country. Also adjectives derived therefrom. This class of words should not be capitalized, however, when merely denoting direction.

PUNCTUATION.

Punctuation is the art of dividing composition by points or stops for the purpose of showing more clearly the sense and relation of the words, and of noting the different pauses and inflections required in reading.

Although a knowledge of Punctuation is necessary to the clear expression of thought in writing, there are comparatively few who have mastered it, even among educated people. That it is important may be illustrated by the following sentence:

The company consisted of Mr. Jones a lawyer his brother a soldier Mr. Black a New Yorker his sister and a boy.

Without punctuation it is impossible to say how many were in the company, or what their relationship was. If commas are inserted it will appear that the company comprised eight people:

The company consisted of Mr. Jones, a lawyer, his brother, a soldier, Mr. Black, a New Yorker, his sister and a boy.

By inserting semicolons in the place of some of the commas the number of the company is reduced to five, as follows:

The company consisted of Mr. Jones, a lawyer; his brother, a soldier; Mr. Black, a New Yorker; his sister and a boy.

By otherwise punctuating it various changes would be made. As an illustration of the ludicrous errors which might occur from incorrect punctuation the following will serve:

Woman, without her man, would be a savage.

The proper sense and punctuation is:

Woman—without her, man would be a savage.

Such instances could be multiplied indefinitely.

Usage, which is really the foundation for all rules of punctuation as well as of grammar, authorizes the three following methods of punctuating the same sentence. In the present work the method indicated in the first sentence has been followed:

Rank, fame and honor are often undeserved.
Rank, fame, and honor are often undeserved.
Rank, fame, and honor, are often undeserved.

Punctuation Points.

The Punctuation Points are as follows:

Period	.	Paragraph	¶
Colon	:	Brace	}
Semicolon	;		
Comma	,	Acute Accent	´
Interrogation Point	?	Grave Accent	`
Exclamation Point	!	Circumflex Accent	^
Dash	—	Tilde, or Circumflex	~
Parentheses	( )	The Long, or Macron	¯
Brackets	[ ]	The Short, or Breve	˘
Hyphen	-	Diæresis	..
Quotation Marks	" "	Cedilla	ç
Apostrophe	'	Asterisk	*
Ellipsis	. . . .	Dagger, or Obelisk	†
	* * * *	Double Dagger	‡
Caret	∧	Section	§
Index	☞	Parallel	‖

Rules for Punctuation.

The Period must be placed after every declarative and imperative sentence and every abbreviated word.

Examples.—Obey your parents. Virtue is the only nobility. We write Jas. for James, N. Y. for New York, No. for number, George I. for George the First.

A period after an abbreviation does not take the place of other points. Punctuate just as if the word were not abbreviated. But at the end of a sentence closing with an abbreviation only one period must be used.

Example.—"Go to the P. O., I tell you, and ask for a letter for H. Rob, Jr., M. D."

A nickname which is not really an abbreviation is not followed by a period.

Examples.—Dave Bidwell; Sam Slick.

The Interrogation Point must be placed after every interrogative sentence, member and clause; also after the interjections *eh* and *hey* implying a question.

Example.—Has the air weight? Air has weight; do you not believe it? You thought it would rain, eh?

The Exclamation Point should be placed after every exclamatory sentence, member, clause and expression.

Examples.—How disgusting is vice! Life is short; how careful we should be to use it aright! For shame!

An exclamation point must also be placed after every inter-

jection except *O, eh* and *hey*, unless very closely connected with other words.

Example.—Ah! who could have foreseen it? Pshaw! you are trifling.

The Colon must be placed between the great divisions of sentences, when minor divisions occur that are separated by semicolons.

Example.—Man has effected wonders; he is every day advancing in knowledge and power: yet, surpassed by nature in even her humblest efforts, he can not so much as make a blade of grass.

A colon must also be placed before a formal enumeration of particulars, or a direct quotation, referred to by the words *thus, following, as follows, this, these*, etc.

Example.—There is much justice in this warning of Lavater: "Beware of him who hates the laugh of a child."

A *formal* enumeration is one in which the words *first, secondly*, etc., or similar terms, are introduced. These words are set off with the comma, the particulars are separated by the semicolon, and before the whole enumeration a colon must be placed.

Example.—There were four great empires in ancient times: first, the Assyrian; second, the Persian; third, the Macedonian; fourth, the Roman.

The Semicolon must be placed between the members of compound sentences, unless the connection is exceedingly close.

Example.—The wheel of fortune is ever turning; who can say, "I shall be uppermost to-morrow"?

If the members are very short and the connection is close, the comma may be used instead of the semicolon.

Example.—Man proposes, but God disposes.

A semicolon must be placed between the great divisions of sentences, when minor divisions occur that are separated by commas.

Examples.—Plato called beauty a privilege of nature; Theocritus, a delightful prejudice.

A semicolon should be placed before *as* when it introduces an example.

Example.—An adjective is a word which qualifies a noun; as, a *white* hat.

The Comma. Adjuncts and clauses, not essential to the meaning of a sentence or modifying the whole proposition, are set off with a comma on each side when introduced between a subject and its verb, or other parts that are closely connected. At the commencement or end of a sentence, such adjuncts and clauses are set off with a comma after or before them, as the case may be.

Example. —The bones of birds, in a word, combine strength with lightness in a remarkable degree. Blankets, which derived their name from Thomas Blanquet, were introduced into England in 1340. By the way, gunpowder was first known to the Chinese. No man can be an atheist, if he will only examine his own structure.

Subjects introduced by *as well as, and not*, etc., fall under this rule.

Example.—Toledo, as well as Damascus, was noted for its sword blades.

Single words relating to a whole proposition, and all vocative expressions, are also set off with the comma.

Examples.—Galileo, accordingly, was imprisoned. Smile, O Fortune, smile on our attempt.

No comma must be placed between restrictive adjuncts or clauses and that which they restrict.

Examples.—All must pay the debt *of nature*. All *that glitters* is not gold. The man *who plants the field* should reap the harvest.

A noun in apposition, modified by an adjunct or adjective, is generally, with its modifiers, set off by the comma.

Example.—Cleopatra, Queen of Egypt, was defeated by Octavius.

A comma should be placed between short members of compound sentences, connected by *and, but, or, nor, because, whereas* and other conjunctions.

Example.—Beauty dazzles, but amiability charms.

A comma must also be placed before a conjunction connecting the parts of a compound predicate, unless they are very short and so closely connected that no point is admissible.

Example.—The sun shines on all, even the wicked and ungrateful.

A comma must be placed before *or* introducing an equivalent, or a clause defining the writer's meaning.

Example.—Spelter, or zinc, comes chiefly from Germany.

A comma is required by some authorities on the subject of Punctuation before *and, or* and *nor* preceding the last of a series of clauses, or words that are the same part of speech and in the same construction.

Example.—Sunshine, cloud, and storm, all are sent for some wise purpose.

When, to avoid repetition, *and, or, nor,* or a verb previously used, is omitted, a comma takes its place.

Examples.—Tin is found in England, Bohemia, Saxony, Malacca and Banca. [Instead of saying England *and* Bohemia *and* Saxony *and* Malacca, to avoid repetition we omit *and*, and a comma takes its place.] Methusaleh was the oldest man; Samson, the strongest. [*Was* is omitted after *Samson*, and a comma takes its place.]

Words used in pairs take a comma after each pair.

Example.—Joy and sorrow, cloud and sunshine, are alike sent for our benefit.

Words repeated for the sake of their emphasis must be set off with their adjuncts, if they have any, by the comma.

Example.—Truth, truth, and nothing but the truth, will satisfy the candid enquirer.

A good general rule for the use of commas, as, in fact of other marks for punctuation, is: Use them when the meaning is thereby made clearer.

The Dash is used to denote:

1. A break in the construction.

Example.—Glory—what is it?

2. A transition in the sentiment from grave to humorous.

Example.—London is noted for its magnificent buildings, its extensive shipping, and—its dexterous pick-pockets.

3. A sudden interruption.

Example.—"You know my feelings; you know—" "Hold!" interrupted my friend.

4. Hesitation.

Example.—Such a man is a—a—I know not what to call him.

5. An abrupt or exclamatory repetition.

Example.—Such was the testimony of Solomon—Solomon who had all the pleasures of the world at his command.

A dash is sometimes used to denote the omission of letters, figures or words.

Example.—In the year 18—, I stopped over night at the village of G——.

A dash after other points makes them indicate a greater degree of separation than they generally denote.

Parentheses. Marks of Parentheses are used to enclose words which explain, modify or add to the main proposition, when so introduced as to break the connection between dependent parts and interfere with the harmonious flow.

Example.—The Saxons (for they descended from the ancient Sacæ) retained for centuries the energy and morality of their ancestors.

If no point would be required between the parts of a sentence in case there were no parenthesis, then no points should be used at that place in addition to the marks of parenthesis.

Example.—He (the aforesaid defendant) was ignorant of this matter.

If a point would be required between the parts of a sentence, in case no parenthesis were there, then, when the parenthesis is inserted, said point should be also inserted, and should be placed after the second mark of parenthesis.

Example.—Pride, in some disguise or other (often a secret to the proud man himself), is the most ordinary spring of action.

When a complete sentence or complete sentences are enclosed in marks of parenthesis, they should be punctuated the same as if not thus enclosed, and the last point of punctuation should come before the last mark of parenthesis.

Brackets. Brackets are used principally in quoted passages, to enclose words improperly omitted or added by way of correction, observation or explanation.

Example.—She is weary with [of] life.

In regard to the use of points before and after the brackets, and the punctuation of any sentence or clause within the brackets, the same rules apply that have been given in regard to the marks of parenthesis.

The Apostrophe denotes the omission of a letter or letters, and the possessive case of nouns.

Examples.—*'Tis* for *it is; e'en* for *even; don't* for *do not; o'clock* for *on* [the] *clock.* So in the possessive: *hero's, Charles', men's, heroes', children's.*

Pronouns never take the apostrophe in the possessive case.

The Hyphen is used to connect the elements of a compound word, when each retains its own accent.

Example.—Castle-builder, father-in-law.

The hyphen is also used after a complete syllable at the end of a line, to connect the parts of a divided word; also to denote that the final vowel of a prefix does not form a diphthong with the first vowel of a primitive; but in this latter case a mark of diæresis is more appropriate.

Example.—Pre-engagement, re-establish [preëngagement, reëstablish.]

Quotation Points are used to enclose words quoted from an author or speaker, or represented in narrative as employed in dialogue.

Example.—"Remember now thy Creator in the days of thy youth."

When the substance merely is given, and not the exact words, quotation points are unnecessary.

Matter within quotation points is to be punctuated just as if it stood in any other position.

When quotation points are needed at the end of a sentence, they come after whatever other point is required there if this point applies to the quotation alone, but before this point if it applies to the whole sentence and not exclusively to the quotation.

Example.—Pilate asked, "What is truth?" Where now is the "man of destiny"?

When a quotation encloses within it another quotation, the external quotation has the double marks, and the one included has only the single marks.

Example.—It has been well said, "The command, 'Thou shall not kill,' forbids many crimes besides that of murder."

If the enclosed or secondary quotation ends a sentence, three apostrophes will there come together, of which the first will belong to the enclosed quotation, and the other two to the original. When an enclosed quotation itself contains words or phrases that are quoted, those words or phrases have the double marks.

Example.—"French says, 'What a lesson the word "diligence" contains!'"

When the sentence becomes more involved than this, the additional marks of quotation would create confusion, and may therefore be omitted.

In some publications the order of single and double quotations is inverted, single quotation marks being used where custom demands double marks, and quotations within quotations being indicated by double marks.

The Pauses.

The pauses that are made in the natural flow of speech have in reality no definite and invariable proportions. Children are often told to pause at a comma while they count *one;* at a semicolon, *one, two;* at a colon, *one, two, three;* at a period, *one, two, three, four.* This may be of some use, as teaching them to observe these stops that they may catch the sense; but the standard itself is variable, and so are the times which good sense gives to the points. As a final stop, the period is immeasurable. The following general directions are as good as any that can be given:

The comma denotes the shortest pause; the semicolon, a pause double that of the comma; the colon, a pause double that of the semi-colon; and the period, or full-stop, a pause double that of the colon. The pauses required by the other marks vary according to the structure of the sentence and their place in it.

Other Marks.

The **Ellipsis,** or **Suppression,** denotes the omission of some letters or words.

Examples.—K—g, for king; G * * * * m, for Graham; A . . . . s, for Adams; H—m—hr—y, for Humphrey.

The **Caret,** used only in writing, shows where to insert words or letters that have been accidentally omitted.

Example.—James said he would ∧ be home to-night.

The **Index,** or **Hand** [☞], points out something remarkable, or what the reader should particularly observe.

The **Brace** [⎫] serves to unite a triplet, or to connect several terms to something to which they are all related.

Examples.—

Case { Nominative. Possessive. Objective.

Committee { W. Brown. H. Jones. R. Smith. M. Mills.

The **Section** [§] marks the smaller divisions of a book or chapter, and, with the help of numbers, serves to abridge references.

The **Paragraph** [¶] denotes the commencement of a new subject. The parts of discourse which are called paragraphs are in general sufficiently distinguished by beginning a new line and carrying the first word a little backwards.

Leaders [. . . . .] are used in contents and indexes of books and similar matter to lead the eye to the end of the line for the completion of the sense.

Example.—Wharfage,.....$50.

The **Asterisk,** or **Star** [*], the **Obelisk,** or **Dagger** [†], the **Diesis,** or **Double Dagger** [‡], and the **Parallels** [‖], refer to marginal notes or explanations at the bottom of the page. They are marks of reference.

The **Asterism,** or **Three Stars** [⁂], a sign not very often used, is placed before a long or general note to mark it as a note without giving it a particular reference.

Accent Marks.

The accent marks are used to denote the proper pronunciation of words. They are:

The **Acute** [ʹ], which marks the syllable which requires the principal stress in pronunciation; or to denote a rising inflection of the voice, or a close or short vowel.

The **Grave** [ˋ] is used in opposition to the acute to distinguish an open or long vowel, or to denote the falling inflection of the voice.

The **Circumflex** [ˆ] generally denotes a broad sound or a combination of the acute and grave.

The **Breve** [˘] is used to denote either a close vowel or a syllable of short quantity.

The **Macron** [¯] is used to denote either an open vowel or a syllable of long quantity.

The **Diæresis** [¨] is placed over the latter of two vowels to show they are to be pronounced in separate syllables; as, *aërial.* In German this character is called the **Umlaut,** and denotes a modification of the sound of a vowel over which it is placed, peculiar to the Germanic languages.

The **Cedilla** [¸] is placed under the letter *c* to give it the sound of *s* before *a* or *o*; as in the words *façade, Alençon.*

The **Tilde** [˜] is placed over the letter *n* in Spanish words to give it the sound of *ny*; as, *señor, miñon.*

Emphasis.

Emphasis, or prominence to certain words or sentences, should be designated by the writer by underscoring the words or phrases to be emphasized. One line indicates italics; two lines, small capitals; three lines, large capitals; four lines, italic capitals.

Example.—Strike! strike! strike! strike! strike! for freedom!

This would appear in print thus:

Strike! *strike!* STRIKE! STRIKE! *STRIKE!* for freedom!

ETYMOLOGY.

Etymology treats of the different parts of speech with their classes and modifications. To express our thoughts we use nine classes of words, called the **Parts of Speech.** These nine parts of speech are called Article, Noun, Adjective, Pronoun, Verb, Adverb, Conjunction, Preposition and Interjection.

The Parts of Speech.

The **Article** is the word *the, a* or *an,* which points out, defines or limits a noun; as, *the* air, *an* island, *a* ship.

A **Noun** is the name of any person, place or thing that can be known or mentioned; as, *George, York, man, apple, truth.*

An **Adjective** is a word which qualifies a noun; as, a *wise* man, a *new* book.

A **Pronoun** is a word used instead of a noun; as, the boy loves *his* book; *he* has long lessons, and *he* learns *them* well.

A **Verb** is a word that signifies *to be, to act* or *to be acted upon;* as, I *am,* I *rule,* I *am ruled;* I *love,* thou *lovest,* he *loves.*

An **Adverb** is a word which modifies a verb, adverb or adjective; as, they are now *here,* studying *very diligently.*

A **Conjunction** is a word which joins words and sentences together; as, Thou *and* he are happy, *because* you are good.

A **Preposition** is a word used to express the relation of different things or thoughts to each other; as, The paper lies *before* me *on* the desk.

An **Interjection** is a word that is uttered merely to indicate some strong or sudden emotion of the mind; as, *Oh! alas! avaunt!*

Some Rules of Grammar.

Parsing is the revolving or explaining of a sentence or of some selected word or words, according to the definitions and rules of grammar.

A **Sentence** is an assemblage of words making complete sense; as, Reward sweetens labor.

A **Definition** of anything or class of things is such a description of it as distinguishes that entire thing or class from everything else, by briefly telling what it is.

A **Rule of Grammar** is some law, more or less general, by which custom regulates and prescribes the right use of language.

A **Praxis** is a method of exercise showing the learner how to proceed.

An **Example** is a particular instance or model serving to prove or illustrate some given proposition or truth.

An **Exercise** is some technical performance required of the learner in order to test his knowledge or skill by use.

The article *an* is used instead of *a* before words beginning with a vowel or a silent *h*.

A **Common Noun** is a name that may be applied to all objects of the same kind; as, *boy, nation, country.*

A **Proper Noun** is the name of an individual object which cannot be applied to all others of the same kind; as, *Richard, Peru.*

A **Collective Noun** is the name of a body of individual living objects; as, *nation, mob, herd.*

An **Abstract Noun** is the name of a quality or property; as, *obstinacy, benevolence.*

A **Participial Noun** is the name of an action or state, ending in *ing;* as, *Seeing* is *believing.*

A **Diminutive Noun** is the name of something of its kind, derived from a primitive by the addition of a suffix. Diminutives are formed with the suffixes *kin, let, ling, ock, ule, cule, cle, icle, et* or *aster,* meaning *a little. Streamlet,* a little stream; *gosling,* a young goose; *animalcule,* a little animal, are diminutives.

In the gender of some nouns the feminine is formed by appending the suffix *ess, ine, ina, ix* or *a* to the masculine; as, *abbot, abbess; hero, heroine; czar, czarina; testator, testatrix; sultan, sultana.*

Plural of Nouns.

The **Plural** of most nouns is formed by adding *s* to the singular; as, *hat, hats; number, numbers.*

Nouns ending in *s, sh, x, z,* and *ch* soft, form their plural by adding *es;* as, *dish, dishes; gas, gases; waltz, waltzes; tax, taxes; church, churches.*

Nouns ending in *y*, preceded by a consonant, change the *y* into *ies;* as *fly, flies; obloquy, obloquies.*

Nouns ending in *i, o* or *u,* preceded by a consonant, take *es* in the plural; as, *alkali, alkalies; cargo, cargoes; gnu, gnues.* Exceptions, *canto, duodecimo, grotto, junto, lasso, majordomo, memento, octavo, portico, quarto, sorrocco, solo* and *typo,* which form the plural by adding *s.*

The following nouns ending in *f* and *fe* form the plural by changing *f* or *fe* into *ves: Beef, leaf, sheaf, thief, loaf, calf, half, elf, self, shelf, wolf, life, knife, wife;* thus *beeves, leaves, wives,* etc. *Wharf* makes both *wharfs* and *wharves. Staff,* a cane, makes *staffs* and *staves.*

Some nouns are irregular in the plural; as, *child, children; tooth, teeth; mouse, mice.*

The following nouns have both a regular and an irregular plural, with different meanings:

Brother,	brothers (of a family);	brethren (of a society).
Die,	dies (stamps for coining);	dice (cubes for gaming).
Genius,	geniuses (men of genius);	genii (spirits).
Index,	indexes (tables of contents);	indices (algebraic exponents).
Pea,	pease (distinct grains);	pease (taken in bulk).
Penny,	pennies (distinct coins);	pence (an amount of money).

Compound nouns, to form their plural, generally vary their principal elements; as, *step-son, step-sons; sister-in-law, sisters-in-law; cousin-german, cousins-german; knight-errant, knights-errant.*

The following compounds vary both elements:

Man-child, men-children; man-servant, men-servants; man-singer, men-singers; woman-servant, women-servants; woman-singer, women-singers; knight-templar, knights-templars; knight-baronet, knights-baronets; knight-hospitaller, knights-hospitallers.

Rules for the Plural of Foreign Nouns.

In forming foreign plurals the following rules apply: The termination

A becomes **Æ,** sometimes **Ata:** *larva, larvæ; miasma, miasmata.*

Is becomes **Es,** sometimes **Ides:** *asis, axes; apsis, apsides.*

Us becomes **I:** *magus, magi;* but, *genus, genera.*

Um and **On** become **A:** *datum, data; phenomenon, phenomena.*

Ex and **Ix** become **Ices.** *vortex, vortices; helix, helices.*

O becomes **I:** *virtuoso, virtuosi.*

Errors in Speech.

It is not the purpose of this work to go into all the minutiæ and details of grammatical rules, but the following rules and examples will show the reader how to avoid the common and most glaring errors in the use of language. These rules come under four divisions: the improper arrangement of words; improper words or expressions; too few words, and too many words. A careful scrutiny of the examples quoted below will be of great benefit to the reader.

These rules belong mainly to that division of Grammar termed **Syntax,** which means putting together, and which is that part of Grammar which treats of the relations and arrangements of words put together. The rules that bear on these relations are called the **Rules of Syntax.** Violations of these rules are called **False Syntax.**

AVOID THESE ERRORS:

1. Do not say, "They said they could run faster than me;" but, "They said they could run faster than I." *Me* must be changed to *I,* because it is the subject of the verb *could run* understood.

2. Do not say, "Oh, blissful hour, and thrice blessed us that see it;" but, "Oh, blissful hour, and thrice blessed we that see it." *Us* must be changed to *we,* the nominative case, because it is used independently.

3. When there are several modifying substantives, they are all in the possessive case. If they separately modify different nouns, each has the sign of the possessive. If they jointly modify the same noun, the possessive sign is annexed only to the last. If John, George and Henry have different fathers, I say: "John's, George's and Henry's fathers have arrived;" that is, John's father, George's father and Henry's father. If they are brothers, I say: "John, George and Henry's father has arrived." *John* and *George* are in the possessive case; but as all these substantives jointly modify the same noun, *father* expressed, the sign of the possessive is annexed to the last only.

4. A succession of possessives is inelegant. Do not say, "Our minister's son's partner's brother-in-law's store;" but, "The store belonging to the brother-in-law of the partner of our minister's son."

5. The possessive case and *of* with the objective are not always equivalent. Thus, "*The Lord's day* is Sunday; but *the day of the Lord* is *the day of judgment.*" We may speak of *the flower of the field,* but not of *the field's flower.*

6. Be careful not to use too many words. Do not say, "Consider of my offer;" but, "Consider my offer." Also, not "He will soon repent him of his crime;" but, "He will soon repent of his crime."

7. Do not use too few words. Do not say: "Beware the tempter;" but, "Beware of the tempter."

8. Avoid making the same word the object of a verb and preposition, or of two prepositions, separated by intervening words. "They not only themselves vigorously *prosecuted*, but called on their allies to aid them *in*, the *war*." Correct thus: "They not only themselves prosecuted the war, but called on their allies for aid."

9. Some verbs are frequently followed by two objectives. "We promised the best speaker a prize." "Will you buy me a telescope." If the objects are transposed a preposition is inserted. "Will you buy a telescope *for* me." "We promised a prize *to* the best speaker."

10. When such constructions are thrown into the passive form, the object of the verb, and not that of the preposition, must be made the subject; as, "A prize was promised to the best speaker." Not, "The best speaker was promised a prize."

11. *To* is omitted before *home*, *north*, *south*, etc., when not modified by other words, but expressed when they are modified; as, "He went home, north, south." But, "He went to his home, to the north, to the south."

12. Be careful in the use of *who* and *whom*. Do not say, "Who should I trust?" but, "Whom should I trust?"

13. Do not say, "It was me;" but, "It was I." After the verb *to be* the pronoun must be in the nominative. Thus again: "Did you suppose it was I?" not, "Did you suppose it was me." "It is he;" not, "It is him."

14. Be careful to use the correct number and person of the pronoun. Do not say, "One cannot collect their thoughts;" but, "One cannot collect his thoughts." Say: "I have lost the scissors; have you seen them?" Not, "have you seen it?"

15. After a superlative use *that* instead of *who;* as, "Hannibal was the deadliest enemy that Rome ever had."

16. Never use *which* to apply to persons except as an interrogative. Thus, "The man whom I met;" not, "The man which I met."

17. Do not use the pronoun *them* for the adjective *those*. "You might have saved *those* trees;" not, "You might have saved *them* trees."

18. Say, *this sort of men;* not, *these sort*, because *sort* is singular. *These tidings;* not, *this tidings*.

19. *This here* and *these 'ere*, *that there* and *those 'ere* are gross errors. Correct by omitting the adverbs. *This boy;* not, *this here boy*.

20. Say, "By this means;" not, "By these means." *Means* is singular.

21. Adjectives whose meaning precludes the idea of comparison must not be compared. Do not say, the *chiefest* beauty, a *truer* statement, so *faultless* a character, the *fartherest* house, a *more nearer* view, the *least surest* course. Correct thus: the *chief* beauty, a *more correct* statement, a character *so nearly faultless*, the *farthest* house, a *nearer* view, the *least wise* course.

22. After the comparative degree, use *other* with the latter of the terms compared if it includes the former, and only then. "The Amazon is longer than any river." Correct: "The Amazon is longer than any *other* river." Otherwise we assert, the Amazon being a river, that it is longer than itself.

23. An adjective in the comparative or superlative must precede an adjective modified by *more* or *most* relating to the same noun. Do not say: "A more interesting and larger volume;" but, "A larger and more interesting volume."

24. Be sure that the verb agrees with the right word. When it is separated from its subject by an intervening substantive, there is a tendency to make it agree with the latter. "A succession of excitements are sure to distract the mind from study." Wrong, because *succession* is the subject, and not *excitements*, which is the object of the preposition *of*. "A succession of excitements *is*," etc., is correct. So, "Your vessel, together with twelve others, *have* arrived." It should be, "Your vessel, together with twelve others, *has*," etc. So, "This confusion of ideas in educated minds *is* [not *are*] to be deplored."

25. Do not use, "Says I;" but, "Say I."

26. Do not say *has went* for *has gone; having wrote* for *having written; I seen* for *I saw; I done* for *I did*.

27. Avoid corrupt forms. Among the most common of these are *had have* for *had; hadn't ought* for *ought not; I'm a mind* for *I have a mind; arn't* for *are not; moughtn't* for *might not*, etc.

28. The preposition *for* must not be used immediately before an infinitive. Do not say: "He is trying hard *for* to enter college;" but, "He is trying hard to enter college."

29. The preposition *of* should not be introduced between a participle and its object. Do not say, "by erecting of statues;" but, "by erecting statues." Not, "for controlling of elections;" but, controlling elections." It is sometimes proper, however, to use *of* when the participle is preceded by *the*.

30. Do not use *how*, *as how*, or *how that*, for the conjunction *that*. "She said *as how* she would come." "Have a care *how* you listen to the tempter." Correct thus: "She said *that* she would come." "Have a care *that* you do not listen to the tempter."

31. Do not use two negatives. Do not say: "I did *not* do *nothing;*" but, "I did not do *anything;*" or, "I did nothing." Not, "It makes *no* difference to you *nor* me;" but, "It makes *no* difference to you *or* me."

32. Care must be taken to place *only* and *not only* next to the word or words they are intended to modify. Otherwise they give a wrong impression of the meaning. If I say, "He only hires the store," *only* modifies *hire*, and the impression conveyed is that another verb will follow. He only *hires* the store, he does not *own* it. If I say: "He hires only the store," *only* modifies *store*, and the meaning is, he hires the store, but nothing else—not the rest of the house.

33. Do not use an adjective for an adverb. Do not say: "He writes elegant;" but, "He writes elegantly."

34. After certain verbs *by* is used before a word denoting an agent or living object, *with* before a word denoting an instrument or inanimate object. We say, accompanied *by* his friends, accompanied *with* illustrations; attended *by* a servant, attended *with* evil consequences; illustrated *by* an artist, illustrated *with* engravings; killed *by* an assassin, killed *with* a dagger. *Followed* takes *by* only.

35. Do not use *if* for *whether*—or *but*, *but that* or *lest* for *that*—after the verbs *doubt*, *fear*, *deny*, or their equivalents. "Do you know *if* [correct to *whether*] a train will start this evening." "Pope was apprehensive *lest* [say *that*] his meaning might be mistaken." "Nobody can deny *but that* [say *that*] experience is the best teacher."

36. Be careful to use *nor*, not *or*, as the correlative of *neither*. "Neither youth *nor* [not *or*] innocence availed as a protection."

37. Be careful to use *so....as*, not *as....as*, after a negative denying equality of degree. "Few cities were *so* [not *as*] magnificent *as* Babylon."

38. Do not add a pronoun to its antecedent when the antecedent alone would express its meaning. Do not say, "James *he* said;" but, "James said."

39. Avoid double comparatives and superlatives. "The *most happiest* day of my life." Correct: "The happiest day."

40. Avoid tautology or the recurrence of the same word or expression. "The man *that* I met *that* was lame." Say: "The man that I met *who* was lame.

41. Avoid the use of improper words. Do not say: "He is *laying* down;" but, "He is *lying* down." Not: "We *set* up;" but, "We *sat* up." Not: "*Learn* me;" but, "*Teach* me." Not: "I *knowed* it;" but, "I *knew* it." Not: "The coat *sets* well;" but, "The coat *sits* well." Not: "*Them* that expect nothing;" but, "*They* that expect nothing."

42. Do not say, "The Volga is the longest *of any* river in Europe." Omit *of any* and correct: "The Volga is the longest river in Europe."

43. Apply *who* to persons, *which* to things, and *that* to both.

44. Do not say: "Which did you say *was* the largest lake in the world?" Say *is*. Present facts and unchangeable truths must be expressed in the present tense.

45. Avoid all improper modes of expressing comparison or the plural of nouns. Do not say, *beautifullest;* but, *most beautiful.* Not "I saw three *deers;*" but, "I saw three *deer.*"

46. Avoid clumsy use of participles. "*My being sick* was the cause of *my being absent.*" Correct thus: "My sickness was the cause of my absence."

47. Do not needlessly use the passive form in verbs. "He *is* come;" say, "He *has* come."

48. Do not use needless compound participles. "The theatres are now *being* open on Sundays;" say, "The theatres are now open Sundays."

49. An adverb should not be used where a preposition and a relative pronoun would better express the relation of the terms. "A cause where [say *in which*] justice is so much concerned."

50. When verbs are connected by a conjunction they must either agree in mood, tense and form, or have separate nominatives expressed. "They would neither go in themselves, nor *suffered* [say, *would suffer*] others to enter." "If he understands his business, and *attend* [say *attends*] to it, wherein is he deficient?"

FIGURES.

A **Figure** in Grammar is an intentional deviation from the ordinary spelling, formation, construction or application of words.

There are, accordingly, *figures of Orthography, figures of Etymology, figures of Syntax* and *figures of Rhetoric.*

When figures are judiciously employed, they both strengthen and adorn expression. They occur more frequently in poetry than in prose, and several of them are merely poetic licenses.

Figures of Orthography.

A **Figure of Orthography** is an intentional deviation from the ordinary or true spelling of a word.

The principal figures of Orthography are two, namely:

Mimesis, or **Mimicry,** a ludicrous imitation of some mistake or mispronunciation of a word, in which the error is mimicked by a false spelling or the taking of one word for another.

Example.—"Ay, he was *porn* at Monmouth, Captain Gower."—*Shakspere.*

"*Maister*, says he, have you any *wery* good *weal* in your *vallet?*"—*Columbian Orator.*

This figure includes all imitations of brogues and dialects.

Archaism is a word or phrase expressed according to ancient usage, and not according to our modern orthography.

Examples.—"Unpleasing sight, I *ween.*"

"Bow-bent with *eld*, his beard of snowy hue."

Figures of Etymology.

A **Figure of Etymology** is an intentional deviation from the ordinary formation of a word. The principal figures of Etymology are eight.

Aphæresis is the elision of some of the initial letters of a word; as, *'gainst, 'gan, 'neath,* for *against, began, beneath.*

Prothesis is the prefixing of an expletive syllable to a word; as, *a*down, *a*ppaid, *be*strown, *e*vanished, *y*clad, for *down, paid, strown, vanished, clad.*

Syncope is the elision of some of the middle letters of a word; as, *med'cine* for *medicine; e'en* for *even; o'er* for *over; conq'ring* for *conquering; se'nnight* for *sevennight.*

Apocope is the elision of some of the final letters of a word; as, *tho'* for *though; th'* for *the; t'other* for *the other.*

Paragoge is the annexing of an expletive syllable to a word; as, *withouten* for *without; deary* for *dear; Johnny* for *John.*

Diæresis is the separating of two vowels that might form a diphthong; as, *coöperate*, not *cooperate; aëronaut*, not *æronaut; orthoëpy*, not *orthœpy.*

Synæresis is the sinking of two syllables into one; as, *seest* for *seëst; tacked* for *tack-ed; drowned* for *drown-ed.*

Tmesis is the inserting of a word between the parts of a compound; as, "On *which* side *soever;*" "*To* us *ward;*" "*To* God *ward.*"

Figures of Syntax.

A **Figure of Syntax** is an intentional deviation from the ordinary construction of words. The principal figures of Syntax are seven.

Ellipsis is the omission of some word or words which are necessary to complete the construction, but not necessary to convey the meaning. Such words are said to be *understood*, because they are received as belonging to the sentence though they are not uttered; as, "A man and [*a*] woman;" "The common [*law*] and the statute law;" "I love [*him*] and [*I*] fear him;" "The active commonly do more than they are bound to do; the indolent [*commonly do*] less [*than they are bound to do*].

Aposcopesis is the leaving of something unsaid; as, "*Whom I*—but first 'tis best the billows to restrain."

Zeugma is the referring of a word to two different ones which in strict syntax can agree with only one of them; as, "In him who is, or him who finds a *friend.*"

Pleonasm is the introduction of superfluous words; as, "*He* that hath ears to hear, let him hear;" "I know thee *who thou art;*" "All ye inhabitants of the world, *and dwellers on the earth.*"

Syllepsis is agreement formed according to the figurative sense of a word, or the mental conception of the thing spoken of, and not according to the literal or common use of the term; it is therefore, in general, connected with some figure of Rhetoric; as, "The *Word* was made flesh and dwelt among us, and we beheld *his* glory." "Then Philip went down to the *city* of Samaria and preached Christ unto *them.*"

Enallage is the use of one part of speech, or of one modification, for another; as, "*You know* that *you are* Brutus that *speak* this;" "Destruction's gates at once *unlock.*"

Hyperbaton is the transposition of words; as, "He wanders *earth around.*"

COMPOSITION.

How to Write the English Language Correctly.

EVERY educated person desires to write well, and with some elegance of diction. Accuracy in the arrangement of words and the ready and correct expression of them in written language is not only a desirable but a needful attainment.

This is taught by **Composition.**

Style is the particular manner in which a person expresses his conceptions by means of language. It is different from mere words, and is not to be regulated altogether by rules of construction. It always has some relation to the author's peculiar manner of thinking, and, being that sort of expression which his thoughts most readily assume, sometimes partakes not only of what is characteristic of the man, but even of national peculiarity. The words which an author employs may be proper and so constructed as to violate no rule of syntax, and yet his style may have great faults.

To designate the general characters of style, such epithets as concise, diffuse—neat, negligent—nervous, feeble—simple, affected—easy, stiff—perspicuous, obscure—elegant, florid—are employed. A considerable diversity of style may be found in compositions all equally excellent in their kind. And, indeed, different subjects, as well as the different endowments by which genius is distinguished, require this diversity. But in forming his style the learner should remember that a negligent, feeble, affected, stiff or obscure style is always faulty, and that perspicuity, ease, simplicity, strength and neatness are qualities always to be aimed at.

In order to acquire a good style, the frequent practice of composing and writing something is indispensably necessary. Without exercise and diligent attention, rules or precepts for the attainment of this object will be of no avail. When the learner has acquired such a knowledge of grammar as to be in some degree qualified for the undertaking, he should devote a stated portion of his time to composition. This exercise will bring the powers of his mind into requisition in a way that is well calculated to strengthen them. And if he has opportunity for reading, he may, by a diligent perusal of the best authors, acquire both language and taste, as well as sentiment; and these three are the essential qualifications of a good writer.

In regard to the qualities which constitute a good style, we can here offer no more than a few brief hints. With respect to words and phrases, particular attention should be paid to **purity, propriety** and **precision;** and with respect to sentences, to **perspicuity, unity** and **strength.** Under each of these heads we shall arrange, in the form of short precepts, a few of the most important directions for the forming of style.

Of Purity.

Purity of style consists in the use of only such words and phrases as belong to the language which we write or speak.

1. Avoid the unnecessary use of foreign words or idioms; as, *fraicheur, hauteur, delicatesse, politesse;* he *repented himself;* it *serves to* an excellent purpose.

2. Avoid, on ordinary occasions, obsolete or antiquated words; as, *whilom, erewhile, albeit, aforetime, methinks.*

3. Avoid strange or unauthorized words; as, *flutteration, unspectator, judgematical, electerized.*

4. Avoid bombast, or affectation of fine writing. It is ridiculous, however serious the subject; as, "Personifications, however rich the depictions, and unconstrained their latitude; analysis, however imposing the objects of parallel and the media of comparison: can never expose the consequences of sin to the extent of fact, or the range of demonstration."

Of Propriety.

Propriety of language consists in the selection and right construction of such words as the best usage has appropriated to those ideas which we intend to express.

1. Avoid low and provincial expressions; such as, "*says I*," "*thinks I to myself*," "*to get into a scrape*," "Stay here *while* I return."

2. In writing prose, avoid words or phrases that are nearly poetical; such as *morn, eve, plaint, lone, amid, oft, steepy*.

3. Avoid technical terms, except where they are necessary in treating of a particular art or science. In technology they are proper.

4. Avoid the recurrence of words in the different senses, or such repetition of words as denotes paucity of language; as, "His own *reason* might have suggested better *reasons*." "Gregory *favored* the undertaking for no other reason than this: the manager, in countenance, *favored* his friend." "I *want* to go and see what he *wants*."

5. Supply words that are wanting. Thus, instead of saying, "This action increased his former success," say, "This action increased *the merit of* his former success."

6. Avoid equivocal or ambiguous expressions; as, "His *memory* shall be lost on the earth." "I long since learned to like nothing but what you *do*."

7. Avoid unintelligible and inconsistent expressions; as, "I have observed that the superiority among these coffee-house politicians proceeds from *an opinion* of gallantry and fashion." "These words do not convey even an *opaque* idea of the author's meaning."

8. Observe the natural order of things and events and do not put the cart before the horse; as, "The scribes *taught* and *studied* the law of Moses." "They can neither *return to* nor *leave* their houses." "He tumbled, *head over heels*, into the water."

Of Precision.

Precision consists of avoiding all superfluous words and adapting the expression exactly to the thought, so as to exhibit neither more nor less than is intended by the author.

1. Avoid a useless tautology, either of expression or sentiment; as, "return *again;* return *back again;* converse *together;* rise *up;* fall *down;* enter *in;* a mutual likeness *to each other;* the *latter* end; *liquid* streams; *grateful* thanks; the last *of all;* throughout the *whole* book." "Wherever I go, he *always* meets me there." "Where is he at?" "*In there.*" "Nothing *else* but that." "It is odious *and hateful.*" "His faithfulness *and fidelity* should be rewarded."

2. Observe the exact meaning of words accounted synonymous, and employ those which are the most suitable; as, "A diligent scholar may *acquire* knowledge, *gain* celebrity, *obtain* rewards, *win* prizes and *get* high honor, though he *earn* no money." These six verbs have nearly the same meaning, and yet they cannot well be changed.

Of Perspicuity.

Perspicuity consists in freedom from obscurity or ambiguity. It is a quality so essential in every kind of writing that for the want of it no merit can atone. "Without it," says Blair, "the richest ornaments of style only glimmer through the dark, and puzzle instead of pleasing the reader." Perspicuity, being the most important property of language, and an exemption from the most embarrassing defects, seems even to rise to a degree of positive beauty. We are naturally pleased with a style that frees us from all suspense in regard to the meaning; that "carries us through the subject without embarrassment or confusion, and that always flows like a limpid stream, through which we can see to the very bottom."

1. Place adjectives, relative pronouns, participles, adverbs and explanatory phrases as near as possible to the words to which they relate, and in such a situation as the sense requires. The following sentences are deficient in perspicuity: "Reverence is the veneration paid to superior sanctity, *intermixed* with a degree of awe." "The Romans understood liberty, *at least*, as well as we." "Taste was never *made to cater* for vanity."

2. In prose avoid a poetic collocation of words.

3. Avoid faulty ellipsis, and repeat all words necessary to preserve the sense. The following sentences require the words inserted in brackets: "Restlessness of mind disqualifies us both for the enjoyment of peace and [*for*] the performance of our duty." "The Christian religion gives a more lovely character to God than any [*other*] religion ever did."

Of Unity.

Unity consists in avoiding useless breaks or pauses and keeping one object predominant throughout a sentence or paragraph. Every sentence, whether its parts be few or many, requires strict unity.

1. Avoid brokenness and hitching. The following paragraph lacks the very quality of which it speaks: "But most of all, in a single sentence, is required *the strictest unity*. *It* may consist of parts, *indeed*, but *these parts* must be so closely bound together as to make the impression upon the mind *of* one object, not *of* many."

2. Treat different topics in separate paragraphs, and distinct sentiments in separate sentences. Error: "The two volumes are, indeed, intimately *connected* and *constitute* one uniform system of English grammar."

3. In the process of a sentence, do not desert the principal subject in favor of adjuncts. Error: "To substantives belong gender, number and case; and *they are all* of the third person *when spoken of*, and of the second *when spoken to*."

4. Do not introduce parentheses except where a lively remark may be thrown in without diverting the mind too long from the principal subject.

Of Strength.

Strength consists in giving to the several words and members of a sentence such an arrangement as shall bring out the sense to the best advantage and present every idea in its due

importance. A concise style is the most favorable to strength.

1. Place the most important words in the situation in which they will make the strongest impression.

2. A weaker assertion should not follow a stronger; and when the sentence consists of two members, the longer should be the concluding one.

3. When things are to be compared or contrasted, their resemblance or opposition will be rendered more striking if some resemblance in the language and construction be preserved.

4. It is, in general, ungraceful to end a sentence with an adverb, a preposition, or any inconsiderable word or phrase, which may either be omitted or introduced earlier.

A Discourse and its Parts.

A composition in which a proposition is laid down and an attempt made to persuade others that it is true is an *argumentative discourse.* If it is on religious subjects, it is a sermon; on other subjects, a speech or oration.

Orations by the ancients were divided into six parts, to-wit:

The Exordium, or introduction, in which the speaker strove to make his hearers attentive and disposed to receive his arguments.

The Division, or plan the speaker intended to pursue in treating the subject.

The Statement, in which the subject and facts connected therewith were laid down.

The Reasoning, in which the arguments were set forth.

The Appeal to the feelings—a most important division of a discourse.

The Peroration, in which the speaker summed up all he had said and concluded his discourse.

An Essay.

An Essay is a composition, generally on some abstract subject, devoted rather to an investigation of causes, effects, etc., than to an examination of visible and material peculiarities. Brief descriptions and narrations may be introduced with advantage.

Figures of Rhetoric.

A **Figure of Rhetoric** is an intentional deviation from the ordinary application of words. Some figures of this kind are commonly called *Tropes*, i.e., *turns.*

The principal figures of Rhetoric are twenty-two, namely:

A **Simile** is a simple and express comparison and is generally introduced by *like*, *as* or *so.*

Example.—"At first, *like thunder's distant tone*,
The rattling din came rolling on."—*Hogg.*
"Man, *like the generous vine*, supported lives.
The strength he gains is from th' embrace he gives."
—*Pope.*

A **Metaphor** is a figure that expresses the resemblance of two objects by applying either the name or some attribute, adjunct or action of the one directly to the other.

Example.—"His eye was *morning's brightest ray*."—*Hogg.*
"Beside him *sleeps* the warrior's bow."
—*Longfellow.*

An **Allegory** is a continued narration of fictitious events, designed to represent and illustrate important realities. Thus the Psalmist represents the *Jewish nation* under the symbol of a *vine:* "Thou hast brought a vine out of Egypt; thou hast cast out the heathen and planted it," etc.

NOTE.—The allegory includes most of those similitudes which in the Scriptures are called *parables;* it includes also the better sort of *fables.*

Metonymy is a change of names—calling one object by the name of another that sustains some relation to it. The principal relations on which this figure is founded are as follows:

1. Cause and effect; as, "Extravagance is the *ruin* of many"—that is, the *cause of* ruin.

2. Ancestor and descendants; as, "Then shall *Judah* triumph"—that is, the *descendants of Judah.*

3. Attribute and that to which it belongs; as, "*Pride* shall be brought low"—that is, the *proud.*

4. Container and the thing contained; as, "The *kettle* boils"—that is, the *water in the kettle.*

5. Emblem and thing represented; as, "This was offensive to the *crown*"—that is, the *king.*

6. Material and thing made of it; as, "*Gold* is all-powerful"—that is, *money.*

Synecdoche is the meaning of the whole for a part, or of a part for the whole; as, "This *roof* [*i.e.*, house] protects you." "Now the *year* [*i.e.*, summer] is beautiful."

Hyperbole is extravagant exaggeration, in which the imagination is indulged beyond the sobriety of truth.

Example.—"The sky *shrunk upward with unusual dread*,
And trembling Tiber *div'd beneath his bed*."—*Dryden.*

Vision, or **Imagery,** is a figure by which the speaker represents the objects of his imagination as actually before his eyes and present to his senses.

Example.—"I see the dagger-crest of Mar!
I see the Moray's silver star
Wave o'er the cloud of Saxon war
That up the lake comes winding far!"—*Scott.*

Apostrophe is a turning from the regular course of the subject into an animated address.

Example.—"Death is swallowed up in victory. O Death! where is thy sting? O grave! where is thy victory?"—*I. Cor., 15: 54-55.*

Prosopopœia, or **Personification,** is a figure by which in imagination we ascribe intelligence and personality to unintelligent beings or abstract qualities.

Examples.—"The *Worm*, aware of his intent,
Harangued him thus, right eloquent."—*Cowper.*
"Lo, steel-clad *War* his gorgeous standard rears!"—*Rogers.*

Erotesis is a figure in which the speaker adopts the form of interrogation, not to express a doubt, but, in general, confidently to assert the reverse of what is asked.

Example.—"Hast thou an arm like God? or canst thou thunder with a voice like him?"—*Job, 40:9.*

Ecphonesis is a pathetic exclamation, denoting some violent emotion of the mind.

Example.—"O liberty!—O sound once delightful to every Roman ear!—O sacred privilege of Roman citizenship!—once sacred—now trampled upon."—*Cicero.*

Antithesis is a placing of things in opposition to heighten their effect by contrast.

Example.—"Contrasted faults through all his manners reign :
Though *poor, luxurious ;* though *submissive, vain ;*
Though *grave,* yet *trifling ; zealous,* yet *untrue ;*
And e'en *in penance, planning sins anew.*"—*Goldsmith.*

Climax is a figure in which the sense is made to advance by successive steps, to rise gradually to what is more important and interesting, or to descend to what is more and more minute and particular.

Examples.—"Then Virtue *became silent, heartsick, pined away and died.*"

Irony is a figure in which the speaker sneeringly utters the direct reverse of what he intends shall be understood; as, "Go on; *time is worth nothing*"—meaning that it is very valuable.

Apophasis is the pretended suppression of what one is all the time actually mentioning; as, "*I shall say nothing* of the immorality prevalent in Paris—immorality which is all the more dangerous because arrayed in the most attractive garbs."

The **Parallel** is a figure used to show the resemblance between two characters or writings, to show their conformity in essential points; as, the parallel between the Old and New Testament.

Paralipsis pretends to conceal or omit what is really suggested and enforced.

Example.—"*I will not call him a villain* because it would be unparliamentary."

Allusion is a figure by which some word or phrase in a sentence calls to mind, as if accidentally, another similar or analogous subject.

Example.—"I was surrounded with difficulties, and possessed no *clue* by which I could effect my escape."

Repetition seizes some emphatic word or phrase, and, to mark its importance, makes it occur frequently in the same sentence.

Example.—"He sang Darius, great and good,
By too severe a fate,
Fallen, fallen, fallen, fallen,
Fallen from his high estate and weltering in his blood."

Alliteration is the repetition of the same letter at the beginning of two or more words immediately succeeding each other.

Example.—"The lordly lion leaves his lonely lair."

Euphemism is a softened mode of speech for what would be disagreeable or offensive if told in the plainest language.

Example.—Cushi did not say to David, "Absalom is killed;" but, "*May all the enemies of the king be as that young man.*"

Onomatopœia is the formation of words in such a manner that their sound will suggest the sense; as, *buzz, hiss, roar.*

Example.—"On the ear
Drops the light *drip* of the suspended oar."

PROSODY.

Dr. Blair says that the best definition of **Poetry** is this: "Poetry is the language of passion, or of enlivened imagination, formed most commonly into regular numbers." Poetry is older than prose. Poems and songs are the first objects that make their appearance in all nations. During the infancy of Poetry all its different kinds were mingled in the same composition; but in the progress of society poems assumed their different regular forms.

Prosody is that part of Grammar which treats of the quantity of syllables, of feet, and the modes in which they are combined in verse.

Versification.

Versification is the art of arranging words into lines of corresponding length so as to produce harmony by the regular alternation of syllables differing in quantity. *Verse* is therefore language so arranged in lines that syllables of certain length may occur at certain intervals.

Verse is the form in which poetry generally appears. Poetry is distinguished from prose not only by this form, but by its containing more figures, as well as peculiar words and expressions.

There are two kinds of verse, *Rhyme* and *Blank Verse.*

Rhyme is that kind of verse in which there is a correspondence of sound in the last syllables of two or more lines; as:

"True wit is nature to advantage *dress'd,*
What oft was thought, but ne'er so well *express'd.*"

Blank Verse is metrical language without rhyme; as:

"Shall we serve Heaven
With less respect than we do minister
To our gross selves?"

Quantity.

By the **Quantity** of a syllable is meant the time required for its utterance. According to this time, syllables are distinguished as *Long* and *Short.* One long syllable is equivalent to two short ones.

A long syllable may be denoted by a short horizontal line placed over its vowel; a short syllable, by a curve.

In the case of monosyllables, nouns, adjectives, verbs, adverbs and interjections are for the most part long; articles are always short; prepositious and conjunctions are generally short; pronouns are long when emphasized; when not, short.

Poetic Feet.

A **Foot** is two or more syllables constituting a portion of a line.

A **Line of Poetry** consists of successive combinations of feet.

The most important feet in English verse are as follows:

The Iambus, a short syllable and a long . . . . ˘ ¯ sĕvēre.
The Trochee, a long syllable and a short . . . ¯ ˘ trēmblĭng.
The Spondee, two long syllables . . . . ¯ ¯ cōld wīnds.
The Pyrrhic, two short syllables . . . . ˘ ˘ wil|dĕrnĕss.
The Anapest, two short and a long . . . . ˘ ˘ ¯ bărrĭcāde.
The Dactyl, a long and two short . . . . ¯ ˘ ˘ tēndĕrly.
The Amphibrach, a short, a long and a short . ˘ ¯ ˘ trĕmēndoŭs.
The Amphimacer, a long, a short and a long ¯ ˘ ¯ sāddlĕ-bāgs.

In addition to these there are the *Molosse*, of three long syllables; the *Tribrach*, of three short; the *Bacchy*, a short syllable and two long ones; the *Antibacchy*, or *Hypobacchy*, two long syllables and a short one.

The four principal kinds of verse or poetic measure are the *Iambus, Trochee, Anapest* and *Dactyl.*

When a line is wholly composed of any of these four feet, it is called *Pure.* The remaining feet never form whole lines by themselves, but are sometimes interspersed with other feet. A line into which different feet enter is called *Mixed.*

Metre.

By **Metres** are meant the different systems according to which verses or lines are formed. They are named from the feet employed and their number.

Metres in which the iambus prevails are called *Iambic;* those in which the trochee prevails, *Trochaic;* the anapest, *Anapestic;* the dactyl, *Dactylic.*

Distinguished by the number of feet in a line, the varieties of metre are as follows: *Monometer*, which consists of one foot; *Dimeter*, of two feet; *Trimeter*, of three; *Tetrameter*, of four; *Pentamcter*, of five; *Hexameter*, of six; *Heptameter*, of seven; *Octometer*, of eight.

Some metres, besides a certain number of complete feet, contain a syllable over at the end of the line. Such metres are called *Hypercatalcctic*, or *Hypermeter.* When a syllable is wanting the verse is said to be *catalectic*; when the measure is exact the line is *acatalectic.*

Scanning, or **Scansion,** is the process of dividing a line into the feet of which it is composed.

Stanza -- Long, Short and Common Metre.

A **Stanza** is the combination of several lines in poetry, forming a distinct division of the poem; as:

"The curfew tolls the knell of parting day,
The lowing herd winds slowly o'er the lea,
The ploughman homeward plods his weary way,
And leaves the world to darkness and to me."

A **Verse** is but a single line of a stanza—a certain number of long and short syllables, metrically disposed.

"The curfew tolls the knell of parting day."

Long Metre.

The long, short and common metres are known by the number of feet or syllables found in them. Long metre stanzas contain in each line four iambic feet; as:

"Through every age, eternal God,
Thou art our rest, our safe abode:
High was thy throne ere heaven was made,
Or earth, thy humble footstool, laid."

Short Metre.

Short metre stanzas contain three lines of six syllables and one of eight syllables—the third line being the longest and containing four iambic feet; as:

"Sweet is the time of Spring,
When nature's charms appear;
The birds with ceaseless pleasure sing
And hail the opening year."

Common Metre.

Iambic verse of seven feet, divided into two lines, the first containing four and the latter three feet, makes what is known as common metre; as:

"When all thy mercies, O my God!
My rising soul surveys,
Transported with the view, I'm lost
In wondcr, love and praise."

Iambic Verse.

In Iambic verse, the stress is laid on the even syllables, and the odd ones are short. It consists of the following measures:

Measure 1st. Iambic of Eight Feet, or Octometer.

"O āll | yĕ pēo|-plĕ, clāp | yŏur hānds, | ănd with | trĭŭm|phănt vōic|-ĕs sĭng;
Nŏ fōrce | thĕ mĭght|-y pōw'r | wĭthstānds | ŏf Gōd | thĕ ū|-nĭvērs|-āl Kĭng."

Each couplet of this verse is now commonly reduced to, or exchanged for, a simple stanza of four tetrameter lines; thus:

"The hour | is come | —the cher|-ish'd hour,
When, from | the bus|-y world | set free,
I seek | at length | my lone|-ly bower,
And muse | in si|-lent thought | on thee."

Measure 2nd. Iambic of Seven Feet, or Heptameter.

"Thĕ Lōrd | dĕscēnd|-ĕd frōm | ăbōve | ănd bōw'd|the hĕav|-ĕns hĭgh."

Modern poets have divided this kind of verse into alternate lines of four and of three feet; thus:

"O blĭnd | tŏ eăch | ĭndūl|-gĕnt āim
Of pōw'r | sŭprēme|-ly wise,
Who fan|-cy hap|piness | in aught
The hand | of Heav'n | denies!"

Measure 3rd. Iambic of Six Feet, or Hexameter.

"Thy rēalm | fōrēv|-ĕr lāsts, | thy ōwn | Mĕssĭ|-ăh rēigns."

This is the *Alexandrine;* it is seldom used except to complete a stanza in an ode, or to close a period in heroic rhyme.

Measure 4th. Iambic of Five Feet, or Pentameter.

"Fōr prāise | tŏo dēar|-ly lōv'd | ŏr wārm|-ly sōught
Enfēe|-blĕs āll | ĭntēr|-năl strēngth | ŏf thōught."

This is the regular English *heroic.* It is perhaps the only measure suitable for blank verse. The *Elegiac stanza* consists of four heroics rhyming alternately; thus:

"Enough | has Heav'n | indulg'd | of joy | below
To tempt | our tar|-riance in | this lov'd | retreat;
Enough | has Heav'n | ordain'd | of use|-ful woe,
To make | us lan|-guish for | a hap|-pier seat."

Measure 5th. Iambic of Four Feet, or Tetrameter.

"Thĕ jōys | ăbōve | ăre ūn|-dĕrstōod
And rēl|-ĭsh'd ōn|-ly by | thĕ gōod."

Measure 6th. Iambic of Three Feet, or Trimeter.

"Blŭe lĭght|-nĭngs sĭnge | thĕ wāves,
And thūn|-dĕr rēnds | thĕ rōck."

Measure 7th. Iambic of Two Feet, or Dimeter.

"Thĕir lōve | ănd āwe
Sŭpply | thĕ lāw."

Measure 8th. Iambic of One Feet, or Monometer.

"Hŏw brīght
Thĕ light."

In iambic verse, the first foot is often varied by introducing a trochee; as:

"Plānĕts | ănd sūns | rŭn lāw|-lĕss thrōugh | thĕ sky."

By a synæresis of the two short syllables, or perhaps by mere substitution, an anapest may sometimes be employed for an iambus. or a dactyl for a trochee; as:

"*O'er man*|-*y a froz*|-en, man|-*y a fi*|-*ery Alp.*"

Trochaic Verse.

In Trochaic verse, the stress is laid on the odd syllables, and the even ones are short. *Single-rhymed Trochaic* omits the final short syllable, that it may end with a long one. This kind of verse is the same as iambic would be without the initial short syllable. Iambics and trochaics often occur in the same poem.

Measure 1st. Trochaic of Eight Feet, or Octometer.

"Once up|-on a | midnight | dreary, | while I | pondered, | weak and | weary,
Over | māny ă | quaint and | cūriŏus | volume | of for|-gotten | lore,
While I | nodded, | nearly | napping, | sudden|-ly there | came a | tapping,
As of | some one | gently | rapping. | rapping | at my | chamber | door."

Measure 2nd. Trochaic of Seven Feet, or Heptameter.

"Hasten, | Lord, to | rescue | me, and | set me | safe from | trouble;
Shame thou | those who | seek my | soul, re|-ward their | mischief | double."

SINGLE RHYME.

"Night and | morning | were at | meeting | over | Water|-loo:
Cocks had | sung their | *earliest* | greeting; | faint and | low they | crew."

Measure 3rd. Trochaic of Six Feet, or Hexameter.

"On ă | mōuntăin | strētch'd bĕ|-nēath ă | hōary | willŏw,
Lay a | shepherd | swain, and | view'd the | rolling | billow."

SINGLE RHYME.

"Lonely | in the | forest, | subtle | from his | birth,
Lived a | necro|-mancer, | wondrous | son of | earth."

Measure 4th. Trochaic of Five Feet, or Pentameter.

"Vīrtŭe's | brīght'nĭng | rāy shăll | bēam fŏr|ēvĕr."

SINGLE RHYME.

"Idlĕ | āftĕr | dĭnnĕr, | ĭn hĭs | chāir,
Sat a | farmer, | ruddy, | fat and | fair."

Measure 5th. Trochaic of Four Feet, or Tetrameter.

"Roūnd ă | hōly | cālm dĭf|-fūsĭng,
Love of | peace and | lonely | musing."

SINGLE RHYME.

"Rēstlĕss | mŏrtăls | toĭl fŏr | nāught,
Bliss in | vain from | earth is | sought."

Measure 6th. Trochaic of Three Feet, or Trimeter.

"Whēn oŭr | heārts ăre | mōurnĭng."

SINGLE RHYME.

"In thĕ | dāys ŏf | ōld
Stories | plainly | told."

Measure 7th. Trochaic of Two Feet, or Dimeter.

"Fāncy | viēwĭng,
Joys en|-suing."

SINGLE RHYME.

"Tūmŭlt | cēase,
Sink to | peace."

Measure 8th. Trochaic of One Foot, or Monometer.

"Chāngĭng,
Ranging."

Anapestic Verse.

In Anapestic verse the stress is laid on every third syllable. The first foot of an anapestic line may be an iambus.

Measure 1st. Anapestic of Four Feet, or Tetrameter.

"At thĕ clōse | ŏf thĕ dāy, | whĕn thĕ hām|-lĕt ĭs stĭll,
And mor-|tals the sweet | of forget|-fulness prove."

HYPERMETER WITH DOUBLE RHYME.

"In a word, | so complete|-ly forestall'd | were the wish|-es,
Even har|-mony struck | from the noise | of the dish|-es."

HYPERMETER WITH TRIPLE RHYME.

"Lean Tom, | when I saw | him, last week, | on his *horse* | *awry*,
Threaten'd loud|-ly to turn | me to stone | with his *sor*|-*cery*."

Measure 2nd. Anapestic of Three Feet, or Trimeter.

"I ăm mōn|-ărch ŏf āll | I sŭrvēy;
My right | there is none | to dispute."

Measure 3rd. Anapestic of Two Feet, or Dimeter.

"Whĕn I lōok | ŏn my bōys,
They renew | all my joys."

Measure 4th. Auapestic of One Foot, or Monometer.

"On thĕ lānd
Let me stand."

Dactylic Verse.

In the pure Dactylic verse, the stress is laid on the first syllable of each successive three; that is, on the first, the fourth, the seventh, the tenth syllable, etc. Full dactylic generally forms triple rhyme. When one of the final short syllables is omitted the rhyme is double; when both, single. Dactylic with single rhyme is the same as anapestic would be without its initial short syllables. Dactylic measure is rather uncommon, and, when employed, is seldom perfectly regular.

Measure 1st. Dactylic of Eight Feet, or Octometer.

"Nĭmrŏd thĕ | hūntĕr wăs | mīghty ĭn | hūntĭng, ănd | fāmed ăs thĕ | rūlĕr ŏf | cĭtĭes ŏf | yōre;
Babel and | Erech, and | Accad, and | Calneh, from | Shinar's fair | region his | name afar | bore."

Measure 2nd. Dactylic of Seven Feet, or Heptameter.

"Out of the | kingdom of | Christ shall be | gathered, by | angels o'er | Satan vic|-torious,
All that of|-fendeth, that | lieth, that | faileth to | honor his | name ever | glorious."

Measure 3rd. Dactylic of Six Feet, or Hexameter.

"Time, thou art | ever in | motion, on | wheels of the | days, years and | ages;
Restless as | waves of the | ocean, when | Eurus or | Boreas | rages."

EXAMPLE WITHOUT RHYME.

"This is the | forest pri|-meval; but | where are the | hearts that be|-neath it
Leap'd like the | roe, when he | hears in the | woodland the | voice of the | huntsman?"

Measure 4th. Dactylic of Five Feet, or Pentameter.

"Now thou dost | welcome me, | welcome me | from the dark | sea,
Land of the | beautiful, | beautiful, | land of the | free."

Measure 5th. Dactylic of Four Feet, or Tetrameter.

"Bŏys will ăn|-tīcĭpāte, | lāvĭsh, ănd | dĭssĭpāte
All thăt yŏur | būsy pāte | hōardĕd wĭth | cāre;
And, in their | foolishness, | passion and | mulishness,
Charge you with | churlishness, | spurning your | pray'r."

Measure 6th. Dactylic of Three Feet, or Trimeter.

"Evĕr sĭng | mērrĭly, | mērrĭly."

Measure 7th. Dactylic of Two Feet, or Dimeter.

"Frēe frŏm să|-tĭĕty,
Care and anx|-iety,
Charms in va|-riety
Fall to his | share."

Measure 8th. Dactylic of One Foot, or Monometer.

"Fēarfŭlly,
Tearfully."

Cæsural Pause.

A slight pause should be made, in reading poetry, at the end of every line, though the sense may not require it. Often a pause is made in or near the middle of the line, especially when it is a long one. This brings out the meaning and improves the rhythm and effect. This pause is called the *cæsural pause* (i.e., *cutting*). The *final pause* is that occurring at the end of a line, and should not be distinctly marked when the sense does not require it.

Varieties of Poetry.

Poetry is of various kinds, such as *Epic, Dramatic, Lyric, Elegiac, Pastoral* and *Didactic*.

Epic Poetry is the most dignified. An epic poem is the recital of some illustrious enterprise in a poetical form. The action or subject of an epic poem must have three properties: it must be one; it must be great; it must be interesting. One action or enterprise must constitute its subject. Homer's *Iliad*, Virgil's *Æneid* and Milton's *Paradise Lost* are examples of epic poetry.

Didactic Poetry is written with the express intention to convey instruction and knowledge. It may be executed in different ways. The poet may treat some instructive subject in a regular form, or he may inveigh against particular vices or make some moral observations on human life and character.

Descriptive Poetry is indicated by its name. In general, description is introduced as an embellishment, not as the subject of a regular work.

Various Kinds of Poems.

There are many kinds of poems, of which the following are the chief designations:

A **Song** is a short poem to be sung or uttered with musical modulations.

A **Chant** is a song or words suited to musical tones without musical measure.

A **Hymn** is a song of praise, generally of a religious character.

An **Ode** is similar to a song or hymn. There are four denominations of these. 1. Odes addressed to God or composed on religious subjects. 2. Heroic odes, which concern the celebration of heroes and great actions. 3. Moral or philosophical odes, which refer chiefly to virtue, friendship and humanity. 4. Festive and amorous odes, which are calculated merely for amusement or pleasure.

A **Pæan** is a loud and joyous song, a song of triumph or rejoicing.

A **Ballad** is a popular song, narrative or sentimental, in simple, homely verses.

An **Epithalamium** is a nuptial song or poem in praise of the bride or bridegroom. The Song of Solomon in the Bible is a specimen.

An **Epigram** is a short poem treating only of one thing and ending with some lively, ingenious and natural thought.

A **Sonnet** is a poem of fourteen lines, two stanzas of four verses each and two of three each, and so arranged that in the first part the first line is made to rhyme with the fourth, fifth and eighth, the second rhyming with the third, sixth and seventh, while in the second part the first, third and fifth, and the second, fourth and sixth, also rhyme with each other.

A **Cantata** is a poem set to music, comprising choruses and solos and recitations, arranged in a somewhat dramatic manner.

A **Canzonet** is a short song in one, two or three parts.

A **Charade** may be in prose as well as poetry. It is based upon a word, the parts of which taken separately are significant of their meaning and that of the whole word.

An **Epitaph** is a brief descriptive sentence, in prose or verse, which is used on a tombstone.

A **Satire** is a composition, generally poetical, holding up vice or folly to reprobation; a keen or severe exposure of what in public or private morals deserves rebuke; an invective poem.

A **Parody** is a kind of poetical pleasantry in which what is written on a subject, generally serious, is altered and applied in a ludicrous vein.

A **Prologue** is a poem introductory to a play or discourse, generally spoken before the play begins.

An **Epilogue** is a short poem reviewing the main incidents of a play, spoken by the actor or actors at the termination of a performance.

An **Impromptu** is a verse or poetical composition written off-hand without previous study.

An **Acrostic** is a composition, usually in verse, in which the first or last letters of the lines, in their order, or of words, one in each line, form a name or sentence.

Poetical Peculiarities or License.

The following are some of the most striking peculiarities in which poets indulge and are indulged, and which are termed *poetic license*, which is a deviation from the strict rules of grammar.

1. They very often omit the articles; as:

"What dreadful pleasure! there to stand sublime
Like *shipwreck'd mariner on desert waste!*"

2. They abbreviate many nouns; as, *amaze* for *amazement; corse* for *corpse; fount* for *fountain.*

3. They employ several nouns that are not used in prose or are used but rarely; as, *benison, fane, ken, welkin.*

4. They introduce the noun *self* after another noun in the possessive case; as:

"Affliction's *self* deplores thy youthful doom."

5. They often place adjectives after their nouns; as:

"Come, nymph *demure*, with mantle *blue*."

6. They place before the verb nouns or other words that usually come after it; and after it, those that usually come before it; as:

"No jealousy *their dawn of love* o'ercast,
Nor blasted *were their wedded days* with strife."

7. They ascribe qualities to things to which they do not literally belong; as:

"Or *drowsy* tinklings lull the distant folds."

8. They use concrete terms to express abstract qualities (*i.e.*, adjectives for nouns); as:

"Meanwhile, whate'er of *beautiful* or *new*,
Sublime or *dreadful*, on earth, sea or sky."

9. They substitute quality for manner (*i.e.*, adjectives for adverbs); as:

"Thither *continual* pilgrims crowded still."

10. They form new compound epithets; as:

"In *world-rejoicing* state, it moves sublime."

11. They connect the comparative degree to the positive; as:

"*Near and more near* the billows rise."

12. They form many adjectives in *y* which are not in common use; as, a *gleamy* ray; *towery* height; *vasty* deep.

13. They employ adjectives of an abbreviated form; as, *drear* for *dreary; scant* for *scanty; ebon* for *ebony.*

14. They employ several adjectives that are not used in prose, or are used but seldom; as, *azure, darksome, rapt, sear.*

15. They employ personal pronouns and introduce their nouns afterwards; as:

"*It* curled not Tweed alone, that *breeze.*"

16. They sometimes omit the relative of the nominative case; as:

"For is there aught in sleep *can charm* the wise?"

17. They omit the antecedent, or introduce it after the relative; as:

"*Who* never fasts, no banquet e'er enjoys."

18. They remove relative pronouns and other connections into the body of the clauses; as:

"Parts the fine locks, her graceful head *that* deck."

19. They make intransitive verbs transitive; as:

"—— A while he stands,
Gazing the inverted landscape, half afraid
To *meditate* the blue profound below."

20. They give to the imperative mood the first and the third person; as:

"*Turn we* a moment fancy's rapid flight."
"*Be* man's peculiar *work* his sole delight."

21. They employ *can, could* and *would* as principal verbs transitive; as:

"*What* for ourselves we *can*, is always ours."

22. They place the infinitive before the word on which it depends; as:

"When first thy sire *to send* on earth
Virtue, his darling child, *designed.*"

23. They place the auxiliary after its principal; as:

"No longer *heed* the sunbeam bright
That plays on Carron's breast he *can.*"

24. Before verbs they sometimes arbitrarily employ or omit prefixes; as, *begird, bedim*, for *gird, dim; lure, wail,* for *allure, bewail.*

25. They abbreviate verbs; as, *list* for *listen; ope* for *open.*

26. They employ several verbs that are not used in prose or are used but rarely; as, *astound, ween, trow.*

27. They sometimes imitate a Greek construction of the infinitive; as:

"For not *to have been dipp'd* in Lethe lake
Could save the son of Thetis *from to die.*"

28. They employ the participles more frequently than prose writers, and in a construction somewhat peculiar; as:

"He came, and, standing in their midst, explained
The peace *rejected*, but the truce *obtained.*"

29. They employ several adverbs that are not used in prose or are used but seldom; as, *haply, felly, rifely.*

30. They give to adverbs a peculiar location; as:

"Peeping from *forth* their alleys green."

31. They omit the introductory adverb *there;* as:

"Was naught around but images of rest."

32. They employ the conjunctions *or .... or* and *nor .... nor;* as:

"*Or* by the lazy Scheldt *or* wandering Po."

33. They often place prepositions and their adjuncts before the words on which they depend; as:

"*Against* your fame *with* fondness hate combines."

34. They sometimes place the preposition after its object; as:

"When beauty, *Eden's bowers within.*"

35. They employ interjections more frequently than prose writers; as:

"Oh, let me gaze—of gazing there's no end.
Oh, let me think—Thought too is wilder'd here."

36. They employ antiquated words and modes of expression; as:

"*Withouten* that would come *an* heavier bale."

"He was *to weet*, a little roguish page,
Save sleep and play, who minded naught at all."

A SELF-INSTRUCTOR IN THE GERMAN LANGUAGE.

BY THE NEW SYSTEM OF OBJECT-TEACHING, THE SIMPLEST METHOD KNOWN.

STUDENTS will readily concede that of all foreign languages the one which best deserves their attention is the German. The influence of the Teuton stock on American civilization and commerce is all-important, and as each year continues to bring thousands of German immigrants to our shores, it will be more and more felt. A practical illustration of this fact is shown in the cry for "German in the public schools" which is heard in the leading cities of the country at the present day. Eventually a knowledge of the language will become so essential in the spheres of commercial and professional life that the business or professional man who cannot conduct conversation and correspondence in German will find himself at a decided disadvantage compared with him who has acquired the language. Those who wish to do so will find in the following system of self-tuition a means of grounding themselves so thoroughly in the principles of the language that, with its lessons well learned, they will have no difficulty in conversing and corresponding intelligibly with Germans whom they may meet in the way of business or social converse. And, having accomplished so much, all that will be needed to gain a mastery of the language is careful reading of the standard works of German literature, which in time will bring fluency of both written and spoken expression.

THE ALPHABET.

The German alphabet consists of the following twenty-six letters:

ENGLISH CHARACTERS	GERMAN CHARACTERS	NAMES OF LETTERS.	PRONUNCIATION.
A	𝔄 a	ah	as *a* in *part*.
B	𝔅 b	bay	as in English.
C	ℭ c	tsay	as *c* in *cape* if before *a*, *o*, *u* or a consonant, or when final.
D	𝔇 d	day	as in English.
E	𝔈 e	ay	as *a* in *tame* when long. as *e* in *bell* when short.
F	𝔉 f	ef	as in English.
G	𝔊 g	gay	as *g* in *go*.
H	ℌ h	hah	like *h* in *horse*.
I	ℑ i	e	as *i* in *sit*.
J	𝔍 j	yot	as *y* in *year*.
K	𝔎 k	kah	as in English.
L	𝔏 l	el	
M	𝔐 m	em	
N	𝔑 n	en	
O	𝔒 o	o	
P	𝔓 p	pay	
Q	𝔔 q	koo	
R	ℜ r	err	
S	𝔖 s ſ	es	as *s* in *sit*.
T	𝔗 t	tay	as in English.
U	𝔘 u	oo	as *oo* in *pool*.
V	𝔙 v	fow	as *f* in *feel*.
W	𝔚 w	vay	as *v* in *vary*.
X	𝔛 x	iks	as *x* in *box*.
Y	𝔜 y	ypsilon	as *y* in *system*.
Z	ℨ z	tset	as *ts* in *sits*.

VOWELS.

The simple vowels are a, e, i, o, u. Their sounds are given above.

COMPOUND VOWELS.

ä, *æ*, pronounced like *a* in *have*.

ö, *œ*, prodounced like *eu* in the French word *feu*, or *ou* in *touch*.

ü, *ue*, pronounced like *ceu*, or the *u* in the French word *sur*. The accurate sound of this, as well as of the ö, can only be learned from a German, as there are no similar sounds in English.

au, *au*, is pronounced like *ow* in *now*.

eu, *eu*, is like *oy* in *joy*.

CONSONANTS.

The g, *g*, has never the soft sound as in *genius*, but is either hard as in *gave*, or has the guttural sound of ch, which letter is sounded like the *ch* in the Scotch word *loch*. In the pronouncing column, the *g* and *ch* will be printed in italics whenever they should have the guttural sound. *Sch* is pronounced like *sh* in *ship*.

THE DEFINITE ARTICLE.

Masculine.	*Feminine.*	*Neuter.*
der	die	das, is the German Article.
dair	dee	das

THE INDEFINITE ARTICLE.

	Masculine.		*Feminine.*	
Nom.	ein Vater,	a father.	eine Stadt,	a town.
Gen.	eines Vaters,	of a father.	einer Stadt,	of a town.
Dat.	einem Vater,	to a father.	einer Stadt,	to a town.
Acc.	einen Vater,	a father.	eine Stadt,	a town.

Neuter.

Nom.	ein Schiff,	a ship.
Gen.	eines Schiffes,	of a ship.
Dat.	einem Schiffe,	to a ship.
Acc.	ein Schiff,	a ship.

COMBINATION OF ARTICLE AND NOUN.

DECLENSIONS.

The German language has three genders: Masculine, der; Feminine, die; Neuter, das; which form the definite Article.

The definite article is declined as well as the substantive, and examples are here given:

Masculine.

	Singular.		*Plural.*	
Nom.	der Mann,	the man.	die Männer,	the men.
Gen.	des Mannes,	of the man.	der Männer,	of the men.
Dat.	dem Manne,	to the man.	den Männern,	to the men.
Acc.	den Mann,	the man.	die Männer,	the men.

Feminine.

Nom.	die Frau,	the woman.	die Frauen,	the women.
Gen.	der Frau,	of the woman.	der Frauen,	of the women.
Dat.	der Frau,	to the woman.	den Frauen,	to the women.
Acc.	die Frau,	the woman.	die Frauen,	the women.

Neuter.

Nom.	das Pferd,	the horse.	die Pferde,	the horses.
Gen.	des Pferdes,	of the horse.	der Pferde,	of the horses.
Dat.	dem Pferde,	to the horse.	den Pferden,	to the horses.
Acc.	das Pferd,	the horse.	die Pferde,	the horses.

EXERCISES IN THE ARTICLE AND NOUN.

THE EARTH.

ENGLISH.	GERMAN.	PRONUNCIATION.
The earth	die Erde	dee airdai
a fire	ein Feuer	ine foyer
the water	das Wasser	das vasser
the rainwater	das Regenwasser	das ragenvasser
the stream	der Strom	dair shtrome
the sea	die See	dee say
the weather	das Wetter	das vetter
the summer weather	das Sommerwetter	das summervetter
the winter weather	das Winterwetter	das vintervetter
the wind	der Wind	dair vinnd
the rain	der Regen	dair ragen
the storm	der Sturm	dair shtoorm
the hail	der Hagel	dair hahgel
the frost	der Frost	dair frust
the summer	der Sommer	dair summer
the winter	der Winter	dair vinter
the snow	der Schnee	dair shnay
the ice	das Eis	das ice
the thunder	der Donner	dair dunner
the morning	der Morgen	dair morgen
a day	ein Tag	ine tahg
the midday	der Mittag	dair mittah*g*
the night	die Nacht	dee nacht
the moon	der Mond	dair mond
the sun	die Sonne	dee sonnai
a star	ein Stern	ine shtairn
the light	das Licht	das li*ch*t
a year	ein Jahr	ine yahr

THE HUMAN BODY.

The arm	der Arm	dair arm
the beard	der Bart	dair bart
the blood	das Blut	das bloot
the bosom	der Busen	dair boosen
the breast (chest)	die Brust	dee broost
the eye	das Auge	das owgay
the ear	das Ohr	das ore
a chin	ein Kinn	ine kin
the eyebrows	die Augenbrauen	dee owgenbrowen
the elbows	der Elbogen	dair elbogen
the fist	die Faust	dee fowst
a finger	ein Finger	ine fing-er
the flesh	das Fleisch	das flyshe
the foot	der Fuß	dair fooss
the hair	das Haar	das har
the hand	die Hand	dee hahnd
the right hand	die rechte Hand	dee rechtay hahnd
the left hand	die linke Hand	dee linkay hahnd
the heart	das Herz	das hairz
the hip	die Hüfte	dee hiftay
a knee	ein Knie	ine knee (*k* pronounc'd)
the lip	die Lippe	dee lippay
the neck	der Nacken	dair nahcken
the nose	die Nase	dee nahzay.
a mouth	ein Mund	ine moond

THE FAMILY.

The father	der Vater	dair fahter
the grandfather	der Großvater	dair grossfahter
the stepfather	der Stiefvater	dair shteeffahter
the fatherland	das Vaterland	das fahterland
the mother	die Mutter	dee mootter
a brother	ein Bruder	ine brooder
the sister	die Schwester	dee shwester
the uncle	der Onkel	dair onkel
the aunt	die Tante	dee tahntay
the nephew	der Neffe	dair neffay
a niece	eine Nichte	ineay ni*ch*tay
the girl (maiden)	das Mädchen	das maid*ch*en
the man	der Mann	dair mahnn
the young man	der junge Mann	dair yoongay mahnn
the old man	der alte Mann	dair altay mahnn
the wife (woman)	das Weib	das vybe
a bride	eine Braut	ineay browt
the widow	die Wittwe	dee vitvay
the widower	der Wittwer	dair vitver
the guest	der Gast	dair gahst
the neighbor	der Nachbar	dair na*ch*bar
the friend	der Freund	dair froint

FOOD.

The beer	das Bier	das beer
the glass	das Glas	das glahs
the flask (bottle)	die Flasche	dee flashay
the bread	das Brod	das brote
fresh bread	frisches Brod	frishes brote
the butter	die Butter	dee bootter
fresh butter	frische Butter	frishay bootter

ENGLISH.	GERMAN.	PRONUNCIATION.
the cheese	der Käſe	dair caysay
the honey	der Honig	dair honig
the milk	die Milch	dee milch
the buttermilk	die Buttermilch	dee boottermilch
the oil	das Oel	das œl
the fish	der Fiſch	dair fish
the flesh (meat)	das Fleiſch	das flyshe
the wine	der Wein	dair vine
old wine	alter Wein	alter vine
the punch	der Punſch	dair poonch
the rum	der Rum	dair room
the water	das Waſſer	das vasser
the salt	das Salz	das saltz
the pepper	der Pfeffer	dair pfeffer
the salad	der Salat	dair salaht
the soup	die Suppe	dee sooppay
the beefsteak	das Beefſteak	das beefsteak
the pudding	der Pudding	dair poodding
the coffee	der Kaffee	dair kaffay
the tea	der Thee	dair tay
the chocolate	die Chokolade	dee chocolahday
the lemonade	die Limonade	dee limonahday

TOWN AND COUNTRY.

The house	das Haus	das house
the garden	der Garten	dair garten
the land	das Land	das lahnd
the market	der Markt	dair markt
the street	die Straße	dee strahssay
the church	die Kirche	dee keerchay
the mail	die Poſt	dee pust
the bank	die Bank	dee bank
the theater	das Theater	das tayahter
the hospital	das Hospital	das hospitahl
the coffee-house	das Kaffeehaus	das kaffayhouse
the palace	der Palaſt	dair palast
the harbor	der Hafen	dair hahfen
the field	das Feld	das feld
the dale (valley)	das Thal	das tahl
the wood (forest)	der Wald	dair vald
the bush	der Buſch	dair boosh
the heath	die Haide	dee hiday
the hill	der Hügel	dair heeugel
the mill	die Mühle	dee meeullay
the corn	das Korn	das korn
the straw	das Stroh	das shtro

TRADES AND PROFESSIONS.

The baker	der Bäcker	dair becker
the bookbinder	der Buchbinder	dair boochbinder
the book	das Buch	das booch
the doctor	der Doktor	dair doktor
the hat	der Hut	dair hoot
the hatter	der Hutmacher	dair hootmacher
the shoe	der Schuh	dair shoe
the shoemaker	der Schuhmacher	dair shoemacher
the razor	das Raſirmeſſer	das raseermesser
a barber	ein Barbier	ine barbeer
the glass	das Glas	das glahs
the glazier	der Gläſer	dair glaiser
the nail	der Nagel	dair nahgel
the saddle	der Sattel	dair sattel
the saddler	der Sattler	dair sattler
the mill	die Mühle	dee meeullay
the miller	der Müller	dair meeuller
the master	der Meiſter	dair miceter
dancing	tanzen	tanzen
the dancing-master	der Tanzmeiſter	dair tanzmiceter
the post	die Poſt	dee pust

ENGLISH.	GERMAN.	PRONUNCIATION.
the postmaster	der Poſtmeiſter	dair postmiceter
to ride	reiten	riten
the riding-master	der Rittmeiſter	dair rittmiceter
the school	die Schule	dee shoolay
the schoolmaster	der Schulmeiſter	dair shoolmiceter
the smith	der Schmied	dair shmit
the smithy	die Schmiede	dee shmeeday
the nailsmith	der Nagelſchmied	dair nahgelshmit
the goldsmith	der Goldſchmied	dair goldshmit
the coppersmith	der Kupferſchmied	dair koopfershmit
the weaver	der Weber	dair vayber
the king	der König	dair kœnig
the prince	der Prinz	dair prints
the baron	der Baron	dair bahrone
the officer	der Officier	dair offeetseer
the soldier	der Soldat	dair soldaht
the pope	der Pabſt	dair pahbst
the archbishop	der Erzbiſchof	dair airtsbishof
the bishop	der Biſchof	dair bishofe

CLOTHING.

The jacket	die Jacke	dee yackay
the shoe	der Schuh	dair shoe
the hat	der Hut	dair hoot
the brush	die Bürſte	dee beeurstay
the hairbrush	die Haarbürſte	dee harbeeurstay
the frock (coat)	der Frack	dair frak
the wool	die Wolle	dee vollay
the cravat	die Cravatte	dee cravahtte
the purse	die Börſe	dee bœrsay
the cap	die Kappe	dee kappay
the ring	der Ring	dair ring

BEASTS, BIRDS, FISHES, ETC.

The hound (dog)	der Hund	dair hoond
the cat	die Katze	dee kahtsay
the rat	die Ratte	dee rattay
the mouse	die Maus	dee mouse
the swine (pig)	das Schwein	das shvine
the hare	der Haſe	dair hahzay
the roe	das Reh	das ray
the ox	der Ochſe	dair ocksay
the cow	die Kuh	dee koo
the calf	das Kalb	das kalb
the sheep	das Schaaf	das shahf
the lamb	das Lamm	das lam
the fox	der Fuchs	dair fooks
the wolf	der Wolf	dair volf
the bear	der Bär	dair bær
the elephant	der Elephant	dair elefahnt
the camel	das Kameel	das cahmail
the swan	der Schwan	dair shvan
the falcon	der Falke	dair falkay
the goose	die Gans	dee gahns
the stork	der Storch	dair shtorch
the snipe	die Schnepfe	dee shnepfay
the raven	der Rabe	dair rahbay
the lark	die Lerche	dee lairchay
the crow	die Krähe	dee krayay
the nightingale	die Nachtigall	dee nachtigal
the cuckoo	der Kuckuck	dair kookook
the swallow	die Schwalbe	dee shvalbay
the finch	der Finke	dair finkay
the sparrow	der Sperling	dair spairling
the fish	der Fiſch	dair fish
the carp	der Karpfe	dair carpfay
the herring	der Häring	dair hairing
the eel	der Aal	dair ahl
the frog	der Froſch	dair frush

ENGLISH.	GERMAN.	PRONUNCIATION.
the worm	der Wurm	dair voorm
the spider	die Spinne	dee shpinnay
the oyster	die Auſter	dee ouster
the crab	der Krebs	dair kreps
the flea	der Floh	dair flo
the fly	die Fliege	dee fleegay
the bee	die Biene	dee beenay
the wasp	die Weſpe	dee vespay
the snail	die Schnecke	dee shneckay

MINERALS AND METALS.

The gold	das Gold	das gult
the silver	das Silber	das silber
the copper	das Kupfer	das koopfer
the iron	das Eiſen	das eisen
the tin	das Zinn	das tsin
the steel	das Stahl	das shtahl
the zinc	das Zink	das tsink
the bronze	die Bronze	dee bronsay
the diamond	der Diamant	dair deeamahnt
the pearl	die Perle	dee pairlay
the coral	die Koralle	dee corallay
the marble	das Marmor	das marmor
the gypsum	der Gyps	dair gyps
the clay	der Lehm	dair lame
the chalk	der Kalk	dair calk
the coal	die Kohle	dee coalay
the earth	die Erde	dee airday
the sand	der Sand	dair sahnd
the stone	der Stein	dair stine

SHIPS AND SHIPPING.

The ship	das Schiff	das shiff
the boat	das Boot	das boat
the ship-of-the-line	das Linienſchiff	das leenyenshiff
the fisherboat	das Fiſcherboot	das fisherboat
the anchor	der Anker	dair anker
the deck	das Deck	das deck
the flag	die Flagge	dee flaggay
the mast	der Maſt	dair mast
the foremast	der Vordermaſt	dair fordermast
the sail	das Segel	das saygel
the strand	der Strand	dair shtrand
the rudder	das Ruder	das rooder
the net	das Netz	das netz
the lading (freight)	die Ladung	dee lahdung
the freight	die Fracht	dee fra*ch*t
the coast	die Küſte	dee kistay
the cliff	die Klippe	dee klippay
the downs	die Dünen	dee deeunen
the ground	der Grund	dair groond
the storm	der Sturm	dair shtoorm
the fleet	die Flotte	dee flottay
the frigate	die Fregatte	dee fregattay

TIME AND SEASONS.

The century	das Jahrhundert	das yarhoondert
the year	das Jahr	das yar
the month	der Monat	dair monat
the week	die Woche	dee vo*ch*ay
the day	der Tag	dair ta*g*
the hour	die Stunde	dee shtoonday
half-an-hour	eine halbe Stunde	inay halbay shtoonday
the minute	die Minute	dee minoohtay
the second	die Sekunde	dee secoonday
the seasons	die Jahreszeiten	dee yarestsiten
spring	Frühling	freeling
summer	Sommer	summer
autumn	Herbſt	hairbst

ENGLISH.	GERMAN.	PRONUNCIATION.
winter	Winter	vinter
January	Januar	yanooar
February	Februar	febrooar
March	März	mayrts
April	April	apreel
May	Mai	my
June	Juni	yoonee
July	Juli	yoolee
August	Auguſt	owgoost
September	September	september
October	October	october
November	November	november
December	Dezember	daytsember
the days of the week	die Wochentage	dee voc*h*entahgay
Sunday	Sonntag	sunta*g*
Monday	Montag	moneta*g*
Tuesday	Dienſtag	deensta*g*
Wednesday	Mittwoch	mittvo*ch*
Thursday	Donnerſtag	donnersta*g*
Friday	Freitag	freitah*g*
Saturday	Samſtag / Sonnabend	sahmstah*g* / sunnahbend
The holiday	der Feiertag	dair fireta*g*
Christmas	Weihnachten	vina*ch*ten
Easter	Oſtern	ohstern
Whitsuntide	Pfingſten	pfingsten
the morning	der Morgen	dair morgen
noon	Mittag	mitta*g*
the afternoon	der Nachmittag	dair na*ch*mitta*g*
the evening	der Abend	dair abend
the night	die Nacht	dee na*ch*t
midnight	Mitternacht	mitterna*ch*t

THE HOME.

The bell	die Glocke	dee gluckay
the knocker	der Klopfer	dair klupfer
to open	öffnen	œffnen
the servant	die Magd	dee mag*d*
the staircase	die Treppe	dee treppay
the room	das Zimmer	das tsimmer
the drawing-room	das Putzzimmer	das pootstsimmer
the sitting-room	das Wohnzimmer	das vohntsimmer
the dining-room	das Eßzimmer	das esstsimmer
the sleeping-room	das Schlafzimmer	das shlahftsimmer
the kitchen	die Küche	dee keeu*ch*ay
the cellar	der Keller	dair keller
the window	das Fenſter	das fenster
the stove	der Ofen	dair ohfen
the chimney	der Kamin	dair kameen
the looking-glass	der Spiegel	dair shpeegel
the table	der Tiſch	dair tish
the chair	der Stuhl	dair shtool
the arm-chair	der Armſtuhl	dair armshtool
the carpet	der Teppich	dair teppi*ch*
the chest of drawers	die Kommode	dee commohday
the sofa	das Sopha	das sofa
the candlestick	der Leuchter	dair loy*ch*ter
the candle	das Licht	das li*ch*t
the lamp	die Lampe	dee lampay
the wick	der Docht	dair do*ch*t
the oil	das Oel	das œl
to light	anzünden	antsinden
the bed	das Bett	das bet
the counterpane	die Bettdecke	dee betdeckay
the sheets	die Betttücher	dee bettee*ch*er
the pillow	das Kopfkiſſen	das kupfkissen
the basin	das Waſchbecken	das vashbecker
the soap	die Seife	dee sifay
the towe'	das Handtuch	das handtoo*ch*

ENGLISH.	GERMAN.	PRONUNCIATION.
warm water	warmes Waſſer	varmes vasser
cold water	kaltes Waſſer	kaltes vasser
hot water	heißes Waſſer	hyses vasser
to wash	waſchen	vashen
the comb	der Kamm	dair kamm
to comb	kämmen	kemmen

FRUITS, TREES AND FLOWERS.

The apple	der Apfel	dair apfel
the apple-tree	der Apfelbaum	dair apfelbowm
the pear	die Birne	dee beernay
the pear-tree	der Birnbaum	dair beernbowm
the plum	die Pflaume	dee pflowmay
the plum-tree	der Pflaumenbaum	dair pflowmenbowm
the cherry	die Kirſche	dee keershay
the chestnut	die Kaſtanie	dee kastanyay
the peach	der Pfirſich	dair pfeersi*ch*
the apricot	die Apricoſe	dee apreeeohsay
the orange	die Apfelſine	dee apfelseenay
the lemon	die Citrone	dee tsitronay
the grape	die Weintraube	dee vinetrowbay
the nut	die Nuß	dee nooss
the walnut	die Wallnuß	dee vallnooss
the currant	die Johannisbeere	dee yohanisbairay
the gooseberry	die Stachelbeere	dee shta*ch*elbairay
the raspberry	die Himbeere	dee himbairay
the blackberry	die Brombeere	dee brombairay
the strawberry	die Erdbeere	dee airdbairay
the oak	die Eiche	dee i*ch*ay
the beech	die Buche	dee boo*ch*ay
the poplar	die Pappel	dee pappel
the lime	die Linde	dee linday
the ash	die Eſche	dee eshay
the fir	die Tanne	dee tannay
the willow	die Weide	dee viday
the rose	die Roſe	dee rosay
the pink	die Nelke	dee nelkay
the tulip	die Tulpe	dee toolpay
the lily	die Lilie	dee leeleay
the violet	das Veilchen	das file*ch*en
the lilac	der Flieder	dair fleeder
the lily of the valley	das Maiblümchen	das mybleumehen

THE TOILET.

The clothes	die Kleider	dee klider
the coat	der Rock	dair ruek
the trowsers	die Hoſen	dee hozen
the pocket	die Taſche	dee tashay
the buttons	die Knöpfe	dee knœpfay
the dressing-gown	der Schlafrock	dair shlahfruek
the slippers	die Pantoffeln	dee pantuffeln
the drawers	die Unterhoſen	dee oonterhosen
the stockings	die Strümpfe	dee streeumpfay
the shirt	das Hemd	das hemt
the braces	die Hoſenträger	dee hosentrayger
the waistcoat	die Weſte	dee vestay
the boot	der Stiefel	dair shteefel
the boot-jack	der Stiefelknecht	dair shteefelkne*ch*t
the cap	die Mütze	dee mitsay
the gloves	die Handſchuhe	dee handshooay
the handkerchief	das Taſchentuch	das tashentoo*ch*
the watch	die Uhr	dee oor
the umbrella	der Regenſchirm	dair raygensheerm
the purse	die Börſe	dee bœrsay
the brush	die Bürſte	dee birstay
the comb	der Kamm	dair kamm
the apron	die Schürze	dee sheeurtsay
the fan	der Fächer	dair fe*ch*er
the dress	das Kleid	das klite

ENGLISH.	GERMAN.	PRONUNCIATION.
the pettieoat	der Unterrock	dair oonterruck
the stays	das Schnürleib	der shneerlipe
the veil	der Schleier	dair shlire
the powder	das Puder	das pooder
the soap	die Seife	dee sifay
the tooth-powder	das Zahnpulver	das tsahnpoolfer

TRAVEL.

The voyage	die Reiſe	dee rizay
the traveller	der Reiſende	dair rizenday
the road	die Landſtraße	dee lahndshtrahsay
the railroad	die Eiſenbahn	dee isenbahn
the station	die Station	dee stahtzione
the train	der Zug	dair tsoo*g*
the engine	die Maſchine	dee masheenay
the carriage	die Kutſche	dee kootshay
the wagon	der Wagen	dair vahgen
the departure	die Abreiſe	dee abrizay
the arrival	die Ankunft	dee ankoonft
the pass-port	der Paß	dair pass
the inn (hotel)	der Gaſthof	dair gasthof
the landlord	der Wirth	dair veert
the waiter	der Kellner	dair kelner
the bill	die Rechnung	dee re*ch*noong
the interpreter	der Dolmetſcher	dair dullmetsher
the luggage	das Gepäck	das gepeck
the trunk	der Koffer	dair euffer
the carpetbag	der Reiſeſack	dair rizaysack

AT THE WRITING-DESK.

The paper	das Papier	das papeer
the writing-paper	das Schreibpapier	das shribepapeer
the writing	die Schrift	dee shrift
the sheet	der Bogen	dair bogen
the pen	die Feder	dee fayder
the steel-pen	die Stahlfeder	dee stahlfayder
the penknife	das Federmeſſer	das faydermesser
the inkstand	das Tintenfaß	das tintenfass
the ink	die Tinte	dee tintay
the pencil	der Bleiſtift	dair blystift
the seissors	die Scheere	dee shayray
the date	der Datum	der dahtoom
the direction	die Adreſſe	dee ahdressay
the mail	die Poſt	dee pust
the seal	das Petſchaft	das petshaft
the sealing-wax	der Siegellack	dair seegellac
the wafer	die Oblate	dee oblahtay
the ruler	das Lineal	das leenayahl
the letter	der Brief	dair breef
the note	das Billet	das bilyet

LANDS AND PEOPLES.

The country	das Land	das lahnd
the native land	das Vaterland	das fahterlahnd
the state	der Staat	dair shtaht
the empire	das Reich	das ri*ch*e
the kingdom	das Königreich	das kœni*g*ri*ch*e
Europe	Europa	oiropa
the European	der Europäer	dair oiropayer
Ameriea	Amerika	amayrieah
the Ameriean	der Amerikaner	dair amayrikahner
Asia	Aſien	azien
Africa	Afrika	afrika
the East Indies	Oſtindien	ostindien
the West Indies	Weſtindien	vestindien
the United States	die vereinigten Staaten	dee verini*g*ten stahten
Brazil	Braſilien	brahzeelien
England	England	englahnd
the Englishman	der Engländer	dair Englender

ENGLISH.	GERMAN.	PRONUNCIATION.
Ireland	Irland	eerlahnd
the Irishman	der Irländer	der eerlender
Scotland	Schottland	shutlahnd
the Scotchman	der Schotte	dair shuttay
France	Frankreich	frankri*ch*e
the Frenchman	der Franzose	dair frantsosay
Germany	Deutschland	doytshlahnd
the German	der Deutsche	dair doytshay
Holland	Holland	hullahnd
the Dutchman	der Holländer	dair hullender
Austria	Oesterreich	eceterri*ch*e
the Austrian	der Oesterreicher	dair eceterri*ch*er
Prussia	Preußen	proyssen
the Prussian	der Preuße	dair proyssay
Russia	Rußland	roossland
the Russian	der Russe	dair roossay
Swedcn	Schweden	shvaydcn
the Swede	der Schwede	dair shvayday
Denmark	Dänemark	danemark
the Dane	der Däne	dair daynay
Switzerland	die Schweitz	dee shvyts
the Swiss	der Schweitzer	dair shvytser
Italy	Italien	eetalyen
the Italian	der Italiener	dair eetaleeayner
Spain	Spanien	shpanyen
the Spaniard	der Spanier	dair shpaneeyare
Greece	Griechenland	gree*ch*enlahnd
the Greek	der Grieche	deir gree*ch*ay
Turkey	die Türkei	dee teerki
the Turk	der Türke	dair teerkay
the Jew	der Jude	dair yooday
the Persian	der Perſier	dair perzier

THE ADJECTIVE.

The German adjective is placed before the substantive.

With the definite article it takes the termination in e; with the indefinite article or without the article, it takes the termination of its gender; as:

Der gute Vater, the good father; guter Vater, good father; ein guter Vater, a good father.

Die gute Mutter, the good mother; gute Mutter, good mother; eine gute Mutter, a good mother.

Das gute Kind, the good child; gutes Kind, good child; ein gutes Kind, a good child.

COMPARISON OF ADJECTIVES.

The comparative of a German adjective is formed by adding er to the positive, the superlative by adding ſte; as:

Klein, little — kleiner, smaller — kleinſte, smallest.

Reich, rich — reicher, richer — reichſte, richest.

The "than" following the comparative is translated by „als".

Er iſt kleiner als ich; he is smaller than I.

VOCABULARY OF ADJECTIVES.

White	weiß	vice
red	roth	rote
blue	blau	blou
brown	braun	brown
gray	grau	grou
green	grün	green
yellow	gelb	gelb
orange	orange	orahng*e*
purple	purpur	poorpoor
violet	violett	veeolet
old	alt	ahlt
young	jung	yoong
new	neu	noi
great	groß	gross
good	gut	goot

ENGLISH.	GERMAN.	PRONUNCIATION.
rich	reich	ri*ch*e
cold	kalt	kalt
warm	warm	varm
long	lang	lahng
high	hoch	hoa*ch*
full	voll	foll
cool	kühl	keel
near	nahe	nah
hard	hart	hart
light	leicht	ly*ch*t
wild	wild	villd
fat	fett	fet
fine	fein	fine
mild	mild	milld
deep	tief	teef
fresh	friſch	frish
ripe	reif	rife
unripe	unreif	oonrife
bitter	bitter	bitter
small	ſchmal	shmahl
wide	weit	vite
open	offen	uffen
loud	laut	lout
right	recht	re*ch*t
wise	weiſe	visay
blind	blind	blinnd
unwell	unwohl	oonvole
hot	heiß	hice
thick	dick	dick
neat	nett	net
thin	dünn	din
broad	breit	brite
round	rund	roond
false	falſch	fahlsh
sour	ſauer	sour
hollow	hohl	hole
sharp	ſcharf	sharf
flat	flach	fla*ch*
small	klein	kline
narrow	enge	engay
low	niedrig	necdri*g*
beautiful	ſchön	schœn
handsome	hübſch	hibsch
ugly	häßlich	hesli*ch*
bad	ſchlecht	shle*ch*t
easy	leicht	lei*ch*t
heavy	ſchwer	shvair
soft	weich	vy*ch*e
true	wahr	vahr
short	kurz	koorts
far	weit	vite
sweet	ſüß	seess
hollow	hohl	hole
blunt	ſtumpf	shtoompf
delicious	köſtlich	kœstli*ch*
disagreeable	unangenehm	oonahngenaym
honest	ehrlich	ayrli*ch*
polite	höflich	hœfli*ch*
obliging	gefällig	gefelli*g*
kind	gütig	geeti*g*
prudent	klug	kloo*g*
stupid	dumm	doomm
ridiculous	lächerlich	le*ch*erli*ch*
reasonable	vernünftig	ferninfti*g*
happy	glücklich	glicklich
unhappy	unglücklich	oonglicklich
glad	froh	fro
satisfied	zufrieden	tsoofreeden
active	thätig	taiti*g*

ENGLISH.	GERMAN.	PRONUNCIATION.
proud	ſtolz	shtults
rude	grob	grope
bold	kühn	keen
strong	ſtark	shtark
weak	ſchwach	shvach
attentive	aufmerkſam	owfmerksahm
clever	geſchickt	geshickt
sick	krank	krahnk
pale	blaß	blahss
healthy	geſund	gezoond
poor	arm	arm
empty	leer	lair
light	hell	hell
dark	dunkel	doonkel
dry	trocken	trocken
wet	naß	nahss
dirty	ſchmutzig	shmootsig
cheap	billig	billig
clean	rein	rine
tired	müde	meeday
angry	böſe	bœsay
merry	luſtig	loostig

CARDINAL NUMBERS.

One	ein, eins	ine, ines
two	zwei	tsvi
three	drei	dri
four	vier	feer
five	fünf	finf
six	ſechs	sex
seven	ſieben	seeben
eight	acht	acht
nine	neun	noyn
ten	zehn	tsane
eleven	elf	elf
twelve	zwölf	tsvelf
thirteen	dreizehn	drytsane
fourteen	vierzehn	feertsane
fifteen	fünfzehn	finftsane
sixteen	ſechszehn	sextsane
seventeen	ſiebenzehn	seebentsane
eighteen	achtzehn	achttsane
nineteen	neunzehn	noyntsane
twenty	zwanzig	tsvantzig
twenty-one	einundzwanzig	ineoondtsvantzig
twenty-two	zweiundzwanzig	zvioondtsvantzig
twenty-three	dreiundzwanzig	dryoondtsvantzig
thirty	dreißig	drysig
forty	vierzig	feertzig
fifty	fünfzig	finftzig
sixty	ſechszig	sechtzig
seventy	ſiebenzig	seebenzig
eighty	achtzig	achtzig
ninety	neunzig	noyntzig
one hundred	hundert	hoondert
one hundred and one	hundert und eins	hoondert oond ines
one hundred and two	hundert und zwei	hoondert oond tsvi
two hundred	zwei hundert	tsvi hoondert
three hundred	drei hundert	dry hoondert
four hundred	vier hundert	feer hoondert
five hundred	fünf hundert	finf hoondert
six hundred	ſechs hundert	sex hoondert
seven hundred	ſieben hundert	seeben hoondert
eight hundred	acht hundert	acht hoondert
nine hundred	neun hundert	noyn hoondert
one thousand	tauſend	towsend
two thousand	zwei tauſend	tsvi towsend
three thousand	drei tauſend	dry towsend
ten thousand	zehn tauſend	tsane towsend
a million	eine Million	inay milleeone
one thousand eight hundred and fifty-nine.	ein tauſend acht hundert neunundfünfzig	ine towsend acht hoondert noyn oond finftsig

THE ORDINAL NUMBERS.

the first	der erſte	dair ayrstay
the second	der zweite	dair tsvitay
the third	der dritte	dair drittay
the fourth	der vierte	dair feertay
the fifth	der fünfte	dair finftay
the sixth	der ſechſte	dair sextag
the seventh	der ſiebente	dair seebentay
the eighth	der achte	dair achtay
the ninth	der neunte	dair noyntay
the tenth	der zehnte	dair tsanetay
the eleventh	der elfte	dair elftay
the twelfth	der zwölfte	dair tsvelftay
the thirteenth	der dreizehnte	dair drytsanetay
the fourteenth	der vierzehnte	dair feertsanetay
the fifteenth	der fünfzehnte	dair finftsanetay
the sixteenth	der ſechszehnte	dair sechtsanetay
the seventeenth	der ſiebenzehnte	dair seebentsanetay
the eighteenth	der achtzehnte	dair achtsanetay
the nineteenth	der neunzehnte	dair noyntsanetay
the twentieth	der zwanzigſte	dair tsvanzigstay
the twenty-first	der einundzwanzigſte	dair ineoondtsvantsig-stay
twenty-second	der zweiundzwanzigſte	dair tsvioondtsvantsig-stay
the twenty-third	der dreiundzwanzigſte	dair drioondtsvantsig-stay
the thirtieth	der dreißigſte	dair drysigstay
the thirty-first	der einunddreißigſte	dair ineoonddrysigstay
the thirty-second	der zweiunddreißigſte	dair tsvioonddrysigstay
the fortieth	der vierzigſte	dair feertsigstay
the fiftieth	der fünfzigſte	dair finftsigstay
the sixtieth	der ſechszigſte	dair sechtsigstay
the seventieth	der ſiebenzigſte	dair seebentsigstay
the eightieth	der achtzigſte	dair achtsigstay
the ninetieth	der neunzigſte	dair noyntsigstay
the one hundredth	der hundertſte	dair hoonderstay
the one hundred and first	der hundertunderſte	dair hoondertoondayr-stay
the two hundredth	der zweihunderiſte	dairtsvihoondertstay
the three hundredth	der dreihundertſte	dairdrihoondertstay
the one thousandth	der tauſendſte	dair towsendstay

COLLECTIVE NUMBERS.

A pair	ein Paar	ine pahr
a dozen	ein Dutzend	ine dootsend
a score	zwanzig	tsvantsig
firstly	erſtens	ayrstens
secondly	zweitens	tsvitens
thirdly	drittens	drittens
the first time	das erſte Mal	das ayrstay mal
the second time	das zweite Mal	das tsvitay mal
once	einmal	inemal
twice	zweimal	tsvimal
thrice	dreimal	drymal
single	einfach	inefach
double	doppelt	duppelt
threefold	dreifach	dryfach
fourfold	vierfach	feerfach
one sort	einerlei	inerlye
two sorts	zweierlei	tsvierlye
three sorts	dreierlei	drierlye
four sorts	viererlei	feererlye
ten sorts	zehnerlei	tsanerlye

PRONOUNS.

I	ich	mine	mein
thou	Du	thine	Dein
he	er	his	ſein
she	ſie	her	ihr
we	wir	ours	unſer
you	Ihr	yours	Euer
they	ſie	theirs	ihr
this	dieſer	who, which	welcher
that	jener	who	wer
such	ſolcher	each, every one	jeder
somebody	jemand	nobody	niemand

The polite form of address in German is to use the pronoun Sie, instead of Du, in the second person singular. In that sense Sie is written with a capital letter.

THE VERB.

Before studying the regular verbs the student must learn by heart the auxiliary verbs, whose conjugations are as follows:

AUXILIARY VERBS.

Haben — to have.

INFINITIVE.

Present. haben, to have
Perfect. gehabt haben, to have had.
Future. haben werden, to be about to have.
Participles: *Present.* habend, having.
Perfect. gehabt, had.

INDICATIVE.		SUBJUNCTIVE.	
Present.			
ich habe,	I have	ich habe,	I may have
Du haſt,	thou hast	Du habeſt,	thou mayst have
er hat,	he has	er habe,	he may have
wir haben,	we have	wir haben,	we may have
Ihr habt,	you have	Ihr habet,	you may have
ſie haben,	they have	ſie haben,	they may have
Imperfect.			
ich hatte,	I had	ich hätte,	I might have
Du hatteſt,	thou hadst	Du hätteſt,	thou mightest have
er hatte,	he had	er hätte,	he might have
wir hatten,	we had	wir hätten,	we might have
Ihr hattet,	you had	Ihr hättet,	you might have
ſie hatten,	they had	ſie hätten,	they might have

Perfect.	
I have had.	I may have had.
ich habe gehabt	ich habe gehabt
Du haſt gehabt	Du habeſt gehabt
er hat gehabt	er habe gehabt
wir haben gehabt	wir haben gehabt
Ihr habt gehabt	Ihr habet gehabt
ſie haben gehabt	ſie haben gehabt
Pluperfect.	
I had had.	I might have had.
ich hatte gehabt	ich hätte gehabt
Du hatteſt gehabt	Du hätteſt gehabt
er hatte gehabt	er hätte gehabt
wir hatten gehabt	wir hätten gehabt
Ihr hattet gehabt	Ihr hättet gehabt
ſie hatten gehabt	ſie hätten gehabt
First Future.	
I shall have.	If I shall have.
ich werde haben	ich werde haben
Du wirſt haben	Du werdeſt haben
er wird haben	er werde haben
wir werden haben	wir werden haben
Ihr werdet haben	Ihr werdet haben
ſie werden haben	ſie werden haben

INDICATIVE.	SUBJUNCTIVE.
Second Future.	
I shall have had.	If I shall have had.
ich werde gehabt haben	ich werde gehabt haben
Du wirſt gehabt haben	Du werdeſt gehabt haben
er wird gehabt haben	er werde gehabt haben
wir werden gehabt haben	wir werden gehabt haben
Ihr werdet gehabt haben	Ihr werdet gehabt haben
ſie werden gehabt haben	ſie werden gehabt haben
FIRST CONDITIONAL.	SECOND CONDITIONAL.
I should have.	I should have had.
ich würde haben	ich würde gehabt haben
Du würdeſt haben	Du würdeſt gehabt haben
er würde haben	er würde gehabt haben
wir würden haben	wir würden gehabt haben
Ihr würdet haben	Ihr würdet gehabt haben
ſie würden haben	ſie würden gehabt haben

IMPERATIVE.

habe,	have	haben wir,	let us have
habe er,	let him have	habt (Ihr),	have ye
		haben ſie,	let them have

Sein — to be.

INFINITIVE.

Present. ſein, to be.
Perfect. geweſen ſein, to have been.
Future. ſein werden, to be about to be.
Participles: *Present.* ſeiend, being.
Perfect. geweſen, been.

INDICATIVE.		SUBJUNCTIVE.	
Present.			
ich bin,	I am	ich ſei	I may be
Du biſt,	thou art	Du ſeiſt,	thou mayest be
er iſt,	he is	er ſei,	he is
wir ſind,	we are	wir ſeien,	we may be
Ihr ſeid,	you are	Ihr ſeiet,	you may be
ſie ſind,	they are	ſie ſeien,	they may be
Imperfect.			
ich war,	I was	ich wäre,	I might be
Du warſt,	thou wert	Du wäreſt,	thou mightest be
er war,	he was	er wäre,	he might be
wir waren,	we were	wir wären,	we might be
Ihr waret,	you were	Ihr wäret,	you might be
ſie waren,	they were	ſie wären,	they might be

Perfect.	
I have been.	I may have been.
ich bin geweſen	ich ſei geweſen
Du biſt geweſen	Du ſeiſt geweſen
er iſt geweſen	er ſei geweſen
wir ſind geweſen	wir ſeien geweſen
Ihr ſeid geweſen	Ihr ſeiet geweſen
ſie ſind geweſen	ſie ſeien geweſen
Pluperfect.	
I had been.	I might have been.
ich war geweſen	ich wäre geweſen
Du warſt geweſen	Du wäreſt geweſen
er war geweſen	er wäre geweſen
wir waren geweſen	wir wären geweſen
Ihr waret geweſen	Ihr wäret geweſen
ſie waren geweſen	ſie wären geweſen
First Future.	
I shall be.	If I shall be.
ich werde ſein	ich werde ſein
Du wirſt ſein	Du werdeſt ſein
er wird ſein	er werde ſein
wir werden ſein	wir werden ſein
Ihr werdet ſein	Ihr werdet ſein
ſie werden ſein	ſie werden ſein

Second Future.

I shall have been.	If I shall have been.
ich werde geweſen ſein	ich werde geweſen ſein
Du wirſt geweſen ſein	Du werdeſt geweſen ſein
er wird geweſen ſein	er werde geweſen ſein
wir werden geweſen ſein	wir werden geweſen ſein
Ihr werdet geweſen ſein	Ihr werdet geweſen ſein
ſie werden geweſen ſein	ſie werden geweſen ſein

FIRST CONDITIONAL. SECOND CONDITIONAL.

I should be.	I should have been.
ich würde ſein	ich würde geweſen ſein
Du würdeſt ſein	Du würdeſt geweſen ſein
er würde ſein	er würde geweſen ſein
wir würden ſein	wir würden geweſen ſein
Ihr würdet ſein	Ihr würdet geweſen ſein
ſie würden ſein	ſie würden geweſen ſein

IMPERATIVE.

ſei	be	ſeien wir	let us be
ſei er	let him be.	ſeid Ihr	be ye
		ſeien ſie	let them be

Werden—to become.

INFINITIVE.

Present. werden, to become.
Perfect. geworden, geworden ſein, to have become.
Future. werden werden, to be about to become.
Participles: Present. werdend, becoming.
Perfect. geworden, become.

INDICATIVE. SUBJUNCTIVE.

Present.

ich werde	I become	ich werde	I may become
Du wirſt	thou becomest	Du werdeſt	thou mayest become
er wird	he becomes	er werde	he may become
wir werden	we become	wir werden	we may become
Ihr werdet	you become	Ihr werdet	you may become
ſie werden	they become	ſie werden	they may become

Imperfect.

ich wurde	I became	ich würde	I might become
Du wurdeſt	thou becamest	Du würdeſt	thou mightest become
er wurde	he became	er würde	he might become
wir wurden	we became	wir würden	we might become
Ihr wurdet	you became	Ihr würdet	you might become
ſie wurden	they became	ſie würden	they might become

Perfect.

I have become.	I may have become.
ich bin geworden	ich ſei geworden
Du biſt geworden	Du ſeiſt geworden
er iſt geworden	er ſei geworden
wir ſind geworden	wir ſeien geworden
Ihr ſeid geworden	Ihr ſeiet geworden
ſie ſind geworden	ſie ſeien geworden

Pluperfect.

I had become.	I might have become.
ich war geworden	ich wäre geworden
Du warſt geworden	Du wäreſt geworden
er war geworden	er wäre geworden
wir waren geworden	wir wären geworden
Ihr waret geworden	Ihr wäret geworden
ſie waren geworden	ſie wären geworden

First Future.

I shall become.	If I shall become.
ich werde werden	ich werde werden
Du wirſt werden	Du werdeſt werden
er wird werden	er werde werden
wir werden werden	wir werden werden
Ihr werdet werden	Ihr werdet werden
ſie werden werden	ſie werden werden

Second Future.

I shall have become.	If I shall have become.
ich werde geworden ſein	ich werde geworden ſein
Du wirſt geworden ſein	Du werdeſt geworden ſein
er wird geworden ſein	er werde geworden ſein
wir werden geworden ſein	wir werden geworden ſein
Ihr werdet geworden ſein	Ihr werdet geworden ſein
ſie werden geworden ſein	ſie werden geworden ſein

FIRST CONDITIONAL. SECOND CONDITIONAL.

I should become.	I should have become.
ich würde werden	ich würde geworden ſein
Du würdeſt werden	Du würdeſt geworden ſein
er würde werden	er würde geworden ſein
wir würden werden	wir würden geworden ſein
Ihr würdet werden	Ihr würdet geworden ſein
ſie würden werden	ſie würden geworden ſein

IMPERATIVE.

werde (Du)	become thou	werden wir	let us become
werde er	let him become	werdet Ihr	become ye
		werden ſie	let them become

Mögen—to may, to like.

INDICATIVE. SUBJUNCTIVE.

Present.

I may.	I may.
ich mag	ich möge
Du magſt	Du mögeſt
er mag	er möge
wir mögen	wir mögen
Ihr mögt	Ihr möget
ſie mögen	ſie mögen
Imperfect. ich mochte	ich möchte
Perfect. ich habe gemocht	ich habe gemocht
Pluperfect. ich hatte gemocht	ich hätte gemocht
1st Future. ich werde mögen	ich werde mögen
2d Future. ich werde gemocht haben	ich werde gemocht haben

First Conditional. ich würde mögen.
Second Conditional. ich würde gemocht haben.

Wollen—to be willing.

INDICATIVE. SUBJUNCTIVE.

Present.

I am willing.	I may be willing.
ich will	ich wolle
Du willſt	Du wolleſt
er will	er wolle
wir wollen	wir wollen
Ihr wollet	Ihr wollet
ſie wollen	ſie wollen
Imperfect. ich wollte	ich wollte
Perfect. ich habe gewollt	ich habe gewollt
Pluperfect. ich hatte gewollt	ich hätte gewollt
1st Future. ich werde wollen	ich werde wollen
2d Future. ich werde gewollt haben	ich werde gewollt haben

First Conditional. ich würde wollen.
Second Conditional. ich würde gewollt haben.

Sollen—to be obliged: I shall, I ought.

INDICATIVE. SUBJUNCTIVE.

Present.

I shall.	I shall.
ich ſoll	ich ſolle
Du ſollſt	Du ſolleſt

	er ſoll	er ſolle
	wir ſollen	wir ſollen
	Ihr ſollet	Ihr ſollet
	ſie ſollen	ſie ſollen
Imperfect.	ich ſollte	ich ſollte
Perfect.	ich habe geſollt	ich habe geſollt
Pluperfect.	ich hatte geſollt	ich hätte geſollt
1st Future.	ich werde ſollen	ich werde ſollen
2d Future.	ich werde geſollt haben	ich werde geſollt haben

First Conditional. ich würde ſollen.
Second Conditional. ich würde geſollt haben.

Können—to be able.

INDICATIVE.	SUBJUNCTIVE.
Present.	
I am able, I can.	I may be able.
ich kann	ich könne
Du kannſt	Du könneſt
er kann	er könne
wir können	wir können
Ihr könnet	Ihr könnet
ſie können	ſie können
Imperfect. ich konnte	ich könnte
Perfect. ich habe gekonnt	ich habe gekonnt
Pluperfect. ich hatte gekonnt	ich hätte gekonnt
1st Future. ich werde können	ich werde können
2d Future. ich werde gekonnt haben	ich werde gekonnt haben

First Conditional. ich würde können.
Second Conditional. ich würde gekonnt haben.

Dürfen—to be allowed, to dare.

INDICATIVE.	SUBJUNCTIVE.
Present.	
I am allowed.	I may be allowed.
ich darf	ich dürfe
Du darfſt	Du dürfeſt
er darf	er dürfe
wir dürfen	wir dürfen
Ihr dürfet	Ihr dürfet
ſie dürfen	ſie dürfen
Imperfect. ich durfte	ich dürfte
Perfect. ich habe gedurft	ich habe gedurft
Pluperfect. ich hatte gedurft	ich hätte gedurft
1st Future. ich werde dürfen	ich werde dürfen
2d Future. ich werde gedurft haben	ich werde gedurft haben

First Conditional. ich würde dürfen.
Second Conditional. ich würde gedurft haben.

Müſſen—to be obliged.

INDICATIVE.	SUBJUNCTIVE.
Present.	
I am obliged, I must.	I may be obliged.
ich muß	ich müſſe
Du mußt	Du müſſeſt
er muß	er müſſe
wir müſſen	wir müſſen
Ihr müßt	Ihr müſſet
ſie müſſen	ſie müſſen
Imperfect. ich mußte	ich müßte
Perfect. ich habe gemußt	ich habe gemußt
Pluperfect. ich hatte gemußt	ich hätte gemußt
1st Future. ich werde müſſen	ich werde müſſen
2d Future. ich werde gemußt haben	ich werde gemußt haben

First Conditional. ich würde müſſen.
Second Conditional. ich würde gemußt haben.

Laſſen—to let.

INDICATIVE.	SUBJUNCTIVE.
Present.	
I let.	I may be let.
ich laſſe	ich laſſe
Du laſſeſt	Du laſſeſt
er läßt	er läßt
wir laſſen	wir laſſen
Ihr laſſet	Ihr laſſet
ſie laſſen	ſie laſſen
Imperfect. ich ließ	ich ließe
Perfect. ich habe gelaſſen	ich habe gelaſſen
Pluperfect. ich hatte gelaſſen	ich hätte gelaſſen
1st Future. ich werde laſſen	ich werde laſſen
2d Future. ich werde gelaſſen haben	ich werde gelaſſen haben

First Conditional. ich würde laſſen.
Second Conditional. ich würde gelaſſen haben.

IMPERATIVE.

laß Du	laſſen wir
laß er	laſſet Ihr
	laſſen ſie

THE REGULAR VERB.

The rule for the formation of the regular verb is very simple. It runs: The present tense is formed by dropping the n of the infinitive; the imperfect by dropping the final e of the present and adding te; the past participle by dropping the final e of the imperfect and prefixing ge. For example: Infinitive, leben, to live; present, ich lebe, I live; imperfect, ich lebte, I lived; past participle, gelebt, lived.

Active Voice.

Leben—to live.

INFINITIVE.

Present. leben, to live.
Perfect. gelebt haben, to have lived.
Future. leben werden, to be about to live.
Participles: Present. lebend, living.
Perfect. gelebt, lived.

INDICATIVE.		SUBJUNCTIVE.	
Present.			
ich lebe	I live	ich lebe	I may live
Du lebſt	thou livest	Du lebeſt	thou mayest live
er lebt	he lives	er lebe	he may live
wir leben	we live	wir leben	we may live
Ihr lebt	you live	Ihr lebet	you may live
ſie leben	they live	ſie leben	they may live
Imperfect.			
ich lebte	I lived	ich lebte	I might live
Du lebteſt	thou livedst	Du lebteſt	thou mightest live
er lebte	he lived	er lebte	he might live
wir lebten	we lived	wir lebten	we might live
Ihr lebtet	you lived	Ihr lebtet	you might live
ſie lebten	they lived	ſie lebten	they might live
Perfect.			
I have lived.		I may have lived.	
ich habe gelebt		ich habe gelebt	
Du haſt gelebt		Du habeſt gelebt	
er hat gelebt		er habe gelebt	
wir haben gelebt		wir haben gelebt	
Ihr habt gelebt		Ihr habet gelebt	
ſie haben gelebt		ſie haben gelebt	
Pluperfect.			
I had lived.		I might have lived.	
ich hatte gelebt		ich hätte gelebt	
Du hatteſt gelebt		Du hätteſt gelebt	

er hatte gelebt	er hätte gelebt
wir hatten gelebt	wir hätten gelebt
Ihr hattet gelebt	Ihr hättet gelebt
sie hatten gelebt	sie hätten gelebt

First Future.

I shall live.	If I shall live.
ich werde leben	ich werde leben
Du wirst leben	Du werdest leben
er wird leben	er werde leben
wir werden leben	wir werden leben
Ihr werdet leben	Ihr werdet leben
sie werden leben	sie werden leben

Second Future.

I shall have lived.	If I shall have lived.
ich werde gelebt haben	ich werde gelebt haben
Du wirst gelebt haben	Du werdest gelebt haben
er wird gelebt haben	er werde gelebt haben
wir werden gelebt haben	wir werden gelebt haben
Ihr werdet gelebt haben	Ihr werdet gelebt haben
sie werden gelebt haben	sie werden gelebt haben

FIRST CONDITIONAL.

I should live.	SECOND CONDITIONAL. I should have lived.
ich würde leben	ich würde gelebt haben
Du würdest leben	Du würdest gelebt haben
er würde leben	er würde gelebt haben
wir würden leben	wir würden gelebt haben
Ihr würdet leben	Ihr würdet gelebt haben
sie würden leben	sie würden gelebt haben

IMPERATIVE.

lebe (Du)	live (thou)	leben wir	let us live
lebe er	let him live	lebet (Ihr)	live (ye)
		leben sie	let them live

VOCABULARY OF VERBS.

To eat	essen	essen
to drink	trinken	trinken
to dream	träumen	troymen
to wash	waschen	vashen
to comb	kämmen	kemmen
to go	gehen	gayen
to speak	sprechen	shpre*ch*en
to laugh	lachen	la*ch*en
to think	denken	denken
to learn	lernen	lairnen
to bathe	baden	bahden
to break	brechen	bre*ch*en
to bite	beißen	bisen
to cost	kosten	custen
to hear	hören	hœren
to help	helfen	helfen
to give	geben	gayben
to make	machen	ma*ch*en
to do	thun	toon
to ride	reiten	riten
to say	sagen	sahgen
to send	senden	senden
to seek	suchen	soo*ch*en
to breakfast	frühstücken	freeshticken
to dine	speisen	shpeyzen
to sup	zu Abend essen	tsoo ahbend essen
to arrive	ankommen	ankummen
to depart	abreisen	abrizen
to meet	treffen	treffen
to be tired	müde sein	meeude seyn
to be sleepy	schläfrig sein	shlayfri*g* seyn
to excuse	entschuldigen	entshooldigen
to understand	verstehen	fairshtayen
to believe	glauben	glowben
to know	wissen	vissen
to write	schreiben	shriben
to read	lesen	layzen
to pronounce	aussprechen	owsshpre*ch*en
to translate	übersetzen.	eebersetsen
to recollect	sich erinnern	si*ch* erinnern
to forget	vergessen	fairgessen
to promise	versprechen	fairshpre*ch*en
to expect	erwarten	airvarten
to converse	unterhalten	oonterhalten
to express	ausdrücken	owsdricken
to explain	erklären	airklayren
to tell	sagen	saagen
to call	rufen	roofen
to weep	weinen	vinen
to recommend	empfehlen	empfaylen
to receive	empfangen	empfangen
to send	schicken	shicken
to buy	kaufen	kowfen
to pay	bezahlen	betsahlen
to order	bestellen	beshtellen
to furnish	liefern	leefern
to sell	verkaufen	fairkowfen
to reply	antworten	antvorten

ADVERBS.

Yes	ja / jawohl	yah / yahvole
indeed	in der That	in dair taht
truly	wahrlich	vaarli*ch*
certainly	gewiß	geviss
surely	sicherlich	si*ch*erli*ch*
only	nur	noor
some	etwas	etvas
nothing	nichts	ni*ch*ts
much	viel	feel
quite	gänzlich	gents
very	sehr	sare
so	so	so
thus	also	also
how	wie	vee
no	nein	nine
not	nicht	ni*ch*t
but	nur	noor
enough	genug	genoo*g*
scarcely	kaum	kowm
all	ganz	gants
almost	beinahe	bynahe
here	hier	heer
there	da	da
where	wo	vo
in	herein	herine
out	heraus	herows
then	denn	den
now	jetzt	yetst
soon	bald	bald
till	bis	bis
seldom	selten	selten
since	seit	site
ever	immer	immer
never	nie	nee
oft	oft	uft
already	schon	schone
to-day	heute	hoytay
yesterday	gestern	gestern
late	spät	shpate
why?	warum?	varoom?
because	weil	vile

ENGLISH.	GERMAN.	PRONUNCIATION.
if	wenn	ven
perhaps	vielleicht	feelly*cht*

PREPOSITIONS.

Above	über	eeuber
about	um	oom
after	nach	na*ch*
against	gegen	gaygen
before	vor	fore
of	von	fun
over	über	eeuber
since	ſeit	site
for	für	feeur
from	von	fun
in	in	in
near	nahe	nahay
under	unter	oonter
up	auf	owf
with	mit	mit

CONJUNCTIONS.

And	und	oont
but	aber	ahber
also	auch	ou*ch*
even	ſogar	sogar
or	oder	oder
nor	noch	nu*ch*
yet	doch	du*ch*
because	weil	vile
that	daß	das
therefore	daher	dahair

CONVERSATION IN GERMAN.

PHRASES OF AFFIRMATION.

ENGLISH.	GERMAN.	PRONUNCIATION.
It is true.	Es iſt wahr.	Es ist vahr.
It is so.	Es iſt ſo.	Es ist so.
I believe it.	Ich glaube es.	I*ch* glowbay es.
I think so.	Ich denke es.	I*ch* denkay es.
I say yes.	Ich ſage ja.	I*ch* sahgay yah.
I say it is.	Ich ſage es iſt.	I*ch* sahgay es ist.
I am certain.	Ich bin gewiß.	I*ch* bin gayviss.
I am certain of it.	Ich bin deſſen gewiß.	I*ch* bin dessen gayviss.
You are right.	Sie haben Recht.	See haaben re*ch*t.
You are quite right.	Sie haben ganz Recht.	See haaben gantz re*ch*t.
I know it.	Ich weiß es.	I*ch* vice es.
I know it well.	Ich weiß es genau.	I*ch* vice es genow.
I know him.	Ich kenne ihn.	I*ch* kenne een.
I know it positively.	Ich weiß es ſicher.	I*ch* vice es si*ch*er.
I promise it.	Ich verſpreche es.	I*ch* vershprec*h*ay es.
I promise it to you.	Ich verſpreche es Ihnen.	I*ch* vershprec*h*ay es eenen.
I give it.	Ich gebe es.	I*ch* gaybay es.
I give it to you.	Ich gebe es Ihnen.	I*ch* gaybay es eenen.
I will give it to you.	Ich will es Ihnen geben.	I*ch* vill es eenen gayben.
You are wrong.	Sie haben Unrecht.	See haaben oonre*ch*t.
He is wrong.	Er hat Unrecht.	Air hat oonre*ch*t.
I believe him.	Ich glaube ihm.	I*ch* glowbay eem.
Very well.	Sehr wohl. / Sehr gut.	Sare vole. / Sare goot.

PHRASES OF NEGATION.

ENGLISH.	GERMAN.	PRONUNCIATION.
No.	Nein.	Nine.
I say no.	Ich ſage nein.	I*ch* saagay nine.
I say it is not.	Ich ſage es iſt nicht.	I*ch* saagay es ist ni*ch*t.
It is not so.	Es iſt nicht ſo.	Es ist ni*ch*t so.
It is not true.	Es iſt nicht wahr.	Es ist ni*ch*t var.
I say nothing.	Ich ſage nichts.	I*ch* saagay ni*ch*ts.
He is not here.	Er iſt nicht hier.	Air ist ni*ch*t heer.
I have it not.	Ich habe es nicht.	I*ch* haabay es ni*ch*t.
He has it not.	Er hat es nicht.	Air hat es ni*ch*t.
We have it not.	Wir haben es nicht.	Veer haaben es ni*ch*t.
You have it not.	Ihr habt es nicht.	Eer haabt es ni*ch*t.
He said no.	Er ſagte nein.	Air saag*t*ay nine.
Has he said no?	Hat er nein geſagt?	Hat air nine gesaag*t*?
Has he said nothing?	Hat er nichts geſagt?	Hat air ni*ch*ts gesaag*t*?
I have not heard it.	Ich habe es nicht gehört.	I*ch* haabay es ni*ch*t gehœrt.
You are quite wrong.	Sie haben durchaus Unrecht.	See haaben doorc*h*ouse oonre*ch*t.

PHRASES OF INTERROGATION.

Who?	Wer?	Vair?
Who was it?	Wer war es?	Vair var es?
What is it?	Was iſt es?	Vas ist es?
Who is it?	Wer iſt es?	Vair ist es?
Did you say it?	Sagten Sie es?	Saag*t*en see es?
What are you doing?	Was thun Sie?	Vas toon see?
What is he doing?	Was thut er?	Vas toot air?
Tell me.	Sagen Sie mir.	Saagen see meer.
Will you tell me?	Wollen Sie mir ſagen?	Vollen see meer saagen?
How are you?	Wie geht's?	Vee gates?
How is he?	Wie geht's ihm?	Vee gates eem?
What for?	Wofür?	Vofeer?
Why?	Warum?	Varoom?
Why do you ask?	Warum fragten Sie?	Varoom fraagen see?
Why shall I go?	Warum ſoll ich gehen?	Varoom sull i*ch* gayen?
What do you say?	Was ſagen Sie?	Vas saagen see?
Do you hear?	Hören Sie?	Hœrdn see?
I don't speak to you.	Ich ſpreche mit Ihnen nicht.	I*ch* shprec*h*ay mit eenen ni*ch*t.
Do you understand?	Verſtehen Sie?	Fershtayen see?
Listen!	Hören Sie!	Hœren see!
Come here.	Kommen Sie hierher.	Kummen see heerhair.
What is that?	Was iſt das?	Vas ist das?
Answer.	Antworten Sie.	Antvorten see.
Why don't you answer?	Warum antworten Sie nicht?	Varoom antvorten see ni*ch*t?
What do you mean by that?	Was meinen Sie damit?	Vas minen see damit?
You speak German, I suppose?	Ich vermuthe Sie ſprechen Deutſch.	I*ch* fernootay see shprec*h*en doytsh.
Very little, sir.	Sehr wenig, mein Herr.	Sair vanig, mine hair.
Do you know Mr. H.?	Kennen Sie Herrn H.?	Kennen see hairn ha?
I know him by sight.	Ich kenne ihn von anſehen.	I*ch* kennay in fun ansane.
I know him by name.	Ich kenne ihn bei Namen.	Ich kennay een by nahmen.
I know him well.	Er iſt mir wohl bekannt.	Air ist meer vole baykant.
What do you call that?	Wie nennen Sie das?	Vee nennen see das?
What is that in German?	Wie heißt das auf Deutſch?	Vee histe das owf doytsh?
What does that mean?	Was heißt das?	Vas histe das?
Why do you speak?	Warum ſpregen Sie?	Varoom shprec*h*en see?
Why are you silent?	Warum ſchweigen Sie?	Varoom shvigen see?
Why did you go?	Warum gingen Sie?	Varoom gingen see?
Is it ready?	Iſt es fertig.	Ist es fairtig?
Have you heard?	Haben Sie gehört?	Haaben see gehœrt?
Do you hear?	Hören Sie?	Hœren see?

ENGLISH.	GERMAN.	PRONUNCIATION.
Where is she?	Wo iſt ſie?	Vo ist see?
Where are you?	Wo ſind Sie?	Vo sind see?
Where are you going?	Wo gehen Sie hin?	Vo gayen see hin?
Where do you come from?	Wo kommen Sie her?	Vo kummen see hair?
Where were you?	Wo waren Sie?	Vo varen see?
What?	Was?	Vas?
What is that?	Was iſt das?	Vas ist das?
What o'clock is it?	Wie viel Uhr iſt es?	Veefeel oor ist es?
What have you?	Was haben Sie?	Vas haaben see?
What do you say?	Was ſagen Sie?	Vas saagen see?
What do you want?	Was wollen Sie?	Vas vullen see?
What will you do?	Was wollen Sie thun?	Vas vullen see toon?

PHRASES OF COMMAND.

Come away!	Kommen Sie fort!	Kummen see fort!
Come here!	Kommen Sie hierher.	Kummen see heerhair!
Go there!	Gehen Sie dorthin!	Gayen see dort-hin!
Come back!	Kommen Sie zurück!	Kummen see tsoorick!
Go on!	Gehen Sie weiter!	Gayen see viter!
Sit down!	Setzen Sie ſich!	Setsen see si*ch*!
Stand still!	Stehen Sie ſtill!	Shtayen see shtill!
Wait!	Warten Sie!	Varten see!
Wait for me!	Warten Sie auf mich!	Varten see owf mi*ch*!
Wait a little!	Warten Sie ein wenig!	Varten see ine vayni*g*!
Make haste!	Machen Sie ſchnell!	Ma*ch*en see shnel!
Be quick!	Beeilen Sie ſich!	Bay-ilen see si*ch*!
Follow me!	Folgen Sie mir!	Fulgen see meer!
Tell him!	Sagen Sie ihm!	Saagen see eem!
Call him!	Rufen Sie ihn!	Roofen see een!
Speak!	Sprechen Sie!	Shpre*ch*en see!
Eat!	Eſſen Sie!	Essen see!
Drink!	Trinken Sie!	Trinken see!
Hear!	Hören Sie!	Hœren see!
Hear me!	Hören Sie mich!	Hœren see mi*ch*!
Look at me!	Sehen Sie mich an!	Sayen see mi*ch* an!
Begin!	Fangen Sie an!	Fangen see an!
Continue!	Fahren Sie fort!	Faaren see fort!
Stop!	Halt!	Halt!
Tell me!	Sagen Sie mir!	Saa*g*en see meer!
Tell it to him!	Sagen Sie es ihm!	Saagen see es eem!
Speak to him!	Sprechen Sie mit ihm!	Shpre*ch*en see mit eem!
Be quiet!	Seien Sie ruhig!	Syen see roo*ig*!
Go!	Gehen Sie!	Gayen see!
Go to him!	Gehen Sie zu ihm!	Gayen see tsoo eem!
Go to bed!	Gehen Sie zu Bette!	Gayen see tsoo bettay!
Fetch it!	Holen Sie es!	Holen see es!
Bring it!	Bringen Sie es!	Bringen see es!
Bring it to me!	Bringen Sie es mir!	Bringen see es meer!
Let it be!	Laſſen Sie es ſein!	Lassen see es sine!

EVERY-DAY UTTERANCES.

Tell me!	Sagen Sie mir.	Saagen see meer.
If you please.	Gütigſt—gefälligſt.	Geetig*s*t—gayfellig*s*t.
Have the goodness.	Haben Sie die Güte.	Haaben see dee geetay.
Yes, sir.	Ja, mein Herr.	Yah, mine hair.
Yes, madam.	Ja, Madam.	Yah, madam.
No, sir.	Nein, mein Herr.	Nine, mine hair.
No, madam.	Nein, Madam.	Nine, madam.
No, miss.	Nein, mein Fräulein.	Nine, mine froyline.
Do you speak German or French?	Sprechen Sie Deutſch oder Franzöſiſch?	Shpre*ch*en see doytsh oder frantsœsish?
I do not speak German.	Ich ſpreche nicht Deutſch.	I*ch* shpre*ch*e n i*c h* t doytsh.
I understand it, but do not speak it.	Ich verſtehe es, aber ich ſpreche es nicht.	I*ch* fershtayay es, aaber i*ch* shpre*ch*e es ni*ch*t.
I speak English.	Ich ſpreche Engliſch.	I*ch* shpre*ch*e english.
I speak French a little.	Ich ſpreche ein wenig Franzöſiſch.	I*ch* shpre*ch*e ine vayni*g* frantsœsish.

ENGLISH.	GERMAN.	PRONUNCIATION.
Do you understand?	Verſtehen Sie?	Fershtayen see?
Can you understand?	Können Sie verſtehen?	Kœnnen see ferstayen!
Speak slower.	Sprechen Sie langſamer.	Shpre*ch*en see langsamer.
You speak too fast.	Sie ſprechen zu ſchnell.	See shpre*ch*en tsoo shnell.
Give me some bread.	Geben Sie mir Brod.	Gayben see meer brote.
Give me something to eat.	Geben Sie mir Etwas zu eſſen.	Gayben see meer etvas tsoo essen.
Something to drink.	Etwas zu trinken.	Etvas tsoo trinken.
Bring me some coffee.	Bringen Sie mir Kaffee.	Bringen see meer kaaffay.
I thank you.	Ich danke Ihnen.	I*ch* daankay eenen.
Good morning.	Guten Morgen.	Gooten morgen.
Good day.	Guten Tag.	Gooten taa*g*.
How do you do?	Wie geht's?	Vee gates?
How are you?	Wie befinden Sie ſich?	Vee bayfinden see si*ch*?
Very well.	Sehr wohl.	Sair vole.
I am very well.	Ich befinde mich ſehr wohl.	I*ch* bayfinday mi*ch* sair vole.
Pretty well.	Ziemlich wohl.	Tseemli*ch* vole.
Tolerably.	So ziemlich.	So tseemli*ch*.
How is your father?	Wie befindet ſich Ihr Herr Vater?	Vee bayfindet si*ch* eer hair faater?
How is your mother?	Wie befindet ſich Ihre Frau Mutter?	Vee bayfindet si*ch* eeray frow mootter?
I am not well.	Ich bin nicht wohl.	I*ch* bin ni*ch*t vole.
I am unwell.	Ich bin unwohl.	I*ch* bin oonvole.
She is ill.	Sie iſt krank.	See ist krank.
He is very ill.	Er iſt ſehr krank.	Air ist sair krank.
She has a cold.	Sie hat ſich erkältet.	See hat si*ch* airkeltet.
I have a toothache.	Ich habe Zahnweh.	I*ch* haabay tsahnvay.
I must go.	Ich muß gehen.	I*ch* mooss gayen.
It is time to go.	Es iſt Zeit zu gehen.	Es ist tsite tsoo gayen.
Farewell.	Leben Sie wohl.	Layben see vole.
Good-by.	Adieu.	Adyœ.
I wish you a good morning.	Ich wünſche Ihnen einen guten Morgen.	I*ch* vinshay eenen inen gooten morgen.
Good evening.	Guten Abend.	Gooten ahbend.
Good night.	Gute Nacht.	Gootay na*ch*t.
I wish you good night.	Ich wünſche Ihnen gute Nacht.	I*ch* vinshay eenen gootay na*ch*t.
My compliments at home.	Meine Empfehlungen den Ihrigen.	Minay empfayloongen den eeri*g*en.

A MORNING CALL.

There is a knock.	Es klopft.	Es klupft.
It is Mr. A.	Es iſt Herr A.	Es ist hair ah.
It is Mrs. B.	Es iſt Frau B.	Es ist frow bay.
I am glad to see you.	Ich freue mich Sie zu ſehen.	I*ch* froyay mi*ch* see tsoo sayen.
Pray be seated.	Bitte ſetzen Sie ſich.	Bittay setsen see si*ch*.
What news is there?	Was gibt's Neues?	Vas geepts noyes?
Good news.	Gute Nachrichten.	Gootay na*ch*ri*ch*ten.
Do you believe it?	Glauben Sie es?	Glowben see es?
I don't believe a word of it.	Ich glaube kein Wort davon.	I*ch* glowbay kine vort daafun.
I think so.	Ich denke (glaube) ſo.	I*ch* denkay (glowbay) so.
I think not.	Ich denke nicht.	I*ch* denkay ni*ch*t.
Who told you?	Wer hat es Ihnen geſagt?	Vair hat es eenen gesaa*g*t?
It is true.	Es iſt wahr.	Es ist var.
I doubt it.	Ich bezweifle es.	I*ch* baytsviflay es.
Have you heard from home?	Haben Sie von Hauſe gehört?	Haaben see fun howsay gayhœrt?
The postman brought me a letter to-day.	Der Briefträger brachte mir heute einen Brief.	Dair b r e e f t r a y g e r bra*ch*tay meer hoytay inen breef.
Sad news.	Schlechte Nachrichten.	Shle*ch*tay na*ch*ri*ch*ten.

ENGLISH.	GERMAN.	PRONUNCIATION.
Will you dine with us?	Wollen Sie mit uns speisen?	Vullen see mit oons shpisen?
No, thank you.	Nein, ich danke Ihnen.	Nine, *ich* daanke eenen.
I cannot stay.	Ich kann nicht bleiben.	I*ch* kann ni*ch*t blyben.
You are in a great hurry.	Sie sind in großer Eile.	See sind in grosser ilay.
I have a great deal to do.	Ich habe viel zu thun.	I*ch* haabay feel tsoo toon.

PLEASURE AND REGRET.

What!	Was!	Vas!
Is it possible!	Ist es möglich!	Ist es mœgli*ch!*
Can it be!	Kann es sein!	Kan es sine!
How can it be possible!	Wie kann es möglich sein!	Vee kan es mœgli*ch* sine!
Who would have believed it!	Wer würde das geglaubt haben!	Vair veerday das geglowpt haaben!
Indeed!	Wirklich!	Veerkli*ch!*
It is impossible!	Es ist unmöglich!	Es ist oonmœgli*ch!*
That cannot be!	Es kann nicht sein!	Es kan ni*ch*t sine!
I am astonished at it!	Ich wundere mich darüber!	I*ch* voonderay mi*ch* daareeber.
You surprise me!	Sie überraschen mich!	See eeberrashen mi*ch*.
It it incredible!	Es ist unglaublich!	Es ist oonglowbli*ch!*
I am very sorry.	Es thut mir sehr leid.	Es toot meer sair lite.
What a pity!	Wie schade!	Vee shahday!
It is a great pity.	Es ist sehr schade.	Es ist sair shahday.
It is a sad thing.	Es ist eine traurige Sache.	Es ist inay trowrigay sa*ch*ay.
It is a great misfortune.	Es ist ein großes Unglück!	Es ist ine grosses oonglick.
I am glad of it.	Ich freue mich darüber.	I*ch* froyay mi*ch* dareeber.
I am glad.	Es ist mir lieb.	Es ist meer leeb.
It gives me pleasure.	Es macht mir Vergnügen.	Es ma*ch*t meer fergneegen.
It gives me great joy.	Es macht mir große Freude.	Es ma*ch*t meer grossay froyday.
I am happy.	Ich bin glücklich.	I*ch* bin gleekli*ch*.
How happy I am!	Wie glücklich ich bin!	Vee gleekli*ch* i*ch* bin!
I wish you joy.	Ich wünsche Ihnen Glück.	I*ch* vinshay eenen glick.
I congratulate you.	Ich gratulire Ihnen.	I*ch* gratooleeray eenen.

ANGER AND BLAME.

I am angry.	Ich bin ärgerlich.	I*ch* bin air*g*erli*ch*.
He is angry.	Er ist ärgerlich.	Air ist airgerli*ch*.
Don't be angry.	Seien Sie nicht ärgerlich.	Syen see ni*ch*t airgerli*ch*.
You are wrong.	Sie haben Unrecht.	See haaben oonrec*h*t.
You are right.	Sie haben Recht.	See haaben rec*h*t.
Why don't you do it?	Warum thun Sie es nicht?	Varoom toon see es ni*ch*t?
Be quiet!	Seien Sie ruhig!	Syen see roo*ig!*
What a shame!	Welche Schande!	Vel*ch*ay shanday!
How could you do it?	Wie konnten Sie es thun?	Vee kunten see es toon?
I am ashamed of you!	Ich schäme mich Ihrer!	I*ch* shamay mi*ch* eerer!
You are very much to blame.	Sie sind sehr zu tadeln.	See sind sair tsoo taadeln.
Be patient!	Gedulden Sie Sich!	Gaydoolden see si*ch!*
I will improve.	Ich werde mich bessern.	I*ch* vairday mi*ch* bessern.

AGE.

How old are you?	Wie alt sind Sie?	Vee alt sind see?
I am twenty years old.	Ich bin zwanzig Jahre alt.	I*ch* bin tsvaantsi*g* yahray alt.
I shall soon be thirty.	Ich werde bald dreißig sein.	I*ch* vairday bald drysi*g* sine.
He looks older.	Er sieht älter aus.	Air seet elter owse.
She is younger.	Sie ist jünger.	See ist yinger.
She cannot be so young.	Sie kann nicht so jung sein.	See kann ni*ch*t so yoong sine.
He must be older.	Er muß älter sein.	Air moos elter sine.
I did not think you were so old.	Ich glaubte nicht daß Sie so alt seien.	I*ch* glowptay ni*ch*t das see so alt syen.
He is at least sixty.	Er ist wenigstens sechszig.	Air ist vani*g*stens se*ch*tsig.
How old is your father?	Wie alt ist Ihr Vater?	Vee alt ist eer fahter?
He is nearly eighty.	Er ist beinahe achtzig.	Air ist bynahay a*ch*tsi*g*.
Is he so old?	Ist er so alt?	Ist air so alt?
A great age.	Ein hohes Alter.	Ine hohes alter.
He begins to grow old.	Er fängt an alt zu werden.	Air fengt an alt tsoo vairden.
How old is your sister?	Wie alt ist Ihre Schwester?	Vee alt ist eeray shvesster?
She is fifteen.	Sie ist fünfzehn.	See ist finftsain.

A MORNING CHAT.

An early morning.	Ein früher Morgen.	Ine freer morgen.
It is a fine morning.	Es ist ein schöner Morgen.	Es ist ine shœner morgen.
What o'clock is it?	Was ist die Uhr?	Vas ist dee oor?
It is nearly eight.	Es ist beinahe acht Uhr.	Es ist bynahay a*ch*t oor.
Light the fire.	Zünden Sie das Feuer an.	Tsinden see das foyer an.
I am going to get up.	Ich will aufstehen.	I*ch* vill owfshtayen.
Get me some hot water.	Bringen Sie mir etwas heißes Wasser.	Bringen see meer etvas hises vasser.
Some dinking-water.	Etwas Trinkwasser.	Etvas trinkvasser.
Make haste.	Machen Sie schnell.	Ma*ch*en see shnell.
There is no towel.	Es ist kein Handtuch da.	Es ist kine haandtoo*ch* dah.
Bring me some soap.	Bringen Sie mir Seife.	Bringen see meer sifay.
I want to wash myself.	Ich wünsche mich zu waschen.	I*ch* vinshay mi*ch* tsoo vashen.
How have you slept?	Wie haben Sie geschlafen?	Vee haaben see geshlaafen?
Did you sleep well?	Haben Sie gut geschlafen?	Haaben see goot geshlaafen?
Very well, thank you.	Sehr gut, ich danke Ihren.	Sair goot, i*ch* dankay eenen.
Not very well.	Nicht sehr gut.	Ni*ch*t sair goot.
I could not sleep.	Ich konnte nicht schlafen.	I*ch* kuntay ni*ch*t shlaafen.
I was so tired from travelling.	Ich war so müde von der Reise.	I*ch* var so meeday fun dair risay.

AT THE BREAKFAST TABLE.

Breakfast is ready.	Das Frühstück ist fertig.	Das freeshtick ist fairti*g*.
Come to breakfast.	Kommen Sie zum Frühstück.	Kummen see tsoom freeshtick.
Let us breakfast.	Lassen Sie uns frühstücken.	Lassen see oons freeshticken.
Does the water boil?	Kocht das Wasser?	Ku*ch*t das vasser?
Is the tea made?	Ist der Thee fertig?	Ist dair tay fairti*g?*
Give me a cup of tea.	Geben Sie mir eine Tasse Thee.	Gayben see meer inay tassay tay.
A cup of coffee.	Eine Tasse Kaffee.	Inay tassay kaffay.
A roll.	Ein Milchbrod.	Ine mil*ch*brote.
Do you drink tea or coffee?	Trinken Sie Thee oder Kaffee?	Trinken see tay oder kaffay?

ENGLISH.	GERMAN.	PRONUNCIATION.
Will you take an egg?	Wollen Sie ein Ei eſſen?	Vullen see ine eye essen?
These eggs are hard.	Dieſe Eier ſind hart.	Deesay eyer sint hart.
Give me the salt.	Geben Sie mir das Salz.	Gayben see meer das salts.
Pass me the butter.	Reichen Sie mir die Butter.	Ry*ch*en see meer dee Bootter.
Bring some more butter.	Bringen Sie mir etwas mehr Butter.	Bringen see meer etvas mair bootter.
Give me a spoon.	Geben Sie mir einen Löffel.	Gayben see meer inen lœffel.
Is the coffee strong enough?	Iſt der Kaffee ſtark genug?	Ist dair kaffay shtaark gaynoo*g?*
We want more cups.	Wir brauchen mehr Taſſen.	Veer brow*ch*en mair tassen.
Take some more sugar.	Nehmen Sie noch etwas Zucker.	Naymen see nu*ch* etvas tsoocker.
Cold meat.	Kaltes Fleiſch.	Kaaltes flyshe.
The table-cloth.	Das Tiſchtuch.	Das tishtoo*ch*.
The sugar-basin.	Die Zuckerbüchſe.	Dee tsookerbiksay.
Chocolate.	Chokolade.	Chocolahday.
A knife.	Ein Meſſer.	Ine messer.
A fork.	Eine Gabel.	Inay gahbel.
The knife is blunt.	Das Meſſer iſt ſtumpf.	Das messer ist shtoompf.
We have done breakfast.	Wir ſind mit dem Frühſtück fertig.	Veer sind mit dame freeshtick fairti*g*.
You can take away the things.	Sie können die Sachen fortnehmen.	See kœnnen dee sa*ch*en fortnaymen.

DINNER.

Have you ordered dinner?	Haben Sie das Eſſen beſtellt?	Haaben see das essen baystellt?
I will order dinner.	Ich werde das Diner beſtellen.	I*ch* vairday das deenay bayshtellen.
Show me the bill of fare.	Zeigen Sie mir die Speiſekarte.	Tsigen see meer dee shpisaykartay.
Waiter.	Kellner.	Kelner.
What soup will you have?	Was für Suppe wünſchen Sie?	Vas feer sooppay vinshen see?
Rice-soup.	Reisſuppe.	Ricesooppay.
Have you any roast beef?	Haben Sie Rinderbraten?	Haaben see rinderbraaten?
We have very fine fish.	Wir haben ſehr guten Fiſch.	Veer haaben sair gooten fish.
Trout.	Forellen.	Forellen.
Fried pike.	Gebratene Hechte.	Gebraatenay he*ch*tay.
Roast mutton.	Hammelbraten.	Hammelbraaten.
What wine will you have?	Was für Wein wünſchen Sie?	Vas feer vine vinshen see?
Let us see.	Laſſen Sie ſehen.	Lassen see sayen.
Here is the wine list.	Hier iſt die Weinkarte.	Heer ist dee vinekartay.
What time will you dine?	Um welche Zeit wünſchen Sie zu ſpeiſen?	Oom vel*ch*ay tsite vinshen see tsoo shpisen?
We shall dine at six o'clock.	Wir werden um ſechs Uhr ſpeiſen.	Veer vairden oom sex oor shpisen.
Be punctual.	Seien Sie pünktlich.	Syen see pinktli*ch*.
Help yourself.	Bedienen Sie ſich.	Baydeenen see si*ch*.
It is excellent.	Es iſt vortrefflich.	Es ist foretrefflic*h*.
I like German cookery.	Die deutſche Küche gefällt mir.	Dee doytshay kee*ch*ay gefellt meer.
I do not like foreign cookery.	Die ausländiſche Küche ſchmeckt mir nicht.	Dee owslendishay kee*ch*ay shmeckt meer ni*ch*t.
Do you take pepper?	Nehmen Sie Pfeffer?	Naymen see pfeffer?
No, thank you.	Nein, ich danke.	Nine, i*ch* dankay.
Yes, if you please.	Ja, ich bitte.	Yah, i*ch* bittay.
Give me the mustard.	Geben Sie mir den Senf.	Gayben see meer dane senf.
Change the plates.	Wechſeln Sie die Teller.	Veckseln see dee teller.
I want a spoon.	Ich wünſche einen Löffel.	I*ch* vinshay inen lœffel.
Are you hungry?	Sind Sie hungrig?	Sind see hoongri*g?*
Not very.	Nicht ſehr.	Ni*ch*t sair.
I am hungry.	Ich bin hungrig.	I*ch* bin hoongri*g*.
You do not eat.	Sie eſſen nicht.	See essen ni*ch*t.
I am very thirsty.	I bin ſehr durſtig..	I*ch* bin sair doorsti*g*.
I am dying of thirst.	Ich ſterbe vor Durſt.	I*ch* stairbay for doorst.
Take a glass of wine.	Nehmen Sie ein Glas Wein.	Naymen see ine glaas vine.
Give me something to drink.	Geben Sie mir etwas zu trinken.	Gayben see meer etvas tsoo trinken.
I want some beer.	Ich wünſche Bier.	I*ch* vinshay beer.

TALK AT THE TEA TABLE.

Tea is quite ready.	Der Thee iſt ganz fertig.	Dair tay ist gants fairti*g*.
They are waiting for you.	Man wartet auf Sie.	Man vaartet auf see.
I am coming.	Ich komme.	I*ch* kummay.
Bring a saucer.	Bringen Sie eine Untertaſſe.	Bringen see inay oontertassay.
Pour out the tea.	Schenken Sie den Thee ein.	Shenken see dane tay ine.
The tea is very strong.	Der Thee iſt ſehr ſtark.	Dair tay ist sair shtark.
It is very weak.	Er iſt ſehr ſchwach.	Air ist sair schva*ch*.
A slice of bread and butter.	Ein Stückchen Butterbrod.	Ine shtick*ch*en booterbrote.
Hand the plate.	Geben Sie mir den Teller.	Gayben see meer dane teller.
Will you take some cake?	Wünſchen Sie Kuchen?	Vinshen see koo*ch*en?
A small piece.	Ein Stückchen.	Ine shtick*ch*en.
Make more toast.	Röſten Sie mehr Brod.	Rœsten see mair brode.
Make haste.	Machen Sie ſchnell.	Ma*ch*en see shnell.
This is good tea.	Dies iſt guter Thee.	Dees ist gooter tay.
The tea-tray.	Der Präſentirteller.	Dair praysenteerteller.
A set of tea-things.	Das Theeſervice.	Das taysairveece.
Have you finished?	Sind Sie fertig?	Sind see fairti*g?*
Take another cup.	Nehmen Sie noch eine Taſſe.	Naymen see nu*ch* inay tassay.
Brown bread.	Schwarzes Brod.	Shvaartses brote.
White bread.	Weißes Brod.	Vices brote.
Stale bread.	Altes Brod.	Altes brote.
New bread.	Friſches Brod.	Frishes brote.

BED TIME.

It is late.	Es iſt ſpät.	Es ist shpate.
What o'clock is it?	Was iſt die Uhr?	Vas ist dee oor?
It is still early.	Es iſt noch früh.	Es ist nu*ch* free.
Are you tired?	Sind Sie müde?	Sind see meeday?
Not at all.	Gar nicht.	Gar ni*ch*t.
Not much.	Nicht ſehr.	Ni*ch*t sair.
It is only ten.	Es iſt erſt zehn.	Es ist airst tsane.
It is time to go to bed.	Es iſt Zeit zu Bett zu gehen.	Es ist tsite tsoo bett tsoo gayen.
It is a fine evening.	Es iſt ein ſchöner Abend.	Es ist ine shœner ahbend.
It is moonlight.	Es iſt Mondſchein.	Es ist mohndshine.
Is my room ready?	Iſt mein Zimmer fertig?	Ist mine tsimmer fairti*g?*
Sheets.	Die Laken.	Dee laaken.
A blanket.	Eine wollene Bettdecke.	Inay vullenay bettdeckay.
Good-night.	Gute Nacht.	Gootay na*ch*t.
Are you sleepy?	Sind Sie ſchläfrig?	Sind see shlayfri*g?*

THE HOUR OF THE DAY.

ENGLISH.	GERMAN.	PRONUNCIATION.
What o'clock is it?	Was iſt die Uhr ?	Vas ist dee oor?
My watch has stopped.	Meine Uhr ſteht.	Minay oor shtate.
It does not go.	Sie geht nicht.	See gayt nicht.
I forgot to wind it up.	Ich vergaß ſie aufzuziehen.	Ich vairgaass see owftsootseen.
My watch is too fast.	Meine Uhr geht vor.	Minay oor gayt fore.
It is too slow.	Sie geht nach.	See gayt nach.
It is five minutes too slow.	Sie iſt fünf Minuten zu ſpät.	See ist finf minooten tsoo shpate.
It goes right.	Sie geht richtig.	See gayt richtig.
One o'clock.	Ein Uhr.	Ine oor.
Five minutes past two.	Fünf Minuten nach zwei.	Finf minooten nach tsvi.
A quarter past three.	Ein Viertel auf vier.	Ine feertel owf feer.
Half-past four.	Halb fünf.	Haalb finf.
A quarter to five.	Drei viertel auf fünf.	Dry feertel owf finf.
Just six o'clock.	Gerade ſechs Uhr.	Gayraaday sex oor.
Twenty minutes to seven.	Zwanzig Minuten vor ſieben.	Tsvaantsig minooten fore seeben.
It has just struck eight.	Es hat eben acht geſchlagen.	Es hat ayben acht geshlaagen.
Noon.	Mittag.	Mittaag.
Midnight.	Mitternacht.	Mitternacht.

THE PROMENADE.

Shall we take a walk?	Wollen wir einen Spaziergang machen ?	Vullen veer inen shpaatseergang machen?
Yes, let us walk.	Ja, wir wollen ausgehen.	Yah, veer vullen owsgayen.
Where shall we go?	Wo wollen wir hingehen ?	Vo vullen veer hingayen?
On the high road.	Auf die Chauſſee.	Owf dee shossay.
There is a good deal of dust.	Es iſt dort ſehr ſtaubig.	Es ist dort sair shtoubig.
Into the fields.	Auf die Felder.	Owf dee felder.
They are reaping.	Man erntet.	Man airntet.
They are making hay.	Es iſt Heuernte.	Es ist hoyairntay.
What a pleasant scent!	Was für ein angenehmer Geruch!	Vas feer ine angenaymer gayrooch!
Let us take a walk into the town.	Machen wir eine Promenade in die Stadt.	Machen veer inay prummenahday in dee shtadt.
What street is that?	Was iſt das für eine Straße ?	Vas ist das feer inay shtraassay?
Where does it lead to?	Wo führt ſie hin ?	Vo feert see hin?
Handsome shops.	Schöne Läden.	Shœnay laden.
Bad pavement.	Schlechtes Pflaſter.	Shlechtes pflaster.
Are these Prussian soldiers?	Sind dies preußiſche Soldaten ?	Sind dees proyssishay soldaaten?
Where is King street?	Wo iſt die Königsſtraße ?	Vo ist dee kœnigstraassay?
Straight before you.	Vor Ihnen.	Fore eenen.
To the left hand.	Linker Hand—links.	Linker hand—links.
To the right hand.	Rechter Hand—rechts.	Rechter hand—rechts.
Is the village far from here?	Iſt das Dorf weit von hier ?	Ist das dorf vite fun here?
About a mile.	Ungefähr eine Meile.	Oongayfare inay milay.
A good hour.	Eine gute Stunde.	Inay gootay shtoonday.
Hardly a mile.	Kaum eine Meile.	Kowm inay milay.
Half a mile.	Eine halbe Meile.	Inay halbay milay.

PERSONAL INQUIRIES.

Do you know Mr. F.?	Kennen Sie Herrn F. ?	Kennen see hairn F?
I do not know anybody of that name.	Ich kenne Niemand dieſes Namens.	Ich kennay neemaand deeses nahmens.
Does he live here?	Wohnt er hier ?	Vohnt air here?
He lives in this house.	Er wohnt in dieſem Hauſe.	Air vohnt in deesem howsay.
Where?	Wo ?	Vo?
On the first floor.	Im erſten Stock.	Im airsten shtuck.
I know him.	Ich kenne ihn.	Ich kennay een.
Intimately.	Genau.	Gaynow.
I am very intimate with him.	Ich bin mit ihm ſehr intim.	Ich bin mit eem sair inteem.
He is my friend.	Er iſt mein Freund.	Air ist mine froind.
I have known him a long time.	Ich habe ihn lange gekannt.	Ich haabay een laangay gekant.
Where does he live?	Wo wohnt er ?	Vo vohnt air?
He lives in Broad street, No. 3.	Er wohnt in der breiten Straße, Numero drei.	Air vohnt in dair bryten shtraassay noomero dry.
When is he at home?	Wann iſt er zu Hauſe ?	Van ist air tsoo howsay?
In the morning.	Des Morgens.	Des morgens.
In the evening.	Des Abends.	Des ahbends.
He lives close by.	Er wohnt nahe bei.	Air vohnt nahay by.
Is it far?	Iſt es weit ?	Ist es vite?
Can you direct me to his house?	Können Sie mir ſein Haus zeigen ?	Kœnnen see meer sine house tsigen?
I will show you where he lives.	Ich werde Ihnen zeigen wo er wohnt.	Ich vairday eenen tsigen vo air vohnt.
That is the market.	Das iſt der Markt.	Das ist dair markt.
This is the street.	Dies iſt die Straße.	Dees ist deeshtraassay.
The square.	Der Platz.	Dair plats.
This is his house.	Dies iſt ſein Haus.	Dees ist sine house.
Here he lives.	Hier wohnt er.	Heer vohnt air.

THE TALK OF TRAVEL.

Are you going to Germany?	Gehen Sie nach Deutſchland ?	Gayen see nach doytshland?
I intend to go to the Rhine.	Ich gedenke an den Rhein zu gehen.	Ich gaydenkay an den Rhine tsoo gayen.
When do you think of going?	Wann gedenken Sie zu reiſen ?	Van gedenken see tsoo risen?
How long shall you stay?	Wie lange werden Sie ſich aufhalten ?	Vee langay vairden see sich owfhalten?
About a month.	Ungefähr einen Monat.	Oongayfair inen mohnat.
I set out to-morrow.	Ich reiſe morgen ab.	Ich risay morgen ap.
Have you made all your preparations?	Haben Sie alle Ihre Vorkehrungen getroffen ?	Haaben see allay eeray forkayrungen getruffen?
Everything is ready.	Alles iſt fertig.	Alles ist fairtig.
I shall go by railway to Dover.	Ich werde mit der Eiſenbahn nach Dover fahren.	Ich vairday mit dair isenbahn nach Dover fahren.
The train starts in ten minutes.	Der Zug geht in zehn Minuten ab.	Dair tsoog gayt in tsane minooten ab.
I want a ticket for Cologne.	Ich wünſche ein Billet nach Köln.	Ich vinshay ine bilyet nach Kœln.
First-class.	Erſte Klaſſe.	Airstay klassay.
The express train.	Der Schnellzug.	Dair shneltsoog.
The ordinary train.	Der gewöhnliche Zug.	Dair gevœhnlichay tsoog.
Where is your baggage?	Wo iſt Ihr Gepäck ?	Vo ist eer gepeck?
Here it is.	Hier iſt es.	Heer ist es.
The train is just going to start.	Der Zug wird ſogleich abgehen.	Dair tsoog veert sogliche abgayen.
It does not go very fast.	Es geht nicht ſehr ſchnell.	Es gate nicht sair shnel.
Not so fast as in England.	Nicht ſo ſchnell als in England.	Nicht so shnel als in England.

ENGLISH.	GERMAN.	PRONUNCIATION.
Here is a station.	Hier iſt eine Station.	Heer is inay shtatsione.
Do we stop here?	Halten wir hier an?	Halten veer heer an?
They stop at every station.	Man hält auf jeder Station an.	Man helt owf yaydair shtatsione an.
It is a long journey.	Es iſt eine lange Reiſe.	Es ist inay langay risay.
Yes, from ten to twelve hours.	Ja, von zehn bis zwölf Stunden.	Yah, fun tsane bis tsvelf shtoonden.
Very pretty country.	Sehr ſchöne Gegend.	Sair shœnay gaygend.
Arrived at last.	Endlich angekommen.	Endlich angekummen.
The steamer.	Das Dampfboot.	Das dampfboat.
When do you start?	Wann gehen Sie ab?	Van gayen see ab?
With the tide.	Mit der Fluth.	Mit dair floot.
Let us go down into the cabin.	Laſſen Sie uns hinab in die Kajüte gehen.	Lassen see oons hinab in dee kahyeetay gayen.
The tide is strong.	Die Fluth iſt ſtark.	Dee floot ist shtark.
The sea is rough.	Die See iſt ſtürmiſch.	Dee say ist shteermish.
The wind is against us.	Der Wind iſt gegen uns.	Dair vind ist gaygen oons.
So much the worse.	Um ſo ſchlimmer.	Oom so shlimmer.
We shall have a long passage.	Wir werden eine lange Ueberfahrt haben.	Veer vairden inay langay eeberfahrt haaben.
I feel sea-sick.	Ich fühle mich ſeekrank.	Ich feelay mich saykrank.
The sea is getting calmer.	Das Meer wird ruhiger.	Das mair veert rooiger.
I see land.	Ich ſehe Land.	Ich sayay lant.
It is the harbor of Ostend.	Es iſt der Hafen von Oſtende.	Es ist dair haafen fun Ustenday.
We have arrived.	Wir ſind angekommen.	Veer sind angekummen.

DISCUSSING THE GERMAN LANGUAGE.

Can you read German?	Können Sie Deutſch leſen?	Kœnnen see doytsh laysen?
A little.	Ein wenig.	Ine vanig.
I read it very well, but I cannot speak it.	Ich leſe es ganz gut, aber ich kann es nicht ſprechen.	Ich laysay es gants goot, aber ich kann es nicht shprechen.
Do you speak German?	Sprechen Sie Deutſch?	Shprechen see doytsh?
I do not understand it.	Ich verſtehe es nicht.	Ich fershtayay es nicht.
People speak so fast.	Man ſpricht ſo ſchnell.	Man shpricht so shnel.
You have had but little practice.	Sie haben nur wenig Uebung gehabt.	See haaben noor vaynig eeboong gehaabt.
You have a good pronunciation.	Sie haben eine gute Ausſprache.	See haaben inay gootay owsshpraachay.
Your sister speaks it perfectly.	Ihre Schweſter ſpricht es geläufig.	Eeray shvester shpricht es geloyfig.
It is a difficult language.	Es iſt eine ſchwere Sprache.	Es ist inay shvayray shpraachay.
You will learn it soon.	Sie werden es bald lernen.	See vairden es bald lairnen.
Where do they speak the best German?	Wo ſpricht man das beſte Deutſch?	Vo shpricht man das bestay doytsh?
In the North of Germany.	In Norddeutſchland.	In norddoytshland.
I find the pronunciation easy.	Ich finde die Ausſprache leicht.	Ich finday dee owsshpraachay liecht.
It is very much like English.	Es iſt dem Engliſchen ſehr ähnlich.	Es ist daim englishen sair ainlich.
Yes, the German language is the mother of the English.	Ja, die deutſche Sprache iſt die Mutter der Engliſchen.	Yah, dee doytshay shpraachay ist dee mootter dair englishen.

ENGLISH.	GERMAN.	PRONUNCIATION.
It is the most useful and interesting language for an American to learn.	Es iſt die nützlichſte und intereſſanteſte Sprache die ein Amerikaner lernen kann.	Es ist dee nitslichstay oont interessantestay shpraachay dee ine Amayrikahner lairnen kann.

THE WEATHER AND THE SEASONS.

Spring has come.	Der Frühling iſt da.	Dair freeling ist dah.
Spring begins well.	Der Frühling fängt gut an.	Dair freeling fengt goot an.
It is rather mild.	Es iſt ziemlich gelinde.	Es ist tseemlich gelinday.
It is spring-weather.	Es iſt Frühlingswetter.	Es ist freelingsvetter.
The trees are beginning to bud.	Die Bäume fängen an auszuſchlagen.	Dee boymay fangen an owstsooshlaagen.
The season is very forward.	Die Jahreszeit iſt ſehr vorgerückt.	Dee yahrestsite ist sair forgayrickt.
It is so pleasant.	Es iſt ſo angenehm.	Es ist so angenaym.
The sun is so warm.	Die Sonne iſt ſo warm.	Dee sunnay ist so varm.
There are some flowers.	Es giebt einige Blumen.	Es geebt inigay bloomen.
Snowdrops.	Schneeglöckchen.	Shnayglœckchen.
Tulips.	Tulpen.	Toolpen.
Hyacinths.	Hyacinthen.	Heeahtsinten.
Gather some.	Pflücken Sie welche.	Pflicken see velchay.
As many as you please.	So viel Ihnen beliebt.	So feel eenen beleebt.
The season is very backward.	Die Jahreszeit iſt ſehr zurück.	Dee yahrestsite ist sair tsoorick.
Summer is coming.	Der Sommer kommt.	Dair summer kumt.
It is becoming warm.	Es wird warm.	Es veert varm.
It is too warm.	Es iſt zu warm.	Es ist tsoo varm.
It is almost hot.	Es iſt faſt heiß.	Es ist fast hice.
It is a splendid day.	Es iſt ein wunderſchöner Tag.	Es is ine voondershœner tag.
The heat is great.	Die Hitze iſt groß.	Dee hitsay ist gross.
The heat is unbearable.	Die Hitze iſt unerträglich.	Dee hitsay ist oonertrayglich.
It is very close.	Es iſt ſehr drückend.	Es ist saire drickend.
I think we shall have a storm.	Ich glaube wir werden einen Sturm haben.	Ich glowbay veer vairden inen shtoorm haaben.
The clouds are gathering.	Die Wolken ziehen ſich zuſammen.	Dee vulken tsee-en sich tsoosammen.
I hear thunder.	Ich höre Donner.	Ich hœray dunner.
It thunders fearfully.	Es donnert ſchrecklich.	Es dunnert shrecklich.
It lightens.	Es blitzt.	Es blitst.
How it rains!	Wie es regnet!	Vee es raygnet.
The sky begins to clear.	Der Himmel klärt ſich auf.	Dair himmel klairt sich owf.
The rain ceases.	Der Regen hört auf.	Dair raygen hœrt owf.
There is a rainbow.	Da iſt ein Regenbogen.	Da ist ine raygenbogen.
The sun breaks out.	Die Sonne bricht durch.	Dee sunnay bricht doorch.
Summer is over.	Der Sommer iſt vorüber.	Dair summer ist foreeber.
The heat is past.	Die Hitze iſt vorbei.	Dee hitsay is forbye.
The leaves are beginning to fall.	Die Blätter fangen an abzufallen.	Dee bletter fangen an abtsoofallen.
The days are still fine.	Die Tage ſind noch ſchön.	Dee tahgay sind nuch shœn.
The days are closing.	Die Tage nehmen ab.	Dee tahgay naymen ab.
Autumn is interesting on the Rhine.	Der Herbſt iſt intereſſant am Rhein.	Dair hairbst ist interessant am Rhine.
It is the time of the vintage.	Es iſt die Zeit der Weinleſe.	Es ist dee tsite dair vinelaysay.
How happy the people are.	Wie glücklich die Leute ſind.	Vee glicklich dee loytay sind.
We must soon begin fires.	Wir müſſen bald die Oefen heitzen.	Veer missen bald dee œfen hitesen.

ENGLISH.	GERMAN.	PRONUNCIATION.
We have had a fire already.	Wir haben ſchon ein Feuer gehabt.	Veer haaben shone ine foyer gehaabt.
It is soon dark.	Es iſt bald dunkel.	Es ist bald doonkel.
It is a fine night.	Es iſt eine ſchöne Nacht.	Es ist inay shœnay na*ch*t.
Is it moonlight?	Iſt es Mondſchein ?	Ist es mohntshine?
It is full moon.	Es iſt Vollmond.	Es ist fulmohnt.
New moon.	Neumond.	Noymohnt.
Do you think it will rain?	Glauben Sie daß es regnen wird ?	Glowben see das es ray*g*nen veert?
I am afraid so.	Ich befürchte es.	I*ch* befeer*ch*tay es.
It hails.	Es hagelt.	Es hahgelt.
It rains.	Es regnet.	Es ray*g*net.
It is very windy.	Es iſt ſehr windig.	Es ist sair vindi*g*.
It is winter.	Es iſt Winter.	Es ist vinter.
The days are so short.	Die Tage ſind ſo kurz.	Dee tahgay sind so koorts.
It is very cold.	Es iſt ſehr kalt.	Es ist sair kalt.
There is a cold wind.	Es geht ein kalter Wind.	Es gayt ine kalter vind.
It is bad weather.	Es iſt ſchlechtes Wetter.	Es ist shle*ch*tes vetter.
It is foggy.	Es iſt nebelig.	Es is naybeli*g*.
The sky is overcast.	Der Himmel iſt bedeckt.	Dair himmel ist bedeckt.
It will snow.	Es wird ſchneien.	Es vird shnyen.
It freezes very hard.	Es friert ſtark.	Es freert shtark.
Can you skate?	Können Sie Schlittſchuh laufen ?	Kœnnen see shlitshoo lowfen?
The ice does not bear.	Das Eis trägt nicht.	Das ice tray*g*t ni*ch*t.
The ice is thick enough.	Das Eis iſt dick genug.	Das ice ist dick genoo*g*.
It is healthy weather.	Es iſt geſundes Wetter.	Es ist gesoondes vetter.
It thaws.	Es thaut.	Es towt.
It is slippery.	Es iſt ſchlüpfrig.	Es ist shlipfri*g*.
The ice is thawing.	Das Eis geht auf.	Das ice gayt owf.
The streets are very wet and dirty.	Die Straßen ſind ſehr naß und ſchmutzig.	Dee shtraassen sind sair nass oont shmootsi*g*.
Christmas.	Weihnachten.	Vyna*ch*ten.
New Year.	Neujahr.	Noiyahr.
New Year's day.	Neujahrstag.	Noiyahrsta*g*.
A new year.	Ein neues Jahr.	Ine noyes yahr.

RELATING TO CORRESPONDENCE.

Ink.	Tinte.	Tintay.
Pens.	Federn.	Faydern.
Have you any envelopes?	Haben Sie Couverts ?	Haaben see coovairts?
Postage stamps.	Poſtmarken.	Postmarken.
I want a sheet of writing-paper.	Ich brauche einen Bogen Schreibpapier.	I*ch* brow*ch*ay inen bogen shribepapeer.
Blotting-paper.	Löſchpapier.	Lœshpahpeer.
I have a letter to write.	Ich habe einen Brief zu ſchreiben.	I*ch* haabay inen breef tsoo shryben.
A pen-knife.	Ein Federmeſſer.	Ine faydermesser.
Now I will write.	Jetzt will ich ſchreiben.	Yetst vill i*ch* shryben.
What is the day of the month?	Den wievielſten haben wir heute ?	Den veefeelsten haaben veer hoytay?
It is the sixteenth.	Es iſt der ſechszehnte.	Es ist dair sextsanetay.
Where is the post-office?	Wo iſt die Poſt ?	Vo ist dee pust?
Close by.	Nahe bei.	Nahay by.
Take care of the letter.	Nehmen Sie den Brief in Acht.	Naymen see den breef in a*ch*t.

FRENCH WITHOUT A MASTER.

A Simple System of Self-Instruction in the French Language.

A MATTER of vital importance to all is the study of the French language. Not to mention the richness of French literature and the vast pleasures which arise from an intelligent perusal of the pages of the great authors who have built it up, the practical advantages to be derived from a knowledge of "the language of diplomacy" are too patent to require explanation. No one can be a perfect master of the English language who does not possess a certain amount of familiarity with the French tongue, through which so many of our strongest expressions have been filtered after leaving the more ancient parent stock. The traveller making the tour of the continent of Europe will find a knowledge of the French language indispensable. In all parts of that continent this language provides the common ground upon which men of all tongues meet in conversation, and the traveller, having simply made himself sufficiently familiar with the language to ask for what he wants, will have done much towards making his trip thoroughly enjoyable and instructive. The following system of self-instruction has been formulated with a view to providing a simple yet thorough means of studying French. The student who masters its details with care will, within the space of a very few days, find himself able to converse in that language, and begin to enjoy thoroughly the beauties of its literature.

ALPHABET AND PRONUNCIATION.

FRENCH ALPHABET.	NAME.	PRONUNCIATION.
A	ah	like *a* in the English word *arm*.
B	bay	as in English.
C	say	before *e* and *i*, is pronounced like *s*; before *a*, *o*, *u* and before a consonant *c* sounds like *k*; is soft before *a*, *o*, *u* in certain instances, when a mark beneath it called a cedilla is used, thus: ç.
D	day	as in English.
E	ai	*e*, *é*, *ai*, *ei*, are pronounced like *a* in the English word *care*.
F	eff	as in English.
G	jay	before *e* and *i* sounds like *j*.
H	aash	is generally silent.
I	ee	like *e* in the English word *we*.
J	jee	like *s* in the English word *measure*.
K	kah	as in English.
L	el	as in English.
M	em	as in English.
N	en	as in English.
O	o	*o*, in *stock*; *au*, *eau*, are pron. like *o* in *no*.
P	pay	like the English, but is often mute at the end of words.
Q	ku	like *k*.
R	air	like the English *r* in *run*.
S	ess	like the English *s*, sometimes like *z*.
T	tay	like *t* in the English word *tent*.
U	eeyu	like *u* in the English word *suite*.
V	vay	like the English *v*.
X	eeks	as in English.
Y	egrec	like *e* in the English word *we*.
Z	zed	like a soft *s*.

There are combinations of letters which are sometimes called compound vowels, viz.: *an*, *in*, *on*, *eu*, *ou*, which are pronounced as follows:

The compound vowel *an* as *an* in the word *want*.
" " *in* as *an* " " *anchor*.
" " *on* as *on* " " *wrong*.
" " *un* has no correspondent in English.
" " *eu* as *i* in the word *bird*.
" " *ou* as *ou* " " *you*.

Ch is pronounced generally as *sh* in the word *share*.
Gn like *ni* in the word *minion*.
Gu is pronounced generally like *g* in *get*.
Ph as *ph* in *philosophy*.
Qu is generally pronounced like *k* in *king*.
Th like *th* in *Thames*.

ACCENTS AND OTHER MARKS.

The French make a frequent use of certain signs called ORTHOGRAPHIC SIGNS. They are the *accents*, the *apostrophe*, the *trait d'union* (hyphen), the *tréma* (diæresis), the *cédille* (cedilla), the *parenthèse* (parenthesis), and the different marks of *punctuation*.

There are three *accents*, the *accent aigu* (acute ´), which is never used except over the vowel *e*; the *accent grave* (`), which is used over the vowels *a*, *e*, *u*, and the *accent circonflexe* (^), which is used with any of the vowels but *y*.

The *apostrophe* (') is used to point out the elision of a vowel at the end of a word before another word beginning with a vowel or an *h* mute, as in *l'âme*, the soul; *l'homme*, the man, instead of *la âme*, *le homme*.

A, *e*, *i*, are the only vowels liable to be thus cut off, and this last one in the single word *si* before *il; s'il* for *si il*.

The *trait d'union* (-) is used principally to connect compound words, as in *arc-en-ciel* (rainbow), or to join the pronoun to the verb, in the interrogative conjugation.

The *trema* (¨) is the same sign as the *diæresis* and used for the same purpose in French as in English.

The *cédille* is a little mark put under the *c* (ç) whenever it is required to give to that letter the articulation produced by the letter *s*, before the letters *a*, *o*, *u;* as, *Français*, *garçon*, *reçu*.

NUMBER AND GENDER.

There are two numbers in French as in English, the *singular* and the *plural*.

The French language has only two genders, the *masculine* and the *feminine*. The gender of *animate* objects is the same as in English; but practice, close attention to the harmony of the language, and very often derivation, can alone teach the gender of *inanimate* objects.

PARTS OF SPEECH.

These are ten in number: article, noun, adjective, pronoun, verb, adverb, participle, conjunction, preposition, interjection.

THE ARTICLE.

There are two articles, the definite and the indefinite. The definite article is rendered by "*le*" before a masculine noun, and by "*la*" before a feminine noun; as, *le père*, the father; *la mère*, the mother. The plural for both genders is "*les*;" as, *les pères*, the fathers; *les mères*, the mothers.

The articles are declined as follows:

Masculine.

Singular.		*Plural.*	
Nom. *le* (leh) *père*,	the father	*les* (lay) *pères*,	the fathers
Gen. *du* (du) *père*,	of the father	*des* (day) *pères*,	of the fathers
Dat. *au* (o) *père*,	to the father	*aux* (o) *pères*,	to the fathers
Acc. *le* (leh) *père*,	the father	*les* (lay) *pères*,	the fathers

Feminine.

Nom. *la mère*,	the mother	*les mères*,	the mothers
Gen. *de la mère*,	of the mother	*des mères*,	of the mothers
Dat. *à la mère*,	to the mother	*aux mères*,	to the mothers
Acc. *la mère*,	the mother	*les mères*,	the mothers

DECLENSION

Of a word beginning with a vowel or a silent "*h*."

Singular.		*Plural.*	
Nom. *l'homme*,	the man	*les⌒hommes*,	the men
Gen. *de l'homme*,	of the man	*des⌒hommes*,	of the men
Dat. *à l'homme*,	to the man	*aux⌒hommes*,	to the men
Acc. *l'homme*,	the man	*les⌒hommes*,	the men

INDEFINITE ARTICLE.

Masculine.		*Feminine.*	
Nom. *un jardin*,	a garden	*une ville*,	a town
Gen. *d'un jardin*,	of a garden	*d'une ville*,	of a town
Dat. *à un jardin*,	to a garden	*a une ville*,	to a town
Acc. *un jardin*,	a garden	*une ville*,	a town

DECLENSION OF PROPER NAMES.

Nom. *Paris*,	Paris	*Louise*,	Louisa
Gen. *de Paris*,	of Paris	*de Louise*,	of Louisa
Dat. *à Paris*,	to Paris	*à Louise*,	to Louisa
Acc. *Paris*,	Paris	*Louise*,	Louisa

EXERCISES IN THE USE OF THE ARTICLE.

Having mastered the declensions, the student will thoroughly familiarize himself with the use of the articles by memorizing the following vocabulary:

THE UNIVERSE.

ENGLISH.	FRENCH.	PRONUNCIATION.
God	*Dieu*	Deeyu
the world	*le monde*	leh maund
the sky	*le ciel*	leh seeyel
the sun	*le soleil*	leh sohleyl
the moon	*la lune*	lah lune
a star	*une ètoile*	une aitoahl
the air	*l'air*	l'air
the earth	*la terre*	lah tayr
the water	*l'eau*	l'o
the fire	*le feu*	leh feuh
the sea	*la mer*	lah mare
an island	*une île*	une eel
a lake	*un lac*	ung lahc
a stream	*un fleuve*	ung fleuhv
a river	*une rivière*	une reeveeare
the animals	*les animaux*	laiz aneemo
the metals	*les métaux*	lai maito
the gold	*l'or*	l'orr
the silver	*l'argent*	l'arjang
the iron	*le fer*	leh fayr
the steel	*l'acier*	l'asseay
the copper	*le cuivre*	leh cweevr
the tin	*l'ètain*	l'aitang

THE HUMAN BEING.

Man	*l'homme*	l'omm
the body	*le corps*	leh cor
the head	*la tête*	lah tait
the face	*le visage*	leh veesaje
the forehead	*le front*	leh frong
the eye	*l'œil*	l'ile
the eyes	*les⌒yeux*	laiz eeyeu
the nose	*le nez*	leh nay
the ears	*les oreilles*	laiz ohraill
the chin	*le menton*	leh mauntong
the beard	*la barbe*	lah barb
the mouth	*la bouche*	lah boosh
the lips	*les lèvres*	lai layvr
the tooth	*la dent*	lah dong
the tongue	*la langue*	lah laungh
the neck	*le cou*	leh coo

ENGLISH.	FRENCH.	PRONUNCIATION.
the shoulders	*les épaules*	laiz aipole
the arm	*le bras*	leh brah
the hand	*la main*	lah mang
the fingers	*les doigts*	lai douah
the nails	*les ongles*	laiz aungl
the chest	*la poitrine*	lah pouahtreen
the heart	*le cœur*	leh keuhr
the knee	*le genou*	leh jenoo
the leg	*la jambe*	lah jahmb
the foot	*le pied*	leh peeay
the bones	*les os*	laiz o

FOOD.

Bread	*le pain*	leh pang
flour	*la farine*	lah fareen
meat	*de la viande*	de la veeaund
roast meat	*du rôti*	du rotee
beef	*du bœuf*	du beuhf
veal	*du veau*	du vo
mutton	*du mouton*	du mootong
lamb	*de l'agneau*	deh l'anyo
pork	*du porc*	du pork
bacon	*du lard*	du lar
ham	*du jambon*	du jahmbong
soup	*la soupe*	lah soup
rice	*du riz*	du ree
eggs	*des œufs*	daiz euh
salad	*de la salade*	deh lah salade
mustard	*de la moutarde*	deh lah mootard
salt	*du sel*	du sel
oil	*de l'huile*	deh l'weel
vinegar	*du vinaigre*	du veenaigr
pepper	*du poivre*	du pouahvr
butter	*du beurre*	du beuhr
cheese	*du fromage*	du fromahje
breakfast	*le déjeuner*	leh dayjeuhnai
dinner	*le diner*	leh deenai
supper	*le souper*	leh soopai
hunger	*la faim*	lah fahng
thirst	*la soif*	lah souaf
water	*de l'eau*	deh l'o
wine	*du vin*	du vang
beer	*de la bière*	deh lah beeair
milk	*du lait*	du lay
tea	*du thé*	du tay
gin	*du genièvre*	du jenyavr
brandy	*de l'eau de vie*	deh lo deh vee

DRESS.

A coat	*un surtout*	ung syuretoo
a cloak	*un manteau*	ung maunto
a waistcoat	*un gilet*	ung jeelay
the trowsers	*la culotte*	lah kyulot
the braces	*les bretelles*	lai bretell
the cap	*le bonnet*	leh bonnay
the hat	*le chapeau*	leh shapo
the comb	*le peigne*	leh paine
gloves	*des gants*	dai gang
a ring	*une bague*	une baag
a watch	*une montre*	une mongtre
the stocking	*le bas*	leh bah
the boots	*les bottes*	lai bot
the bootjack	*le tire-botte*	leh teer-bot
the slippers	*les pantoufles*	lai pauntoofl
the shoes	*les souliers*	lai soolyai
a shirt	*une chemise*	une shemeeze
the necktie	*la cravate*	lah cravaht
a pocket-handkerchief	*un mouchoir*	ung mooshouah
the clothes-brush	*la brosse*	lah bross
the umbrella	*le parapluie*	leh paraplwee
the parasol	*le parasol*	leh parasol

THE HOME.

The house	*la maison*	lah maysong
the door	*la porte*	lah port
the key	*la clef*	lah clay
the bell	*la sonnette*	lah sonnet
the staircase	*l'escalier*	l'escallyai
the drawing-room	*la salle*	lah sal
the dining-room	*la salle-à-manger*	lah sal-ah-maunjai
the room	*la chambre*	lah shaumbr
the bed-room	*la chambre-à-coucher*	lah shaumbr-ah-cushai
the window	*la fenêtre*	lah fennaitr
the wall	*la paroi*	lah pahrouah
the kitchen	*la cuisine*	lah cweezeen
the roof	*le toit*	leh touah
the cellar	*la cave*	lah caav
the garden	*le jardin*	leh jardang
a table	*une table*	une tahbl
a chair	*une chaise*	une shayse
an arm-chair	*un fauteuil*	ung fotayle
a looking-glass	*un miroir*	ung meerouahr
a clock	*une horloge*	une orloje
a trunk	*un coffre*	ung cofr
a box	*une boite*	une bouaht
the bed	*le lit*	leh lee
the counterpane	*la couverture*	lah coovairtyure
a pillow	*un oreiller*	un oraylyai
the sheets	*les draps de lit*	lai drah deh lee
the mattress	*le matelas*	leh matlah
the plate	*l'assiette*	l'assyet
a candlestick	*un chandelier*	ung shaundelyal
the lamp	*une lampe*	une laump
a spoon	*une cuiller*	une cweelyai
a fork	*une fourchette*	une foorshet
a knife	*un couteau*	ung cooto
a cup	*une tasse*	une tass
the saucer	*la soucoupe*	lah sooccoop
the tablecloth	*la nappe*	lah nap
the towel	*un essuie-main*	ung esswee-mang
a glass	*un verre*	ung vair
the tea-pot	*la théière*	lah taiyare

TRADES.

An occupation	*un métier*	ung maytyai
a workman	*un artisan*	ung arteesong
a baker	*un boulanger*	ung boolonjai
a miller	*un meunier*	ung meuhnyai
a butcher	*un boucher*	ung booshai
a brewer	*un brasseur*	ung brasseuhr
a tailor	*un tailleur*	ung talyeur
a shoemaker	*un cordonnier*	ung cordonyai
a smith	*un forgeron*	ung forjehrong
a saddler	*un sellier*	ung selyai
a carpenter	*un menuisier*	ung menweesyai
a mason	*un maçon*	ung massong
a bookbinder	*un relieur*	ung rellyeuhr

THE TOWN.

The town	*la ville*	lah veel
the bridge	*le pont*	leh pong
the tower	*la tour*	lah toor
the gate	*la porte*	lah port
the street	*la rue*	lah ru
the market	*le marché*	leh marshay
the building	*le bâtiment*	leh bahteemong
the town-house	*l'hôtel de ville*	l'otel deh veel
the theatre	*le théâtre*	leh tayahtr
the post-office	*la poste*	lah post

ENGLISH.	FRENCH.	PRONUNCIATION.
the church	*l'église*	l'aygleeze
the cathedral	*la cathédrale*	lah cataydral
the school	*l'école*	l'aycol
the prison	*la prison*	lah preesong
the exchange	*la bourse*	lah boorse
the palace	*le palais*	leh pallay
the hotel	*l'hôtel*	l'otel
the inn	*l'auberge*	l'obayrje
the public house	*le cabaret*	leh cabbaray
the coffee-room	*le café*	leh caffay

BEASTS, BIRDS, FISHES, ETC.

An animal	*un animal*	ung aneemal
a horse	*un cheval*	ung sheval
a donkey	*un âne*	ung ahn
the dog	*le chien*	leh sheeang
the cat	*le chat*	leh shah
the rat	*le rat*	leh rah
the mouse	*la souris*	lah sooree
an ox	*un bœuf*	ung beuh
a cow	*une vache*	une vash
a calf	*un veau*	ung vo
a sheep	*une brebis*	une brebbee
a lamb	*un agneau*	un anyo
a pig	*un cochon*	un coshong
the hare	*le lièvre*	leh leeayvr
a monkey	*un singe*	ung sangj
a wolf	*un loup*	ung loo
a bear	*un ours*	ung oor
a lion	*un lion*	ung leeong
an elephant	*un éléphant*	un aylayfong
a tiger	*un tigre*	ung teegr
a bird	*un oiseau*	un woiso
a cock	*un coq*	un cock
a hen	*une poule*	une pool
a chicken	*un poulet*	ung poolay
a swan	*un cigne*	ung seen
a goose	*une oie*	une ouah
a duck	*un canard*	ung canar
a lark	*une alouette*	une allooet
a nightingale	*un rossignol*	ung rosseenyol
the swallow	*l'hirondelle*	l'eenrongdel
the sparrow	*le moineau*	leh mouano
the raven	*le corbeau*	leh corbo
the crow	*la corneille*	lah cornayl
the parrot	*le perroquet*	leh perokay
the eagle	*l'aigle*	l'aygl
a fish	*un poisson*	ung pouassong
a pike	*un brochet*	ung broshay
a salmon	*un saumon*	ung somong
a carp	*une carpe*	une carp
an eel	*une anguille*	une ongghee
a trout	*une truite*	une trweet
a herring	*un hareng*	ung harrong
oysters	*des huîtres*	daiz weetr
a crab	*une écrevisse*	une aycreveece
a whale	*une baleine*	une ballayn
a serpent	*un serpent*	ung sairpong
a frog	*une grenouille*	une grenooeel
a worm	*un ver*	un vair
an insect	*un insecte*	un angsect
a spider	*une araignée*	une arraynyai
a moth	*une teigne*	ung taine
a fly	*une mouche*	une moosh
a gnat	*un moucheron*	ung moosherong
a bee	*une abeille*	une abbail
the honey	*le miel*	leh meeyel
a wasp	*une guêpe*	une gape
a butterfly	*une papillon*	ung pappillyong

TREES, FRUITS, FLOWERS AND VEGETABLES.

ENGLISH.	FRENCH.	PRONUNCIATION.
A tree	*un arbre*	ung arbr
a branch	*une branche*	une braungsh
a leaf	*une feuille*	une file
an apple	*une pomme*	une pomm
a pear	*une poire*	une pouar
a plum	*une prune*	une pryun
a cherry	*une cerise*	une serreeze
a nut	*une noix*	une nouah
a currant	*de la groseille*	de lah grozale
a gooseberry	*de la groseille verte*	deh lah grozale verte
a strawberry	*une fraise*	une fraize
a chestnut	*un marron*	ung marrong
the oak-tree	*le chêne*	leh shane
the fir-tree	*le pin*	leh pang
the birch	*le bouleau*	leh boolo
the willow	*le saule*	leh sole
a flower	*une fleur*	une fleuhr
a rose	*une rose*	une rose
a pink	*un œillet*	un ileyai
a tulip	*une tulipe*	une tyuleep
a lily	*un lis*	ung lee
a violet	*une violette*	une veeolet
a bouquet	*un bouquet*	ung bookay
beans	*des fèves*	dai faive
peas	*des pois*	dai pouah
cabbage	*des choux*	dai shoo
cauliflower	*des choux-fleurs*	dai shoo-fleuhr
carrots	*des betteraves*	dai betrahve
asparagus	*des asperges*	daiz aspairj
spinach	*des épinards*	daiz aipeenar
radishes	*des radis*	dai raddee
celery	*du céleri*	du selree
a melon	*un melon*	ung mellong
cucumber	*des concombres*	dai congcongbr

THE SCHOOL.

A school	*l'école*	l'aycol
the teacher	*le maître*	leh maytr
the book	*le livre*	leh leevr
the paper	*le papier*	leh papyai
a pen	*une plume*	une plyume
an inkstand	*un encrier*	un ongcreeai
the ink	*l'encre*	l'ongkr
the pencil	*le crayon*	leh crayong
a letter	*une lettre*	une lettr
an envelope	*une enveloppe*	une ongvellope

TIME AND SEASONS.

The time	*le temps*	leh tong
a minute	*une minute*	une meenyute
an hour	*une heure*	une eur
a quarter of an hour	*un quart-d'heure*	ung kar d'eur
half an hour	*une demie-heure*	une demi eur
the day	*le jour*	leh joor
the morning	*le matin*	leh mattang
noon	*le midi*	leh meedee
the afternoon	*l'après-midi*	l'apray meedee
the evening	*le soir*	leh souahr
the night	*la nuit*	lah nwee
a year	*un an*	un ong
a month	*un mois*	ung mouah
January	*Janvier*	Jongveeay
February	*Février*	fayvreeay
March	*Mars*	marse
April	*Avril*	avreel
May	*Mai*	may
June	*Juin*	jyuang
July	*Juillet*	jweelyai

August	*Août*	oo
September	*Septembre*	septaumbr
October	*Octobre*	octobr
November	*Novembre*	novaumbr
December	*Décembre*	daysaumbr
a week	*une semaine*	une semmane
a fortnight	*quinze jours*	kanze joor
Monday	*Lundi*	lungdee
Tuesday	*Mardi*	mardee
Wednesday	*Mercredi*	mayrcredee
Thursday	*Jeudi*	jeuhdee
Friday	*Vendredi*	vondredee
Saturday	*Samedi*	samdee
Sunday	*Dimanche*	deemaunshe
spring	*le printemps*	leh prangtong
summer	*l'été*	l'aytay
autumn	*l'automne*	l'otonn
winter	*l'hiver*	l'eevare

THE COUNTRY.

The country	*la campagne*	lah caumpahne
the village	*le village*	leh veelaj
the hut	*la cabane*	lah caban
the soil	*le sol*	leh sol
the meadow	*le pré*	lah pray
the barn	*la grange*	leh graunj
the mill	*le moulin*	leh moolang
the cattle	*le bêtail*	leh baytale
the herd	*le troupeau*	leh troopo
the shepherd	*le berger*	leh bayrjay
the mountain	*la montagne*	lah montaine
the hill	*la colline*	lah colleen
the dale	*la vallée*	lah vallay
the wood	*le bois*	leh bouah
the forest	*la forêt*	lah forray
the road	*le chemin*	leh shemmang
the high-road	*le grand-chemin*	leh grong shemmang
the railroad	*le chemin de fer*	leh shemmang deh fare
a mile	*une mille*	une meel
the waterfall	*la cascade*	lah cascad
the fisherman	*le pêcheur*	leh paysheur
the huntsman	*le chasseur*	leh shasseuhr

THE FAMILY.

The family	*la famille*	lah fameel
the husband	*le mari*	leh maree
the wife	*la femme*	lah fam
the father	*le père*	leh pare
the mother	*la mère*	lah mare
the child	*l'enfant*	l'ongfong
the son	*le fils*	leh fcess
the daughter	*la fille*	lah fcel
the brother	*le frère*	ieh frare
the sister	*la sœur*	lah seuhr
the uncle	*l'oncle*	l'oncle
the aunt	*la tante*	lah taunte
the cousin	*le cousin*	leh coosang
the marriage	*le mariage*	leh mareeahje

NATIONALITIES.

An American	*un Américain*	un amayreecang
a German	*un Allemand*	un almaung
Germany	*l'Allemagne* f.	l'almaine
a Dutchman	*un Hollandais*	ung hollaunday
Holland	*la Hollande*	lah hollaund
a Belgian	*un Belge*	une belj
Belgium	*la Belgique*	lah beljeek
a Swiss	*un Suisse*	ung sweess
Switzerland	*la Suisse*	lah sweess
a Hungarian	*un Hongrois*	ung hongrwah
Hungary	*la Hongrie*	lah hongree
an Englishman	*un Anglais*	un aunglay
England	*l'Angleterre* f.	l'aungltare
an Irishman	*un Irlandais*	un ecrlaunday
Ireland	*l'Irlande* f.	l'eerlaund
a Scotchman	*un Ecossais*	un aycossay
Scotland	*l'Ecosse* f.	l'aycoss
a Dane	*un Danois*	ung danouah
Denmark	*le Danemarc*	leh danmark
a Swede	*un Suédois*	ung swaydwah
Sweden	*la Suède*	lah swayde
a Russian	*un Russe*	ung russe
Russia	*la Russie*	lah russee
a Spaniard	*un Espagnol*	un espanyol
Spain	*l'Espagne* f.	l'espaine
a Frenchman	*un Français*	ung fraungsay
France	*la France*	lah fraungse
an Italian	*un Italien*	un eetalyang
Italy	*l'Italie* f.	l'eetalee

THE NOUN.

To form the plural of French nouns, add *s* to the singular; as *père*, father, *pères*, fathers.

Nouns ending in *s*, *x* or *z*, in the singular, do not vary in the plural; as, *fils*, son; *fils*, sons.

Nouns ending in *au* or *eu* add *x* to form the plural; as, *eau*, water; *eaux*, waters.

Nouns in *ou* form their plural regularly, by the addition of *s*.

But the following nouns in *ou* take *x* to the plural, viz.: *bijou, caillou, chou, genou, hibou, joujou, pou.*

Nouns ending in *al* change this termination into *aux* to form the plural; as, *cheval*, horse; *chevaux*, horses.

But *bal, carnaval, regal,* and a few others, form their plural regularly, by the addition of *s* to the singular.

Nouns in *ail* form their plural regularly, by adding *s* to the singular.

The following seven nouns in *ail* form their plural by changing *ail* into *aux*, viz.: *bail*, lease; *émail*, enamel; *corail*, coral; *soupirail*, air-hole; *travail*, work; *vantail*, leaf of the folding-door; *ventail*, the part of a helmet which admits air; *vitrail*, glass-window.

Ciel, heaven, has *cieux* in the plural. *Œil*, eye, has *yeux*. *Aïeul*, ancestor, has *aïeux*.

THE ADJECTIVE.

The French adjectives are placed either before or after the nouns; as:

le bon père, the good father — *la bonne mère*, the good mother
un bon garçon, a good boy — *une jeune fille*, a young girl
une table ronde, a round table — *du lait chaud*, warm milk.

COMPARISON OF ADJECTIVES.

Grand, great	*plus grand*, greater	*le plus grand*, the greatest
petit, small	*plus petit*, smaller	*le plus petit*, the smallest
bon, good	*meilleur*, better	*le meilleur*, the best
mauvais, bad	*pire*, worse	*le pire*, the worst
petit, little	*moindre*, less	*le moindre*, the least

"Than" following the comparative is always translated by "*que:*"

Il est plus poli que son frère—he is more polite than his brother.

NUMERAL ADJECTIVES.

1	*un*	ung	11	*onze*	ongz
2	*deux*	deuh	12	*douze*	dooze
3	*trois*	trouah	13	*treize*	trayz
4	*quatre*	kahtr	14	*quatorze*	katorz
5	*cinq*	sahnk	15	*quinze*	kangz
6	*six*	seece	16	*seize*	sayz
7	*sept*	set	17	*dix-sept*	dee-set
8	*huit*	wheet	18	*dix-huit*	deez-wheet
9	*neuf*	neuf	19	*dix-neuf*	deez-neuf
10	*dix*	deece	20	*vingt*	vahng

21	*vingt-un*	vahnt-ung
22	*vingt-deux*	
23	*vingt-trois*	
24	*vingt-quatre*	
25	*vingt-cinq*	
26	*vingt-six*	
27	*vingt-sept*	
28	*vingt-huit*	
29	*vingt-neuf*	
30	*trente*	traunt
40	*quarante*	karaunt
50	*cinquante*	sahnkaunt
60	*soixante*	soassaunt
70	*soixante-dix*	
71	*soixante-onze*	
72	*soixante-douze*	
73	*soixante-treize*	
74	*soixante-quatorze*	
75	*soixante-quinze*	
76	*soixante-seize*	
77	*soixante-dix-sept*	
78	*soixante-dix-huit*	
79	*soixante-dix-neuf*	
80	*quatre-vingt*	katr-vahng
81	*quatre-vingt-un*	katr-vahnt-ung
82	*quatre-vingt-deux*	
83	*quatre-vingt-trois*	
84	*quatre-vingt-quatre*	
85	*quatre-vingt-cinq*	
86	*quatre-vingt-six*	
87	*quatre-vingt-sept*	
88	*quatre-vingt-huit*	
89	*quatre-vingt-neuf*	
90	*quatre-vingt-dix*	
91	*quatre-vingt-onze*	
92	*quatre-vingt-douze*	
93	*quatre-vingt-treize*	
94	*quatre-vingt-quatorze*	
95	*quatre-vingt-quinze*	
96	*quatre-vingt-seize*	
97	*quatre-vingt-dix-sept*	
98	*quatre-vingt-dix-huit*	
99	*quatre-vingt-dix-neuf*	
100	*cent*	saung
101	*cent-un*	saunt-ung
110	*cent dix*	saung-deece
120	*cent vingt*	saung-vahng
130	*cent trente*	
200	*deux cents*	
300	*trois cents*	
400	*quatre cents*	
500	*cinq cents*	
600	*six cents*	
700	*sept cents*	
800	*huit cents*	
900	*neuf cents*	
1,000	*mille*	meel
2,000	*deux mille*	
3,000	*trois mille*	
10,000	*dix mille*	
20,000	*vingt mille*	

a million, *un million*, ung mellyong

ORDINAL NUMBERS.

The first,	*le premier*	leh premyai
" second	*le second*	leh zeggong
" third	*le troisième*	leh trouazzeeame
" fourth	*le quatrième*	leh kattreeame
" 5th	*le cinquième*	leh sahnkeeame
" 6th	*le sixième*	leh seeceeame
" 7th	*le septième*	leh seetteeame
" 8th	*le huitième*	leh wheeteeame
" 9th	*le neuvième*	leh neuveeame
" 10th	*le dixième*	leh deezeeame
" 11th	*l'onzième*	leh ongzeeame
" 12th	*le douzième*	leh doozeeame
" 13th	*le treizième*	leh trayzeeame
" 14th	*le quatorzième*	leh kattorzeeame
" 15th	*le quinzième*	leh kahngzeeame
" 16th	*le veizième*	leh sayzeeame
" 17th	*le dix-septième*	leh deessettiame
" 18th	*le dix-huitième*	leh deez-wheeteeame
" 19th	*le dix-neuvième*	leh deez-neuveeame
" 20th	*le vingtième*	leh vahnteeame
" 21st	*le vingt-unième*	leh vahnt-uneeame
" 30th	*le trentième*	leh traunteeame
" 40th	*le quarantième*	leh karaunteeame
" 50th	*le cinquantième*	leh sahnkaunteeame
" 60th	*le soixantième*	leh souahssaunteeame
" 70th	*le soixante-dixième*	leh souahssaunt-deezeeame
" 80th	*le quatre-vingtième*	leh kattr-vahnteeame
" 90th	*le quatre-vingt-dixième*	leh kattr-vahnt-deezeeame
" 100th	*le centième*	leh saunteeame
" 1,000th	*le millième*	leh milleeame
the last	*le dernier*	leh dareneeay

VOCABULARY OF ADJECTIVES.

Poor	*pauvre*	pohvr
rich	*riche*	reesh
clever	*prudent*	prudong
stupid	*stupide*	stupeed
sharp	*aigu*	aygu
blunt	*obtus*	obtu
clean	*propre*	propr
dirty	*sale*	saal
hard	*dur*	dure
soft	*mou*	moo
strong	*fort*	fore
weak	*faible*	fabl
well	*sain*	sang
ill	*malade*	malahd
lean	*maigre*	maygr
thick	*gros*	gro
fat	*gras*	gra
thin	*mince*	mangce
polite	*poli*	polee
impolite	*malhonnête*	mallonnate
false	*faux*	fo
deep	*profond*	profong
wide	*large*	larj
narrow	*étroit*	aytrouah
round	*rond*	rong
square	*carré*	carray
short	*court*	coor
long	*long*	long
flat	*plat*	pla
warm	*chaud*	sho
cold	*froid*	frouah
fresh	*frais*	fray
ripe	*mûr*	mure
dry	*sec*	sec
sour	*aigre*	aygr
sweet	*doux*	doo
bitter	*amer*	amare
hungry	*affamé*	affammay
thirsty	*altéré*	altayray
heavy	*pesant*	pezong
light	*léger*	layjai
wet	*humide*	umeed
content	*content*	congtong
happy	*heureux*	eureu
gay	*gai*	gay
sad	*triste*	treest
useful	*utile*	uteel
strange	*étrange*	aytraunj
pretty	*joli*	jolee
ugly	*laid*	lay
dark	*sombre*	sombr
open	*ouvert*	oovare
disagreeable	*désagréable*	daysagrayabl
proud	*fier*	feeare
arrogant	*arrogant*	arrogong
cowardly	*lâche*	lahsh
courageous	*courageux*	coorrajeu
faithless	*perfide*	pairfeed
innocent	*innocent*	innosong

THE PRONOUN.

The personal pronouns are as follows:

Je	(jeh)	I	*Nous*	(noo)	we
tu	(tu)	thou	*vous*	(voo)	you
te	(teh)	thee	*vous*	(voo)	you
il	(eel)	he	*ils*	(eel)	they
elle	(el)	she	*elles*	(el)	they
moi	(mouah)	me	*nous*	(noo)	us
toi	(touah)	thee	*lui*	(lwee)	him

POSSESSIVE PRONOUNS.

Mas.	*mon*	(mong)	my	*Plural:*	*mes*	(may)	my
Fem.	*ma*	(mah)	my				
Mas.	*ton*	(tong)	thy	"	*tes*	(tay)	thy
Fem.	*ta*	(tah)	thy				
Mas.	*son*	(song)	his	"	*ses*	(say)	his, her.
Fem.	*sa*	(sah)	her				
	notre	(notr)	our	"	*nos*	(no)	our
	votre	(votr)	your	"	*vos*	(vo)	your
	leur	(leur)	their	"	*leurs*	(leur)	their

RELATIVE PRONOUNS.

Qui	(kee)	who, which, that	
quoi	(couah)	what, that	
quel	(kel), *le quel?*	which?	*que* (keh) what?

THE VERB.

Before proceeding to study the conjugations of the regular verbs, the student must ground himself thoroughly in the irregular verbs *avoir*, to have, and *être*, to be, which are designated auxiliary verbs because they assist in the conjugation of the others.

THE AUXILIARY VERB "AVOIR"—TO HAVE.

INFINITIVE MOOD.

Present.	*Past.*
Avoir, to have,	*Avoir eu*, to have had.

PARTICIPLES.

Ayant, having.	*Eu*, had
	Ayant eu, having had.

INDICATIVE MOOD.

Present.

I have	*jai*	jay
thou hast	*tu as*	tu ah
he has	*il a*	eel ah
she has	*elle a*	el ah
we have	*nous avons*	nooz avong
you have	*vous avez*	vooz avai
they have	*ils (elles) ont*	eels ong

Imperfect.

I had	*j'avais*	javay
thou hadst	*tu avais*	tu avay
he had	*il avait*	eel avay
we had	*nous avions*	vooz aveeong
you had	*vous aviez*	nooz aveeay
they had	*ils avaient*	eels avay

Past Definite.

I had	*j'eus*	jew
thou hadst	*tu eus*	tu ew
he had	*il eut*	eel ew
we had	*nous eûmes*	nooz eum
you had	*vous eûtes*	vooz eut
they had	*ils eurent*	eels eur

Perfect.

I have had	*j'ai eu*	jay ew
thou hast had	*tu as eu*	tu ahz ew
he has had	*il a eu*	eel ah ew
she has had	*elle a eu*	el ah ew
we have had	*nous avons eu*	nooz avongz ew
you have had	*vous avez eu*	vooz avayz ew
they have had	*ils ont eu*	eels ont ew

Pluperfect.

I had had	*j'avais eu*	javayz ew
thou hast had	*tu avais eu*	tu avayz ew
he had had	*il avait eu*	eel avait ew
we had had	*nous avions eu*	nooz aveeohngz ew
you had had	*vous aviez eu*	vooz aveeayz ew
they had had	*ils avaient eu*	eels avait ew

Past Anterior.

I had had	*j'eus eu*	jeus ew
thou hadst had	*tu eus eu*	tu eus ew
he had had	*il eut eu*	eel eut ew
we had had	*nous eûmes eu*	nooz eums ew
you had had	*vous eûtes eu*	vooz euts ew
they had had	*ils eurent eu*	eels eurt ew

Future.

I shall have	*j'aurai*	joray
thou shalt have	*tu auras*	tu orah
he shall have	*il aura*	eel orah
we shall have	*nous aurons*	nooz orong
you shall have	*vous aurez*	vooz oray
they shall have	*ils auront*	eels orong

Future Anterior.

I shall have had	*j'aurai eu*	joray ew
thou shalt have had	*tu auras eu*	tu orahs ew
he shall have had	*il aura eu*	eel orah ew
we shall have had	*nous aurons eu*	noos orongz ew
you shall have had	*vous aurez eu*	vooz orayz ew
they shall have had	*ils auront eu*	eels oront ew

Conditional Present.

I should have	*j'aurais*	joray
thou shouldst have	*tu aurais*	tu oray
he should have	*il aurait*	eel oray
we should have	*nous aurions*	nooz oreeong
you should have	*vous auriez*	vooz oreeay
they should have	*ils auraient*	eels oray

Conditional Past.

I should have had	*j'aurais eu*	jorays ew
thou shouldst have had	*tu aurais eu*	tu orays ew
he should have had	*il aurait eu*	eel orait ew
we should have had	*nous aurions eu*	nooz areeongz ew
you should have had	*vous auriez eu*	vooz oreeayz ew
they should have had	*ils auraient eu*	eels orait ew

IMPERATIVE MOOD.

Have	*aie*	ay
let us have	*ayons*	ayong
have (ye)	*ayez*	ayay

SUBJUNCTIVE MOOD.

Present.

That I may have	*que j'aie*	keh jai
that thou mayest have	*que tu aies*	keh tu ai
that he may have	*qu'il ait*	keel ai
that we may have	*que nous ayons*	keh nooz ayong
that you may have	*que vous ayez*	keh vooz ayay
that they may have	*qu'ils aient*	keels ai

Imperfect.

That I might have	*que j'eusse*	keh jeuss
that thou mightest have	*que tu eusses*	keh tu euss
that he might have	*qu'il eût*	keel eu
that we might have	*que nous eussions*	keh nooz eussyong
that you might have	*que vous eussiez*	keh vooz eussyay
that they might have	*qu'ils eussent*	keels euss

Perfect.

That I may have had	*que j'aie eu*	keh jai ew
that thou mayest have had	*que tu aies eu*	keh tu aiz ew

that he may have had	*qu'il ait eu*	keel ait ew
that we may have had	*que nous ayons eu*	keh nooz ayongz ew
that you may have had	*que vous ayez eu*	keh vooz ayayz ew
that they may have had	*qu'ils aient eu*	keels ait ew

Pluperfect.

That I might have had	*que j'eusse eu*	keh jeuss ew
that thou mightest have had	*que tu eusses eu*	keh tu euss ew
that he might have had	*qu'il eut eu*	keel eut ew
that we might have had	*que nous eussions eu*	keh nooz eussyongs ew
that you might have had	*que vous eussiez eu*	keh vooz eussyaz ew
that they might have had	*qu'ils eussent eu*	keels eusst ew

THE AUXILIARY VERB "ETRE"—TO BE.

INFINITIVE MOOD.

Present. *Etre* (ettr), to be. *Past.* *Avoir été* (avoahr ettay), to have been.

PARTICIPLES.

Etant (ettaung), being. *Été* (ettay), been. *Ayant été* (ayaunt ettay) having been.

INDICATIVE MOOD.

Present.

I am	*je suis*	jeh swee
thou art	*tu es*	tu ay
he is	*il est*	eel ay
she is	*elle est*	el ay
we are	*nous sommes*	noo som
you are	*vous êtes*	vooz ait
they are	*ils (elles) sont*	eel song

Imperfect.

I was	*j'étais*	jettay
thou wert	*tu étais*	tu ettay
he was	*il était*	il ettay
we were	*nous étions*	nooz ettyong
you were	*vous étiez*	vooz ettyay
they were	*ils étaient*	eels ettay

Past Definite.

I was	*je fus*	je fu
thou wert	*tu fus*	tu fu
he was	*il fut*	eel fu
we were	*nous fûmes*	noo fume
you were	*vous fûtes*	voo fute
they were	*ils furent*	eel fure

Perfect.

I have been	*j'ai été*	jai ettay
thou hast been	*tu as été*	tu ah ettay
he has been	*il a été*	eel ah ettay
she has been	*elle a été*	el ah ettay
we have been	*nous avons été*	nooz avongz ettay
you have been	*vous avez été*	vooz avayz ettay
they have been	*ils (elles) ont été*	eels ont ettay

Pluperfect.

I had been	*j'avais été*	javayz ettay
thou hadst been	*tu avais été*	tu avayz ettay
he had been	*il avait été*	eel avait ettay
we had been	*nous avions été*	nooz avyons ettay
you had been	*vous aviez été*	vooz avyayz ettay
they had been	*ils avaient été*	eels avait ettay

Past Anterior.

I had been	*j'eus été*	jeuz ettay
thou hadst been	*tu eus été*	tu euz ettay
he had been	*il eut été*	eel eut ettay
we had been	*nous eûmes été*	nooz eums ettay
you had been	*vous eûtes été*	vooz euts ettay
they had been	*il eurent été*	eels eurt ettay

Future.

I shall be	*je serai*	je serray
thou shalt be	*tu seras*	tu serrah
he shall be	*il sera*	eel serrah
we shall be	*nous serons*	noo serrong
you shall be	*vous serez*	voo serray
they shall be	*ils seront*	eel serong

Future Anterior.

I shall have been	*j'aurai été*	joray ettay
thou shalt have been	*tu auras été*	tu orahs ettay
he shall have been	*il aura été*	eel orah ettay
we shall have been	*nous aurons été*	nooz orongz ettay
you shall have been	*vous aurez été*	vooz orayz ettay
they shall have been	*ils auront été*	eels oront ettay

Conditional Present.

I should be	*je serais*	je serray
thou shouldst be	*tu serais*	tu serray
he should be	*il serait*	eel serray
we should be	*nous serions*	noo serreeong
you should be	*vous seriez*	voo serreeay
they should be	*ils seraient*	eel serray

Conditional Past.

I should have been	*j'aurais été*	jorays ettay
thou shouldst have been	*tu aurais été*	tu orays ettay
he should have been	*il aurait été*	eel orait ettay
we should have been	*nous aurions été*	nooz oreeongz ettay
you should have been	*vous auriez été*	vooz oreeayz ettay
they should have been	*ils auraient été*	eels orait ettay

IMPERATIVE MOOD.

Be	*soi*	souah
let us be	*soyons*	swoiyong
be (ye)	*soyez*	swoiyay

SUBJUNCTIVE MOOD.

Present.

That I may be	*que je sois*	keh jeh souah
that thou mayest be	*que tu sois*	keh tu souah
that he may be	*qu'il soit*	keel souah
that we may be	*que nous soyons*	keh noo swoiyong
that you may be	*que vous soyez*	keh voo swoiyay
that they may be	*qu'ils soient*	keel souah

Imperfect.

That I might be	*que je fusse*	keh jeh fusse
that thou mightest be	*que tu fusses*	keh tu fusse
that he might be	*qu'il fût*	keel fu
that we might be	*que nous fussions*	keh noo fussyong
that you might be	*que vous fussiez*	keh voo fussyay
that they might be	*qu'ils fussent*	keel fusse

Perfect.

That I may have been	*que j'aie été*	keh jai ettay
that thou mayest have been	*que tu aies été*	keh tu aiz ettay
that he may have been	*qu'il ait été*	keel ait ettay
that we may have been	*que nous ayons été*	keh nooz ayongz ettay
that you may have been	*que vous ayez été*	keh vooz ayayz ettay
that they may have been	*qu'ils aient été*	keels ait ettay

Pluperfect.

That I might have been	*que j'eusse été*	keh jeuss ettay

that thou mightest have been	*que tu eusses été*	keh tu euss ettay
that he might have been	*qu'il eût été*	keel eut ettay
that we might have been	*que nous eussions été*	keh nooz eussyongs ettay
that you might have been	*que vous eussiez été*	keh vooz eussyaze ettay
that they might have been	*qu'ils eussent été*	keels eusst ettay

REGULAR VERBS.

The infinitives of verbs in the French language have the four following terminations:

er, as in *parler*, to speak,
ir, in in *finir*, to finish,
oir, as in *reçevoir*, to receive,
re, as in *vendre*, to sell.

All that precedes this infinitive termination is called the "*root*" of the verb.

Verbs which only change their terminations and not their roots are called "*Regular Verbs;*" those which change their roots, "*Irregular Verbs.*"

The verbs ending in "*oir*" are all irregular, and the French language therefore, has in reality only three regular conjugations.

The First Conjugation ends in "*er.*"
The Second Conjugation ends in "*ir.*"
The Third Conjugation ends in "*oir.*"
The Fourth Conjugation ends in "*re.*"

The past participle is formed by adding to the root of the First Conjugation an "*é,*" to that of the second an "*i,*" to the fourth a "*u;*" as:

Parl-er, to speak; *parlé*, spoken
Fin-ir, to finish; *fini*, finished.
Vend-re, to sell; *vendu*, sold.

The student may now proceed to the mastery of

THE FOUR CONJUGATIONS.

FIRST CONJUGATION.

INFINITIVE MOOD.

Present. *Parler* (parlay), to speak. *Past.* *Avoir parlé*, to have spoken.

PARTICIPLES.

Parlant (parlong), speaking. *Parlé*, spoken. *Ayant parlé*, having spoken.

INDICATIVE MOOD.

Present.

SIMPLE TENSES. *Absolu.* I speak.

Je parle	jeh parl	
tu parles	tu parl	
il parle	eel parl	
nous parlons	noo parlong	
vous parlez	voo parlay	
ils parlent	eel parl	

COMPOUND TENSES. *Antérieur.* I have spoken.

J'ai parlé	
tu as parlé	
il a parlé	
nous avons parlé	
vous avez parlé	
ils ont parlé	

Descriptive.

Imperfect. I spoke.

Je parlais	jeh parlay	
tu parlais	tu parlay	
il parlait	eel parlay	
nous parlions	noo parlyong	
vous parliez	voo parlyay	
ils parlaient	eel parlay	

Pluperfect. I had spoken.

J'avais parlé	
tu avais parlé	
il avait parlé	
nous avions parlé	
vous aviez parlé	
ils avaient parlé	

Narrative.

Past Definite. I spoke.

Je parlai	jeh parlay	
tu parlas	tu parla	
il parla	eel parla	
nous parlâmes	noo parlahme	
vous parlâtes	voo parlahte	
ils parlèrent	eel parlaire	

Past Anterior. I had spoken.

J'eus parlé	
tu eus parlé	
il eut parlé	
nous eûmes parlé	
vous eûtes parlé	
ils eurent parlé	

Future.

Future. I shall speak.

Je parlerai	jeh parlerai	
tu parleras	tu parlera	
il parlera	eel parlera	
nous parlerons	noo parlerong	
vous parlerez	voo parleray	
ils parleront	eel parlerong	

Future Anterior. I shall have spoken.

J'aurai parlé	
tu auras parlé	
il aura parlé	
nous aurons parlé	
vous aurez parlé	
ils auront parle	

Conditional.

Present. I should speak.

Je parlerais	jeh parleray	
tu parlerais	tu parleray	
il parlerait	eel parleray	
nous parlerions	noo parlereeong	
vous parleriez	voo parlereeay	
ils parleraient	eel parleray	

Past. I should have spoken.

J'aurais parlé	
tu aurais parlé	
il aurait parlé	
nous aurions parlé	
vous auriez parlé	
ils auraient parlé	

SUBJUNCTIVE MOOD.

Present. That I may speak.

Que je parle	keh jeh parl	
que tu parles	keh tu parl	
qu'il parle	keel parl	
que nous parlions	keh noo parlyong	
que vous parliez	keh voo parlyay	
qu'ils parlent	keel parl	

Past. That I may have spoken.

Que j'aie parlé	
que tu aies parlé	
qu'il ait parlé	
que nous ayons parlé	
que vous ayez parlé	
qu'ils aient parlé	

Imperfect. That I might speak.

Que je parlasse	keh jeh parlass	
que tu parlasses	keh tu parlass	
qu'il parlât	keel parlah	
que nous parlassions	keh noo parlassyong	
que vous parlassiez	keh voo parlassyay	
qu'ils parlassent	keel parlass	

Pluperfect. That I might have spoken.

Que j'eusse parlé	
que tu eusses parlé	
qu'il eût parlé	
que nous eussions parlé	
que vous eussiez parlé	
qu'ils eussent parlé	

IMPERATIVE MOOD.

Parle (parl), speak thou
qu'il parle (keel parl), let him speak
parlons (parlong), let us speak
parlez (parlay), speak ye
qu'ils parlent (keel parl), let them speak.

SECOND CONJUGATION.

INFINITIVE MOOD.

Present. *Finir* (feeneer), to finish. *Past.* *Avoir fini* (feenee), to have finished.

PARTICIPLES.

Finissant (feeneesong), finishing. *Fini*, finished. *Ayant fini*, having finished.

INDICATIVE MOOD.

Present.

SIMPLE TENSES. *Absolu.* I finish.

Je finis	jeh feenee	
tu finis	tu feenee	

COMPOUND TENSES. *Antérieur.* I have finished.

J'ai fini	
tu as fini	

il finit	eel feenee	*il a fini*
nous finissons	noo feeneessong	*nous avons fini*
vous finissez	voo feeneessay	*vous aviez fini*
ils finissent	eel feeneess	*ils ont fini*

Descriptive.

Imperfect.		*Pluperfect.*
I finished.		I had finished.
Je finissais	jeh feeneessay	*J'avais fini*
tu finissais	tu feeneessay	*tu avais fini*
il finissait	eel feeneessay	*il avait fini*
nous finissions	noo feeneessyong	*nous avions fini*
vous finissiez	voo feeneessyay	*vous aviez fini*
ils finissaient	eel feeneessay	*ils avaient fini*

Narrative.

Past Definite.		*Past Anterior.*
I finished.		I had finished.
Je finis	jeh feenee	*J'eus fini*
tu finis	tu feenee	*tu eus fini*
il finit	eel feenee	*il eut fini*
nous finîmes	noo feeneem	*nous eûmes fini*
vous finîtes	voo feeneet	*vous eûtes fini*
ils finirent	eel feeneer	*ils eurent fini*

Future.

Future.		*Future Anterior.*
I shall finish.		I shall have finished.
Je finirai	jeh feeneeray	*J'aurai fini*
tu finiras	tu feeneera	*tu auras fini*
il finira	eel feeneera	*il aura fini*
nous finirons	noo feeneerong	*nous aurons fini*
vous finirez	voo feeneeray	*vous aurez fini*
ils finiront	eel feeneerong	*ils auront fini*

Conditional.

Present.		*Past.*
I should finish.		I should have finished.
Je finirais	jeh feeneeray	*J'aurais fini*
tu finirais	tu feeneeray	*tu aurais fini*
il finirait	eel feeneeray	*il aurait fini*
nous finirions	noo feeneereeong	*nous aurions fini*
vous finiriez	voo feeneereeay	*vous auriez fini*
ils finiraient	eel feeneeray	*ils auraient fini*

SUBJUNCTIVE MOOD.

Present.		*Past.*
That I may finish.		That I may have finished.
Que je finisse	keh jeh feeneess	*Que j'aie fini*
que tu finisses	keh tu feeneess	*que tu aies fini*
qu'il finisse	keel feeneess	*qu'il ait fini*
que nous finissions	keh noo feeneessee-ong	*que nous ayons fini*
que vous finissiez	keh voo feeneesseeay	*que vous ayez fini*
q'uil finissent	keel feeneess	*qu'ils ayent fini*

Imperfect.		*Pluperfect.*
That I might finish.		That I might have finished.
Que je finisse	keh jeh feeneess	*Que j'eusse fini*
que tu finisses	keh tu feeneess	*que tu eusse fini*
qu'il finît	keel feenee	*qu'il eût fini*
que nous finissions	keh noo feeneess-yong	*que nous eussions fini*
que vous finissiez	keh voo feeneessyay	*que vous eussiez fini*
qu'ils finissent	keel feeneess	*qu'ils eussent fini*

IMPERATIVE MOOD.

Finis (feenee), finish

finissons (feeneessong), let us finish

qu'il finisse (keel feeneess), let him finish

finissez (feeneessay), finish ye

qu'ils finissent (keel feeneess), let them finish

THIRD CONJUGATION.

INFINITIVE MOOD.

Present. *Recevoir* (ressevouahr), to receive. *Past.* *Avoir reçu*, to have received.

PARTICIPLES.

Recevant (ressevong), receiving. *Reçu* (ressu), received. *Ayant reçu*, having received.

INDICATIVE MOOD.

Present.

SIMPLE TENSES. *Absolu.*		COMPOUND TENSES. *Antérieur.*
I receive.		I have received.
Je reçois	jeh ressouah	*J'ai reçu*
tu reçois	tu ressouah	*tu as reçu*
il reçoit	eel ressouah	*il a reçu*
nous recevons	noo ressevong	*nous avons reçu*
vous recevez	voo ressevay	*vous avez reçu*
ils reçoivent	eel ressouahve	*ils ont reçu*

Descriptive.

Imperfect.		*Pluperfect.*
I received.		I had received.
Je recevais	jeh ressevay	*J'avais reçu*
tu recevais	tu ressevay	*tu avais reçu*
il recevait	eel ressevay	*il avait reçu*
nous recevions	noo ressevyong	*nous avions reçu*
vous receviez	voo ressevyay	*vous aviez reçu*
ils recevaient	eel ressevay	*ils avaient reçu*

Narrative.

Past Definite.		*Past Anterior.*
I received.		I had received.
Je reçus	jeh ressu	*J'eus reçu*
tu reçus	tu ressu	*tu eus reçu*
il reçut	eel ressu	*il eut reçu*
nous reçûmes	noo ressume	*nous eûmes reçu*
vous reçûtes	voo ressute	*vous eûtes reçu*
ils reçurent	eel ressure	*ils eurent reçu*

Future.

Future.		*Future Anterior.*
I shall receive.		I shall have received.
Je recevrai	jeh ressvray	*J'aurai reçu*
tu recevras	tu ressvrah	*tu auras recu*
il recevra	eel ressvrah	*il aura reçu*
nous recevrons	noo ressvrong	*nous aurons reçu*
vous recevrez	voo ressvray	*vous aurez reçu*
ils recevront	eel ressvrong	*ils auront reçu*

Conditional.

Present.		*Past.*
I should receive.		I should have received.
Je recevrais	jeh ressvray	*J'aurais reçu*
tu recevrais	tu ressvray	*tu aurais reçu*
il recevrait	eel ressvray	*il aurait reçu*
nous recevrions	noo ressvreeong	*nous aurions reçu*
vous recevriez	voo ressvreeay	*vous auriez reçu*
ils recevraient	eel ressvray	*ils auraient reçu*

SUBJUNCTIVE MOOD.

Present.		*Past.*
That I may receive.		That I may have received.
Que je reçoive	keh jeh ressouahve	*Que jaie reçu*
que tu reçoives	keh tu ressouahve	*que tu aies reçu*
qu'il reçoive	keel ressouahve	*qu'il aît reçu*
que nous recevions	keh noo ressvyong	*que nous ayons reçu*
que vous receviez	keh voo ressvyay	*que ous ayez reçu*
qu'ils reçoivent	keel ressouahve	*qu'ils aient reçu*

Imperfect.		*Pluperfect.*
That I might receive.		That I might nave received.
Que je reçusse	keh jeh ressuce	*Que jeusse reçu*
que tu reçusses	keh tu ressuce	*que tu eusses reçu*
qu'il reçût	keel ressu	*qu'il eût reçu*
que nous reçussions	keh noo ressussyong	*que nous eussions reçu*
que vous reçussiez	keh voo ressussyay	*que vous eussiez reçu*
qu'ils reçussent	keel ressusse	*qu'ils eussent reçu*

IMPERATIVE MOOD.

Reçois (ressouah), receive thou — *recevons* (ressevong), let us receive
recevez (ressevay), receive ye
qu'il reçoive (keel ressouahve), let him receive — *qu'ils reçoivent* (keel ressouahve), let them receive

FOURTH CONJUGATION.

INFINITIVE MOOD.

Present.	*Past.*
Vendre (vaundr), to sell.	*Avoir vendu*, to have sold.

Participles.

Vendant (vaundong), selling. — *Vendu* (vaundu), sold. *Ayant vendu*, having sold.

INDICATIVE MOOD.

Present.

SIMPLE TENSES. — COMPOUND TENSES.

Absolu. — *Antérieur.*

I sell. — I have sold.

Je vends	je vong	*J'ai vendu*
tu vends	tu vong	*tu as vendu*
il vend	eel vong	*il a vendu*
nous vendons	noo vaundong	*nous avons vendu*
vous vendez	voo vaunday	*vous avez vendu*
ils vendent	eel vaund	*ils ont vendu*

Descriptive.

Imperfect. — *Pluperfect.*

I sold. — I had sold.

Je vendais	jeh vaunday	*J'avais vendu*
tu vendais	tu vaunday	*tu avais vendu*
il vendait	eel vaunday	*il avait vendu*
nous vendions	noo vaundyong	*nous avions vendu*
vous vendiez	voo vaundyai	*vous aviez vendu*
ils vendaient	eel vaunday	*ils avaient vendu*

Narrative.

Past Definite. — *Past Anterior.*

I sold. — I had sold.

Je vendis	jeh vaundee	*J'eus vendu*
tu vendis	tu vaundee	*tu eus vendu*
il vendit	eel vaundee	*il eut vendu*
nous vendîmes	noo vaundeem	*nous eûmes vendu*
vous vendîtes	voo vaundeet	*vous eûtes vendu*
ils vendirent	eel vaundeer	*ils eurent vendu*

Future.

Future. — *Past.*

I shall sell. — I shall have sold.

Je vendrai	jeh vaundray	*J'aurai vendu*
tu vendras	tu vaundrah	*tu auras vendu*
il vendra	eel vaundrah	*il aura vendu*
nous vendrons	noo vaundrong	*nous aurons vendu*
vous vendrez	voo vaundray	*vous aurez vendu*
ils vendront	eel vaundrong	*ils auront vendu*

Conditional.

Present. — *Past.*

I should sell. — I should have sold.

Je vendrais	jeh vaundray	*J'aurais vendu*
tu vendrais	tu vaundray	*tu aurais vendu*
il vendrait	eel vaundray	*il aurait vendu*
nous vendrions	noo vaundreeong	*nous aurions vendu*
vons vendriez	voo vaundreeay	*vous auriez vendu*
ils vendraient	eel vaundray	*ils auraient vendu*

SUBJUNCTIVE MOOD.

Present. — *Past.*

That I may sell. — That I may have sold.

Que je vende	keh jeh vaund	*Que j'aie vendu*
que tu vendes	keh tu vaund	*que tu aies vendu*
qu'il vende	keel vaund	*qu'il ait vendu*
que nous vendions	keh noo vaundyong	*que nous ayons vendu*
que vous vendiez	keh voo vaundyay	*que vous ayez vendu*
qu'ils vendent	keel vaund	*qu'ils aient vendu*

Imperfect. — *Pluperfect.*

That I might sell. — That I might have sold

Que je vendisse	keh jeh vaundeess	*Que j'eusse vendu*
que tu vendisses	keh tu vaundeess	*que tu eusses vendu*
qu'il vendit	keel vaundee	*qu'il eût vendu*
que nous vendissions	keh noo vaundeessyong	*que nous eussions vendu*
que vous vendissiez	keh voo vaundeessyay	*que vous eussiez vendu*
qu'ils vendissent	keel vaundeess	*qu'ils eussent vendu*

IMPERATIVE MOOD.

Vends (vong), sell thou — *vendons* (vaundong), let us sell
vendez (vaunday), sell ye
qu'il vende (keel vaunde), let him sell — *qu'ils vendent* (keel vaund), let them sell

VOCABULARY OF VERBS.

To eat	*manger*	maunjay
to drink	*boire*	bouahr
to be thirsty	*avoir soif*	avouahr souaf
to be hungry	*avoir faim*	avouahr fang
to breakfast	*déjeûner*	dayjeunai
to dine	*dîner*	deenai
to sup	*souper*	soopai
to serve	*servir*	sareveer
to carve	*trancher*	traunshai
to smoke	*fumer*	fumai
to sneeze	*éternuer*	aytairnuai
to cough	*tousser*	toossai
to think	*penser*	paungsai
to reflect	*réfléchir*	rayflaysheer
to speak	*parler*	parlai
to say	*dire*	deer
to repeat	*répéter*	raypaytai
to explain	*déclarer*	dayclarrai
to be quiet	*se taire*	seh tare
to chat	*causer*	cosay
to tell	*raconter*	raccongtai
to ask	*demander*	demaundai
to answer	*répondre*	raypongdr
to reply	*répliquer*	raypleekai
to be mistaken	*se tromper*	seh trompai
to object	*objecter*	objectai
to doubt	*douter*	dootai
to affirm	*affirmer*	affeermai
to prove	*prouver*	proovai
to assure	*assurer*	assurai
to deny	*nier*	neeai
to maintain	*soutenir*	sooteneer
to dispute	*disputer*	disputai

ENGLISH.	FRENCH.	PRONUNCIATION.
to consent	*consentir*	congsaunteer
to approve	*approuver*	approovai
to praise	*louer*	looai
to admire	*admirer*	admeerai
to blame	*blâmer*	blahmai
to believe	*croire*	crouahr
to know	*savoir*	savouahr
not to know	*ignorer*	eenyorai
to imagine	*imaginer*	eemajeenai
to compare	*comparer*	compahrai
to imitate	*imiter*	eemeetai
to forget	*oublier*	oobleeai
to remember	*se souvenir*	seh soovenneer
to wish, to will	*vouloir*	voulouahr
to desire	*désirer*	dayseerai
to wish	*souhaiter*	sooaytai
to love	*aimer*	aimai
to flatter	*flatter*	flattai
to embrace	*embrasser*	aumbrassai
to hope	*espérer*	espayrai
to rejoice	*réjouir*	rayjooeer
to give	*donner*	donnai
to thank	*remercier*	remmairceeai
to esteem	*estimer*	esteemai
to honor	*honorer*	onorai
to despise	*mépriser*	maypreezai
to hate	*haïr*	haeer
to offend	*offenser*	offongsai
to insult	*insulter*	angsuhltai
to quarrel	*quereller*	kerrellai
to swear	*jurer*	jurai
to punish	*punir*	puneer
to beat	*battre*	batre
to weep	*pleurer*	pleuhrai
to sigh	*soupirer*	sooperai
to regret	*regretter*	regrettai
to repent	*se repentir*	seh repaunteer
to excuse	*excuser*	excusai
to pardon	*pardonner*	pardonnai
to revenge	*venger*	vaungjai
to joke	*railler*	raeelyai
to laugh	*rire*	reer
to live	*vivre*	veevr
to feel	*sentir*	saunteer
to touch	*toucher*	tooshai
to taste	*gouter*	gootai
to see	*voir*	vouahr
to hear	*entendre*	auntaundr
to grow	*croître*	crouahtr
to go	*aller*	allai
to go out	*sortir*	sorteer
to return	*retourner*	retoornai
to meet	*rencontrer*	rauncongtrai
to follow	*suivre*	sweevr
to run	*courir*	cooreer
to jump	*sauter*	sotai
to fall	*tomber*	tombai
to dance	*danser*	daungsai
to play	*jouer*	jooai
to ascend	*monter*	mongtai
to descend	*descendre*	dessaundr
to sit down	*s'asseoir*	sassouahr
to lie down	*se coucher*	seh cooshai
to rest	*se reposer*	seh repozai
to sleep	*dormir*	dormeeer
to dream	*rêver*	rayvai
to awake	*s'éveiller*	sayvailyai
to get up	*se lever*	seh levvai

ENGLISH.	FRENCH.	PRONUNCIATION.
to dress	*s'habiller*	s'abbeelyai
to draw	*tirer*	teerai
to show	*montrer*	mongtrai
to present	*présenter*	praysauntai
to take	*prendre*	praundr
to accept	*accepter*	acceptai
to refuse	*refuser*	reffusai
to receive	*recevoir*	ressevouahr
to spoil	*gâter*	gahtai
to throw	*jeter*	jettai
to lose	*perdre*	pairdr
to look for	*chercher*	shairshai
to find	*trouver*	troovai
to hide	*cacher*	cashai
to cover	*couvrir*	coovreer
to uncover	*découvrir*	daycoovreer
to roast	*rôtir*	roteer
to boil	*bouillir*	booeelyeer
to weigh	*peser*	pezai
to build	*bâtir*	bahteer
to sow	*semer*	semmai
to pluck	*cueillir*	kileyeer
to plant	*planter*	plauntai
to reap	*moissonner*	mouahssonnai

VOCABULARY OF ADVERBS.

At first	*d'abord*	d'abor
previously	*auparavant*	oparravang
afterwards	*ensuite*	aunsweet
together	*ensemble*	aunsaumbl
at last	*enfin*	aunfang
where	*où*	oo
here	*ici*	eesee
there	*là*	lah
elsewhere	*ailleurs*	aeellyure
above	*dessus*	dessu
below	*dessous*	dessoo
within	*dedans*	deddong
without	*dehors*	dehor
everywhere	*partout*	partoo
nowhere	*nulle part*	nule par
up	*en haut*	aung ho
down	*en bas*	aung bah
anywhere	*quelque part*	kelkeh par
already	*déjà*	dayjah
often	*souvent*	souvong
sometimes	*quelquefois*	kelcahfouah
in future	*à l'avenir*	ah l'avneer
always	*toujours*	toojoor
never	*jamais*	jammay
soon	*bientôt*	beeangto
immediately	*aussitôt*	osito
late	*tard*	tar
early	*tôt*	to
at present	*à présent*	ah praysong
quickly	*vite*	veet
at once	*tout de suite*	too deh sweet
afterwards	*puis*	pwee
yesterday	*hier*	yare
yesterday evening	*hier au soir*	yare o souahr
to-day	*aujourd'hui*	ojoordwee
to-morrow	*demain*	demmang
to-morrow morning	*demain matin*	demmang mattang
to-morrow evening	*demain soir*	demmang souahr
day after to-morrow	*après-demain*	appray demmang
enough	*assez*	assay
too much	*trop*	tro
little	*peu*	peuh

ENGLISH.	FRENCH.	PRONUNCIATION.
much	*beaucoup*	bocoo
very	*très, fort*	tray, fore
more	*plus*	plu
less	*moins*	mouang
at least	*au moins*	o mouang
thus	*si*	see
nearly	*presque*	pressk
about	*environ*	aungveerong
all	*tout*	too
altogether	*tout-à-fait*	toot-ah-fay
only	*seulement*	seuhlmong
well	*bien*	beeang
better	*mieux*	meyew
so much the better	*tant-mieux*	tong meyew
bad	*mal*	mal
worse	*pis*	pee
rather	*plutôt*	pluto
without doubt	*sans doute*	song doot
indeed	*en effet*	aun effay
on the contrary	*au contraire*	o congtrare
scarcely	*à peine*	ah pane
perhaps	*peut-être*	put-aitr
all at once	*tout-à-coup*	toot-ah-coo
not at all	*point du tout*	pouang du too
not yet	*pas encore*	paz auncore
nothing	*rien*	reeang
nothing at all	*rien du tout*	reeang du too

VOCABULARY OF PREPOSITIONS.

Or	*ou*	oo
with, near	*chez, auprès*	shay, opray
near	*près*	pray
in, within	*dans, en*	dong, aung
before	*avant*	avvong
behind	*derrière*	derreeare
below	*sous*	soo
over	*sur*	sure
against	*vers*	vare
far from	*loin de*	louang deh
on the side of	*à côtè de*	ah cotay deh
opposite	*vis-à-vis*	veez-ah-vee
round about	*autour de*	otoor deh
instead of	*au lieu de*	oleeyu deh
in the midst of	*au milieu de*	o millyu deh
on this side	*en-deçà de*	aung-dessah de
on the opposite side	*au-delà de*	o-dellah-deh
out of	*hors*	hor
after	*après*	appray
with	*avec*	avvec
since	*depuis*	deppwee
between	*entre—parmi*	aungtr—parmee
without	*sans*	song
for	*pour*	poor
through, by	*par*	par
against	*contre*	congtr
during	*pendant*	paundong

VOCABULARY OF CONJUNCTIONS.

either..or	*ou..ou*	oo..oo
neither..nor	*ni..ni*	nee..nee
also	*aussi*	ossi
but	*mais*	may
however	*cependant*	seppaundong
yet	*pourtant*	poortong
if	*si*	see
if not	*si non*	see nong
if only	*pourvu que*	poorvu keh
even if	*quand même*	kaung meym

ENGLISH.	FRENCH.	PRONUNCIATION.
although	*quoique*	couak
that is	*c'est-à-dire*	sait-ah-deer
as	*comme*	comm
except that	*outre que*	ootr keh
for	*car*	car
because	*parceque*	parsk
why	*pourquoi*	poorkouah
and	*et*	ai
therefore	*ainsi*	angsee
consequently	*par conséquent*	par congsayeong

CONVERSATION IN FRENCH.

HAVING by study of the foregoing made himself familiar with the salient features of the French grammar, the student will require to learn those niceties and elegancies of expression which make the French language the most graceful of all spoken tongues. These can be largely acquired by learning by heart the following vacabulary of phrases, which have been collated under different heads and thus will be the more readily memorized and more certainly retained.

CONSTANTLY OCCURRING EXPRESSIONS.

Tell me.	*Dites-moi.*	Deet mouah.
If you please.	*S'il vous plaît.*	Seel voo play.
Have the goodness.	*Ayez la bonté.*	Aiyai lah bongtai.
Yes, sir.	*Oui, Monsieur.*	Wee, mosseeu.
Yes, Madam.	*Oui, Madame.*	Wee, madamm.
Yes, Miss.	*Oui, Mademoiselle.*	Wee, madmouazel.
No, sir.	*Non, Monsieur.*	Nong, mosseeu.
Will you tell me?	*Voulez vous me dire?*	Voolai voo meh deer.
I thank you.	*Je vous remercie.*	Jeh voo remmairsee.
Do you speak English? French?	*Parlez vous anglais? français?*	Parlai-voo aunglai? fraunsai?
I do not speak French.	*Je ne parle pas français?*	Jeh neh parl pah fraunsai.
I understand.	*Je comprends.*	Jeh comprong.
I do not understand.	*Je ne comprends pas.*	Jeh neh comprong pah.
Do you understand?	*Comprenez-vous?*	Comprennai-voo.
Give me some bread.	*Donnez moi du pain.*	Donnai mouah du pang.
Bring me some coffee.	*Apportez-moi du café.*	Apportai-mouah du caffay.
Thank you.	*Merci.*	Mairsee.
Good morning.	*Bon jour.*	Bong joor.
How do you do?	*Comment vous portez vous?*	Commong voo portai voo?
Very well.	*Très-bien.*	Tray beeang.
I am very well.	*Je me porte fort bien.*	Jeh meh port fore beeang.
How is your father?	*Comment se porte monsieur votre pere?*	Commong seh port mosseeu votr pare?
How is your mother?	*Comment se porte madame votre mère?*	Commong seh port maddam votr mare?
She is not well.	*Elle ne se porte pas bien.*	El neh seh port pah beeang.
She is ill.	*Elle est malade.*	El ai mallad.
He is very ill.	*Il est bien malade.*	Eel ai beeang mallad.
She has a cold.	*Elle est enrhumée.*	El ait aunreemay.
I must go.	*Il faut partir.*	Eel fo parteer.
Good-by.	*Au plaisir.*	O playzeer.
Farewell.	*Adieu.*	Adieu.

ENGLISH.	FRENCH.	PRONUNCIATION.
Your servant.	*Votre serviteur.*	Votr sairveetur.
I wish you a good morning.	*Je vous souhaite le bon jour.*	Jeh voo sooate leh bong joor.
Good evening.	*Bon soir.*	Bong souar.
Good night.	*Bonne nuit.*	Bon nwee.
I wish you good night.	*Je vous souhaite une bonne nuit.*	Jeh voo sooate une bon nwee.
My compliments to your father.	*Saluez monsieur votre père de ma part.*	Salluai mossieu votr pare deh mah par.
I will not fail.	*Je n'y manquerai pas.*	Jeh nee maunkrai pah.

SPECULATORY.

What!	*Comment!*	Commong!
Is it possible?	*Serait-il possible!*	Serrait-eel posseebl?
Who would have believed it!	*Qui l'aurait cru!*	Kee loray cru!
Indeed!	*En vérité!*	Ong vereetay.
It is impossible.	*Cela est impossible.*	Slah ait amposseebl.
That cannot be.	*Cela ne se peut pas.*	Slah neh seh peu pah.
I am astonished at it.	*Je' suis bien étonné.*	Jong swee beean aitonnai.
It is incredible.	*C'est incroyable.*	Sait angcrwoyable.
I am sorry for it.	*J'en suis fâché.*	Jong swee fashai.
It is a great pity.	*C'est bien dommage.*	Say beeang dommaje.
It is a great misfortune.	*C'est un grand malheur.*	Sait ung grong malleur.
I am very glad.	*Je suis bien aise.*	Jeh swee beean aze.
I am very glad of it.	*J'en suis fort aise.*	Jong swee fort aze.
It gives me great joy.	*J'en ai bien de la joie.*	Jon ay beeang deh lah jouah.
I wish you joy.	*Je vous félicite.*	Jeh voo faileeseet.
I congratulate you on it.	*Je vous en fais mon compliment.*	Jeh vooze ong fay mong compleemong.

AGE.

How old are you?	*Quel âge avez-vous?*	Kel ahje avai voo?
I am twenty-two.	*J'ai vingt-deux ans.*	Jay vang-deuh ong.
I shall soon be thirty.	*J'ai bientôt trente ans.*	Jay beeangto traunt ong.
He looks older.	*Il paraît plus âgé.*	Eel paray pluze ahjai.
I did not think you were so old.	*Je ne vous croyais pas si âgé.*	Jeh neh voo crwoyai pah see ahjai.

TO ASK QUESTIONS.

What do you say?	*Que dites-vous?*	Keh deet voo?
Do you hear me?	*M'entendez-vous?*	Mauntaundai-voo?
I don't speak to you.	*Ce n'est pas à vous que je parle.*	Snay paz ah voo keh jeh parl.
Do you understand me?	*Me comprenez-vous?*	Meh comprennay voo?
Listen.	*Ecoutez.*	Aicootai.
Come here.	*Approchez — venez ici.*	Aproshai — Vennaiz eessee.
What is that?	*Qu'est-ce que cela?*	Case keh sla?
Why don't you answer?	*Pourquoi ne répondez-vous pas?*	Poorcouah neh raipondai voo pah?
What do you mean?	*Que voulez-vous dire?*	Keh voolai-voo deer?
Don't you speak French?	*Ne parlez-vous pas francais?*	Neh parlai voo pah fraunsay?
Very little, sir.	*Bien peu, Monsieur.*	Beeang peuh, mossieu.
Do you know Mr. H.?	*Connaissez-vous Monsieur H.?*	Connaissai voo mossieu H.?
I know him by sight.	*Je le connais de vue.*	Jeh leh connay deh vu.
I know him by name.	*Je le connais de nom.*	Jeh leh connay deh nong.
What do you call that?	*Comment appelez-vous cela?*	Comment applai voo sla?
What does that mean?	*Qu'est-ce que cela veut dire?*	Case keh sla veuh deer?
What is that good for?	*A quoi cela est-il bon?*	Ah couah sla ait eel bong?

MORNING CHAT.

What o'clock is it?	*Quelle heure est-il?*	Kel eur ait-eel?
It is near eight.	*Il est près de huit heures.*	Eel ai pray deh weet eur.
Light the fire.	*Faites du feu.*	Fate du feuh.
I am going to get up.	*Je vais me lever.*	Jeh vay meh levvai.
Get me some hot water.	*Allez me chercher de l'eau chaude.*	Allai meh shairshai deh lo shoue.
Make haste.	*Ne soyez pas longtemps.*	Neh swoyai pah longtong.
How have you slept?	*Comment avez-vous dormi?*	Commont avai-voo dormee?
Did you sleep well?	*Avez-vous bien dormi?*	Avai-voo beeang dormee?
Very well, thank you.	*Très-bien, je vous remercie.*	Tray beeang, jeh voo remmairsee.
Not very well.	*Pas très-bien.*	Pah tray beeang.
I never woke all night.	*J'ai dormit tout d'un somme.*	Jay dormee too dung som.
I could not sleep.	*Je n'ai pas pu dormir.*	Jeh nai pah pu dormeer.
I never closed my eyes.	*Je n'ai pas fermé l'œil.*	Jeh nai pah fairmay lile.
I have been up this hour.	*Il y a une heure que je me suis levé.*	Eel ee ah une eur keh jeh meh swee levai.
You are an early riser.	*Vous êtes matinal.*	Vooz ait matteenal.
I generally rise early.	*Je me lève ordinairement de bonne heure.*	Jeh meh lave ordeenaremong deh bon eur.
Breakfast is ready.	*Le déjeûner est prêt.*	Leh daijeunay ai pray.
Is breakfast ready?	*Le déjeûner est-il prêt?*	Leh daijeunay ait eel pray?
Come to breakfast.	*Venez déjeûner.*	Vennay daijeunay.
That is enough.	*Cela est assez.*	Sla ait assay.
Some rolls.	*Des petits pains.*	Day pettee pang.
Do you drink tea or coffee?	*Prenez-vous du thé ou du café?*	Prennay-voo du tay oo du caffay?
This cream is sour.	*Cette crême s'est agrie.*	Set crame sait agree.
Will you take an egg?	*Voulez-vous manger un œuf?*	Voolay-voo maunjay un uf?
These eggs are hard.	*Ces œufs son durs.*	Saze euf son dure.
Pass me the butter.	*Passez-moi le beurre.*	Passay mouah leh beur.
Is the coffee strong enough?	*Le café est-il assez fort?*	Leh caffay ait eel assay fore?
We want more cups.	*Il nous manque des tasses.*	Eel noo maunk day tass.
Take some more sugar.	*Prenez encore du sucre.*	Prenaze auncore du sucr.
A piece of toast.	*Une rôtie.*	Une rotee.
Cold meat.	*De la viande froide.*	De lah veeaund frouad.
The table-cloth.	*La nappe.*	Lah nap.
The sugar-bowl.	*Le sucrier.*	Leh sucreeay.
Chocolate.	*Du chocolat.*	Du shocolah.
A knife.	*Un couteau.*	Ung cooto.
This knife is blunt.	*Ce couteau ne coupe pas.*	Seh cooto neh coop pas.
We have done breakfast.	*Nous avons fini de déjeûuer.*	Nooz avong feenee deh daijeunay.

AT THE DINNER-TABLE.

Show me the bill of fare.	*Montrez-moi la carte.*	Mongtray mouah lah carte.
What soup will you have?	*Quelle soupe vous servirai-je?*	Kel soup voo sairveeraije.

ENGLISH.	FRENCH.	PRONUNCIATION.
Maccaroni soup.	*De la soupe au macaroni.*	Deh lah soup o maccaroni.
Have you any roast-beef?	*Avez-vous du bœuf rôti?*	Avay-voo du beuf rotee?
Not to-day.	*Pas aujourd'hui.*	Paz ojoordwee.
We have very fine fish.	*Nous avons de très-bon poisson.*	Nooz avong deh tray-bong pouahssong.
What wines will you have?	*Quels vins Monsieur désire-t-il?*	Kel vang mossieu day-zeer-t-eel?
Let us see.	*Voyons.*	Vwoiyong.
Here is the list.	*En voici la liste.*	Ong vwoysee lah leest.
We shall dine at six o'clock.	*Nous dinerons à six heures.*	Noo deenerons ah seece eur.
Be punctual.	*Soyez exacte.*	Swoyaiz exact.
What shall I help you to?	*Que vous servirai-je?*	Keh vos sairveeraije?
Will you take some soup?	*Voulez-vous un peu de soupe?*	Voolai-vooz ung peu deh soup?
No, thank you.	*Merci bien.*	Mairsee beeang.
Willingly.	*Très-volontiers.*	Tray volontyai.
Help yourself.	*Servez-vous.*	Sairvai voo.
Do you take pepper?	*Mangez-vous le poivre?*	Maunjai voo leh pouahvr.
Potatoes.	*Des pommes de terre.*	Day pom deh tare.
The mustard pot.	*Le moutardier.*	Leh mootardyai.
Give me a clean fork.	*Donnez-moi une fourchette propre.*	Donnay mouah une foorshet propr.
Are you hungry?	*Avez-vous faim?*	Avay-voo fang?
I am hungry.	*J'ai faim.*	Jay fang.
You don't eat.	*Vous ne mangez pas.*	Voo neh maunjay pah.
Are you thirsty?	*Avez-vous soif.*	Avay voo souaf?
I am very thirsty.	*J'ai bien soif.*	Jay beeang souaf.
I am dying of thirst.	*Je meurs de soif.*	Je meur deh souaf.
Take a glass of wine.	*Prenez un verre de vin.*	Prennaze ung vair de vang.
Give me something to drink.	*Donnez-moi à boire.*	Donnay mouah ah bouahr.
A cork-screw.	*Un tire-bouchon.*	Ung teer booshong.

TALK AT THE TEA-TABLE.

Tea is quite ready.	*Le thé est tout prêt.*	Leh tay ai too pray.
They are waiting for you.	*On vous attend.*	Ong vooz attong.
I am coming.	*Me voici.*	Meh vwoysee.
Pour out the tea.	*Versez le thé.*	Vairsay leh tay.
Bring a saucer.	*Apportez une soucoupe.*	Apportaze une soo-coop.
Ring, if you please.	*Sonnez, s'il vous plaît.*	Sonnay seel voo play.
A little more milk.	*Encore un peu de lait.*	Auncore ung peu deh lay.
What will you take?	*Que prendrez-vous?*	Keh praundray voo?
A slice of bread and butter.	*Une beurrée—une tartine de beurre.*	Une beurray—une tarteen deh beur.
Hand the plate.	*Passez l'assiette.*	Passay lassyett.
Will you take some cake?	*Voulez-vous du gâteau?*	Voolay voo du gahto?
A small piece.	*Un petit morceau.*	Ung pettee morso.
Make some toast.	*Faites encore des rôties.*	Fates auncore day rotee.
Make haste.	*Dépêchez-vous.*	Daypayshay voo.
This is excellent tea.	*Voilà d'excellent thé.*	Vwoyla dexcellong tay.
The tea-tray.	*Le cabaret.*	Leh cabbaray.
The milk jug.	*Le pot au lait.*	Leh pote o lay.
A set of tea-things.	*Un service.*	Ung sairveece.
Brown bread.	*Du pain bis.*	Du pang bee.
White bread.	*Du pain blanc.*	Du pang blong.
Stale bread.	*Du pain rassis.*	Du pang rassee.
New bread.	*Du pain frais.*	Du pang fray.

BED-TIME.

ENGLISH.	FRENCH.	PRONUNCIATION.
It is late.	*Il est tard.*	Eel ai tar.
It is not late.	*Il n'est pas tard.*	Eel nay pah tar.
It is still early.	*Il est encore de bonne heure.*	Eel ait auncore deh bon eur.
Are you tired?	*Etes-vous fatigué.*	Ait voo fateegay?
Not at all.	*Point du tout.*	Pouang du too.
Not much.	*Pas beaucoup.*	Pa bocoo.
It is only ten.	*Il n'est que dix heures.*	Eel nay keh deeze eur.
It is time to go to bed.	*Il est l'heure de se coucher.*	Eel ai leur deh seh cooshay.
Is my room ready?	*Ma chambre est-elle prête?*	Ma shaumbr ait e prate?
Go and see.	*Allez voir.*	Allay vouahr.
A blanket.	*Une couverture de laine.*	Une coovairture deh lane.
Good night.	*Bon soir.*	Bong souahr.
I wish you a good night.	*Je vous souhaite une bonne nuit.*	Jeh-voo sooate une bon nwee.
I am sleepy.	*J'ai sommeil.*	Jay sommail.
Are you sleepy?	*Avez-vous sommeil?*	Avay-voo sommail?

THE TIME OF DAY.

What o'clock is it by your watch?	*Quelle heure est-il à votre montre?*	Kel eur ait-eel a voti mauntr?
It has stopped.	*Elle s'est arrêtée.*	El sait arraytai.
I forgot to wind it up.	*J'ai oublié de la monter.*	Jay oobleeay deh la mauntay.
My watch is too fast.	*Ma montre est en avance.*	Ma mauntr ait an avaunce.
It gains.	*Elle avance.*	El avaunce.
It is too slow.	*Elle est en retard.*	El ait ong retard.
It is a quarter of an hour too slow.	*Elle retarde d'un quart d'heure.*	El retard dung kar deur.
It goes right.	*Elle va bien.*	El va beeang.
A quarter to eight.	*Huit heures moins un quart.*	Wheet eur mouans ung kar.
Midnight.	*Minuit.*	Meenwee.
Noon.	*Midi.*	Meedee.
A quarter past one.	*Une heure et quart.*	Une eur ai kar.
Half past four.	*Quatre heures et demie.*	Katr eur ai demmee.
Twenty minutes to six.	*Six heures moins vingt.*	Seece eur mouang vang.
It has just struck nine.	*Neuf heures viennent de sonner.*	Neuv eur veeyen deh sonnay.
Ten minutes past seven.	*Sept heures dix minutes.*	Set eur dee meenute.
Exactly three o'clock.	*Trois heures juste.*	Trouaz eur juste.
The clock is striking.	*Voilà l'horloge qui sonne.*	Vwoyla lorloje kee son.

THE PROMENADE.

Shall we take a little walk?	*Irons-nous faire un petit tour?*	Eerong noo fare ung pettee toor?
Willingly.	*De tout mon cœur.*	Deh too mong keur.
Where shall we go?	*Par où irons-nous?*	Par oo eerong noo?
On the high road.	*Sur la grande route.*	Sure la graunde root.
There is a good deal of dust.	*Il y fait beaucoup de poussière.*	Eel ee fay bocoo deh poossyare.
Into the fields.	*Dans la campagne.*	Dong la caumpaine.
They are reaping.	*On moissonne.*	Ong mwoysson.
They are making hay.	*On fauche l'herbe.*	On foshe lairbe.
What a pleasant scent!	*Quelle odeur délicieuse!*	Kel odeur daileesee-yeuse.
An abundant harvest.	*Une moisson (une récolte) abondante.*	Une mwoyssong (une raicolt) abaundaunte.
Let us cross this field.	*Traversons ce champ.*	Travairsong seh shong.
Which is the way to A.?	*Quel est le chemin pour aller à A.?*	Kel ai leh shemmang pour allay ah A?

ENGLISH.	FRENCH.	PRONUNCIATION.
Where does this road lead?	*Où conduit cette route?*	Oo condwee set root?
Which way am I to go?	*De quel côté faut-il que j' aille?*	Deh kel cotay fot eel keh j'aeel?
Straight before you.	*Allez droit devant vous.*	Allay drouah devong voo.
To the left.	*A gauche.*	Ah goshe.
To the right.	*A droite.*	Ah drouate.
About a mile.	*Environ un mille.*	Ongveerong ung meel.
Hardly a mile.	*A peine un mille.*	Ah pane ung meel.
Let us go in.	*Rentrons.*	Rauntrong.

PERSONAL ENQUIRIES.

Do you know Mr. F.?	*Connaissez-vous Monsieur F.?*	Connassay voo mossieu F.?
I don't know anybody of that name.	*Je ne connais personne de ce nom.*	Jeh neh connay pairson deh seh nong.
I know him.	*Je le connais.*	Jeh leh connay.
Intimately.	*Intimement.*	Angteememong.
I am very intimate with him.	*Je suis très-lié avec lui.*	Jeh swee tray leeay avec lwee.
He is a friend of mine.	*Il est un de mes amis.*	Eel ait ung deh maze amee.
I have known him a long time.	*Je le connais depuis longtemps.*	Jeh leh connay depwee longtong.
He is my brother-in-law.	*C'est mon beau-frère.*	Sai mong bo-frare.
Do you know him?	*Le connaissez-vous?*	Leh connaissay-voo.
I know him very well.	*Je le connais parfaitement.*	Jeh leh connay parfatemong.
Where does he live?	*Où demeure-t-il?*	Oo demmeur-t-eel?
Close by.	*Ici près.*	Eessee pray.
A step or two from here.	*A deux pas d'ici.*	Ah deu pa deessee.
Is it far?	*Est-ce loin?*	Ai-ce louang.
Can you direct me to his house?	*Pouvez-vous m'indiquer sa maison?*	Poovay-voo mandeekay sah maisong?
I will show you where he lives.	*Je vous montrerai où il demeure.*	Jeh voo mauntrerai oo eel demmeur.

THE SEASONS.

Spring has come.	*Voilà le printemps arrivé.*	Vwoila leh prangtongs arreevay.
It is still cool.	*Il fait toujours un peu frais.*	Eel fay toojoors ung peu fray.
The trees are beginning to bud.	*Les arbres commencent à boutonner.*	Laiz arbr commaunse ah bootonnnay.
The season is very forward.	*La saison est bien avancée.*	Lah saizon ai beeang avaunsay.
The season is very backward.	*La saison est bien retardée.*	Lah saizon ai beeang retarday.
Summer is coming.	*L'été approche.*	Lettay approshe.
It is becoming warm.	*Il commence à faire chaud.*	Eel commaunse a fare sho.
I am very warm.	*J'ai bien chaud.*	Jay beeang sho.
It is very warm.	*Il fait très-chaud.*	Eel fay tray sho.
It is a fine day.	*C'est un beau jour.*	Sait ung bo joor.
The heat is unbearable.	*La chaleur est insupportable.*	Lah shalleur ait angsupportabl.
Let us go into the shade.	*Allons dans l'ombre.*	Allong dong lombr.
I think we are going to have a storm.	*Je crois que nous aurons de l'orage.*	Jeh croah keh nooz orong de lorahje.
Summer is over.	*Voilà l'été passé.*	Vwoila lettay passay.
The leaves are beginning to fall.	*Les feuilles commencent à tomber.*	Lay file commaunst a taumbay.
The days are still fine.	*Les jours sont encore fort beaux.*	Lay joor sont auncore fore bo.

ENGLISH.	FRENCH.	PRONUNCIATION.
We must soon begin fires.	*Il faudra que nous ayons du feu sous peu.*	Eel fodrah keh nooz ayong du feu soo peu.
We have had a fire already.	*Nous avons déjà fait du feu.*	Nooz avong dayjah fay du feu.
It is soon dark.	*Il fait bientôt nuit.*	Eel fay beeangto nwee.
It is a fine night.	*Il fait une belle nuit.*	Eel fait une bel nwee.
A dark night.	*Une nuit obscure.*	Une nwee obscure.
Is it moonlight?	*Fait-il clair de lune?*	Fait-eel clare deh lune.
Do you think it will rain?	*Croyez-vous qu'il pleuve?*	Crwoiyai-voo keel pleuv?
I am afraid so.	*J'en ai peur.*	Jon ai peur.
It rains.	*Il pleut.*	Eel pleu.
It drizzles.	*Il bruine.*	Eel brueene.
It pours.	*Il pleut à verse.*	Eel pleut a vairse.
It is very windy.	*Il fait bien du vent.*	Eel fay beeang du vong.
It is winter.	*Nous voilà dans l'hiver.*	Noo vwoila dong leevair.
It is very cold.	*Il fait excessivement froid.*	Eel fait excesseevmong frouah.
It is bad weather.	*Il fait mauvais temps.*	Eel fay movay tong.
Cloudy weather.	*Un temps gris.*	Ung tong gree.
It is foggy.	*Il fait du brouillard.*	Eel fay du brooillar.
The sky is overcast.	*Le ciel est pris de tous côtés.*	Leh seeyel ai pree deh too cotay.
It snows.	*Il neige.*	Eel naje.
It freezes.	*Il gèle.*	Eel jale.
Can you skate?	*Savez-vous patiner.*	Savay voo pateenay?
It thaws.	*Il dégèle.*	Eel daijale.
Christmas.	*Noel.*	Noel.
New Year's day.	*Le jour de l'an.*	Le joor deh long.
Light the fire.	*Allumez le feu.*	Allumay leh feu.
I am looking for the tongs.	*Je cherche les pincettes.*	Jeshairshe lay pangset.
Are there any coals?	*Y-a-t-il du charbon?*	Ee at eel du sharbong.
Tell the servant to bring some.	*Dites à la servante d'en apporter.*	Deets ah lah sairvaun don opportay.

GENERAL CONVERSATION.

Can you read French?	*Pouvez-vous lire le francais?*	Poovay voo leer leh fraunsay?
You read very well.	*Vous lisez très-bien.*	Voo leesay tray beeang.
Do you speak French?	*Parlez-vous français?*	Parlay voo fraunsay?
I speak it a little.	*Je le parle un peu.*	Jeh leh parl ung peu.
I do not understand it.	*Je ne le comprends pas.*	Jeh neh leh comprong pah
How long have you learned?	*Depuis quand l'apprenez vous?*	Depwee kong lapprenay voo?
A short time only,	*Depuis peu de temps.*	Depwee peu deh tong.
You pronounce very well.	*Vous prononcez très bien.*	*Vooz* pronongsay tray beeang.
You have a very good accent.	*Vous avez l'acoent très-pur.*	Vooz avay lacsong tray pure.
Do you understand?	*Comprenez-vous?*	Comprenay voo?
It is no matter.	*Ce n'est rien.*	Snay reeang.
I am come to tell you.	*Je viens vous dire.*	Jeh veeang voo deer.
I don't think much of it.	*Je n'en fais pas grand cas.*	Jeh nong fay pah grong cah.
No sooner said than done.	*Aussitôt dit, aussitôt fait.*	Osseeto dee, osseeto fay.
I can bear it no longer.	*Je n'en puis plus.*	Jeh nong pwee plu.
She took it in bad part.	*Elle l'a pris en mauvaise part.*	El lah preez on movaze par.
I like being here.	*Je me plais ici.*	Jeh me plaze eessee.
I have been told.	*On m'a dit.*	Ong mah dee.
As much as I can.	*Autant qu'il est en moi.*	Otong keel ait ong mouah.
So much the more.	*A plus forte raison.*	Ah plu fort raisong.
I value it very much.	*J'y tiens beaucoup.*	Jee teeang bocoo.

Practical and Ornamental PENMANSHIP

OF the importance to all classes of a legible, easy and rapid handwriting, we scarcely need speak. No other one attainment assists an equal number of young ladies and gentlemen to positions of profit and advancement, or affords more satisfaction as an accomplishment; and we believe it to be an acquirement within the reach of all persons having common sense and one good hand.

It has been the determination of the publishers of this work to spare no pains or expense to place before the student the very best instruction and examples in every department of Penmanship. They accordingly employed Prof. D. T. Ames, of New York, the famed pen artist, and editor of the *Penman's Art Journal*, to prepare, specially for this work, the following pages of instruction and examples. It is their belief that the instruction embodies the best thought of the times, while the copies and specimens are certainly the product of the highest order of artistic skill.

All the copies and specimens have been photo-engraved directly from the original pen-and-ink copy, and therefore may be said to be actual pen-work, and not the result of the engraver's skill, as is generally the case with what has heretofore been presented to the public as reproductions of penmanship.

The learner will, therefore, know that the copies before him, having once been executed with a pen, may be exactly reproduced by the same simple process.

If, in some instances, the forms are less rigidly correct, or the lines less delicate than are fine plate engravings, we are fully convinced that the more easy, flowing and natural lines of the actual pen-work will more than compensate for such lack, if so it may be termed.

The publishers are confident that no equally practical and useful exposition of teaching and practicing the art of Penmanship has ever been presented to the public.

POSITIONS.

FIRST in importance to the pupil in writing is a CORRECT POSITION. As in logic an error in the premises must lead to false conclusions, so a bad position while learning to write must lead to failure. It is only when in a correct position that the pen, even in the hand of its skillful master, is capable of producing the smooth, graceful line, shade and curve so essential to good writing. If such is the fact when in a master's hand, how doubly so it is in the undisciplined and struggling hand of the learner!

It is also important that a proper position be maintained at the table or desk, as well as the relative positions of the pen, hand, paper, desk and body.

Each of three positions at the desk has more or less advocates, and each, in our opinion, is commendable, according to the circumstances of the writer. We give each position, with the reasons urged in their favor.

RIGHT POSITION.

RIGHT POSITION.—Turn the right side near to the desk, but not in contact with it. Keep the body erect, the feet level on the floor. Place the right arm parallel to the edge of the desk, resting on the muscles just forward of the elbow, and rest the hand on the nails of the third and fourth fingers, not permitting the wrist to touch the paper. Let the hands be at right angles to each other, and rest on the book, keeping the book parallel to the side of the desk.

This position is advocated as furnishing the best support for the hand and arm while writing, and we think not without justice in school or class rooms, where the desk is often sloping and narrow.

FRONT POSITION.—In this, the same relative position of hand, pen and paper should be maintained as described in the former one. In commercial colleges and writing academies, where more spacious desks, or tables, are used than in the common school room, this position is permissible and is frequently adopted.

FRONT POSITION.

LEFT POSITION.—Without illustrating this position, we would say that the left side is presented to the desk, and the same relative positions maintained as in the right and front. This position is advocated on the ground of its relieving the right arm from being burdened with any support of the body while writing, and thus giving a more free, rapid and less tiresome action to the hand and arm. This argument has considerable force where the fore-arm or muscular movement is practiced.

It is also the most convenient, if not a necessity, in the counting-room, where numerous and large books are required to remain in a position at right angles with the desk, and also in the execution of large drawings or specimens of penmanship, which necessarily, or most conveniently, occupy positions directly in front of the artist.

RIGHT OBLIQUE POSITION.—Another position at the desk, sometimes advocated by authors and teachers, is the right oblique, which is a position between the front and side, as illustrated below.

RIGHT OBLIQUE POSITION.

In our opinion, the question which of these positions is to be adopted is not of such vital importance as that the proper relative position of pen, hand and paper should be maintained, and that the arm should be perfectly free from the weight of the body while writing.

POSITION OF PEN AND ARM.—Take the *pen* between the first and second fingers and thumb, letting it cross the forefinger just forward of the knuckle, and the second finger at the root of the nail, three-fourths of an inch from the pen's point. Bring the point squarely to the paper and let the tip of the holder point toward the right shoulder.

The *thumb* should be bent outward at the first joint, and touch the holder opposite the first joint of the forefinger.

The *first and second fingers* should touch each other as far as the first joint of the first finger; the *third and fourth* must be slightly curved and separate from the others at the middle joint, and rest upon the paper at the tips of the nails. The *wrist* must always be elevated a little above the desk. This position of the pen is undoubtedly the best for all writers using the finger movement, as it admits of the greatest freedom and facility of action of the fingers. But among writers using the muscular movement, where less depends upon the action of the fingers, it is common, and we think well, to allow the holder to

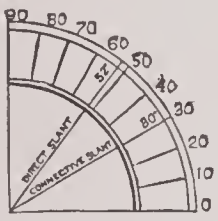
fall back and below the knuckle joint. It is more easily held, and, from its forming a more acute angle with the paper, moves more readily and smoothly over its surface.

Finger Movement is the combined action of the first and second fingers and thumb.

Fore-Arm Movement is the action of the fore-arm sliding the hand on the nails of the third and fourth fingers.

Combined Movement is that which is most used in *business penmanship*. It is a union of the fore-arm with the finger movement, and possesses great advantage over the other movements in the greater rapidity and ease with which it is employed.

Whole-Arm Movement is the action of the whole arm from the shoulder, with the elbow slightly raised, and the hand sliding on the nails of the third and fourth fingers, and is used with facility in striking capital letters and in off-hand flourishing.



SCALE OF SLANT.

Main Slant.—A straight line slanting to the right of the vertical, forming an angle of 52° with the horizontal, gives the *main slant* for all written letters.

Connective Slant.—Curves which connect straight lines in small letters, in a medium style of writing, are usually made on an angle of 30°. This is called the *connective slant*. See diagram.

Base Line.—The horizontal line on which the writing rests is called the *base line*.

Head Line.—The horizontal line to which the short letters extend is called the *head line*.

Top Line.—The horizontal line to which the loop and capital letters extend is called the *top line*.

A Space in Height is the height of small *i*.

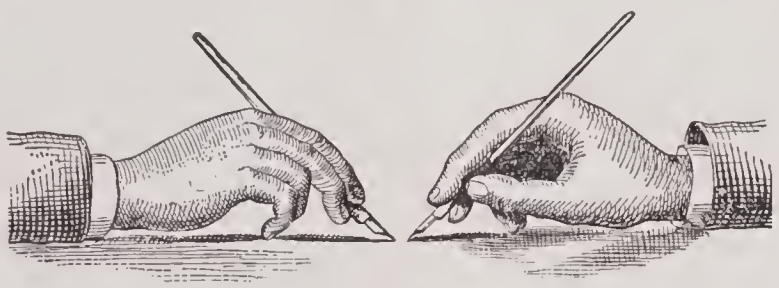
A Space in Width is the width of small *u*.

The distance between the small letters is 1¼ spaces, measured at head line, except in the *a*, *d*, *g* and *q*. The top of the *pointed oval* in these letters should be two spaces to the right of a preceding letter.

Upper and Lower Turns.—In the analysis of small letters, short curves occur as connecting links between the principles. These curves we call *turns*. When one appears at the top of a letter, it is called an *upper turn;* when at the base, it is called a *lower turn*.

MOVEMENT EXERCISE.

All instruction in penmanship should be initiated with a liberal use of movement exercises, arranged and practiced with the view of facilitating upward and downward as well as lateral movement of the hand, and each and every lesson should be preceded by more or less practice upon movement exercises.



POSITION OF PEN AND ARM.

CARE IN PRACTICE.

In practicing upon movements and writing, it should be constantly borne in mind that it is not the amount of practice so much as the careful and thoughtful effort to acquire precision and certainty that determines the success of the writer.

It is often said that "practice makes perfect." This is true, if the term practice implies thoughtful, patient and persistent effort for improvement; otherwise it may be quite untrue.

Thoughtless scribbling tends rather to retard than to enhance the acquisition of good writing. Each time a copy has been carelessly repeated, incorrect or bad habits have been confirmed rather than corrected—a move backward instead of forward. This is a fact not sufficiently appreciated by teachers or pupils. Better far not to practice than to do so carelessly; one might as well seek to win a race by occasionally taking a turn in the opposite direction.

Good or well-constructed writing is no more essential than that it should be executed with facility and ease; yet we would have no learner fall into the mistaken idea that he is to give special attention to speed before having acquired by deliberate study and practice correct forms and proportions in writing. First accuracy, then speed. Rapid and thoughtless practice is worse than useless. The mind must be educated before the hand. The hand and pen are only the servants of the mind, and as such can never surpass the mind's conception and power to guide and direct in any performance.

If upon the tablets of the mind there is presented constantly to our mental vision a perfect copy of the letters and their varied combinations into graceful writing, the hand will strike for the single and definite purpose of reproducing the same, and will progress steadily to the attainment of skill requisite for the reproduction of the most perfect conceptions of the mind. The hand of the greatest sculptor or artist has no cunning not imparted by a skillful brain. Michael Angelo was the chief of artists, because of his superior mental conception of art, and may we not suppose that the untouched canvas presented to his mental vision all the grandeur and beauty in design and finish that delighted the eye of the beholder when finished into the most exquisite painting? The hand can never excel the conception of the mind that educates and directs its action. If Spencer or Flickinger excel others in the perfection and beauty of penmanship, is it not because of their superior conception of that in which superior penmanship consists? The student who would have success must see that his practice is preceded by and always attended with thoughtful study and criticism.

After having once written the copy, study and criticise your effort before the next trial. Your faults noted, and a thought as to how they may be best corrected will enable you to make an intelligent and successful effort for improvement. Remember that unknown faults can never be avoided or corrected. First

study to discover, and then to mend. Short exercises or copies, if rightly practiced, are much more favorable for improvement than long ones, inasmuch as they are repeated at intervals so short as to keep faults and criticisms fresh in mind, while oft-repeated efforts for correction will be correspondingly effective. Faults observed by ourselves or pointed out by others at the beginning of a long copy are very likely to be out of mind before that portion of the copy in which they occur is repeated.

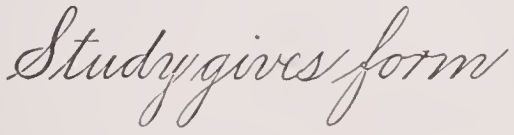
WRITING NOT A SPECIAL GIFT.

It is often said that good writing is a "special gift." This idea is not only fallacious, but is exceedingly pernicious as regards the acquisition of good writing, inasmuch as it tends to discourage pupils who write badly, by leading them to believe that, not having "the gift," they are debarred from becoming good writers.

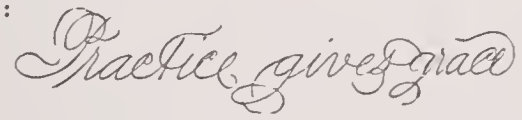
Good writing is no more a gift than is good reading, spelling, grammar, or any other attainment, and in the same way it is and *can* be acquired, viz., by patient and studious effort.

The correct form and construction of writing must be learned by study, while practice must give the manual dexterity for its easy and graceful execution. Many persons fail to become good writers from not properly uniting study and practice. Careful study with too little practice will give writing comparatively accurate in its form and manner of construction, but labored, stiff and awkward in its execution; while, upon the other hand, much practice with little study imparts a more easy and flowing style, but with much less accuracy, as regards the forms of letters and general proportion and construction of the writing, which will commonly have a loose and sprawly appearance.

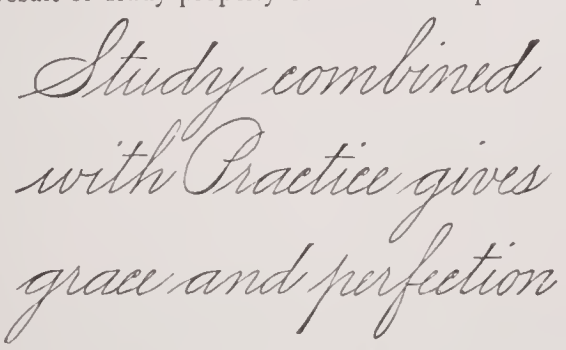
Example of writing which has resulted more from study than practice:



Example of writing in which there has been more practice than study:



The result of study properly combined with practice:



Undoubtedly, many of our readers will see forcibly illustrated in one of these examples their own experience. So manifest is the effect of these different modes of practice that we have only to glance at a piece of writing to discern the extent to which a writer has combined study with practice while learning to write.

UNITY AND SIMPLICITY OF FORM.

It is an old but true saying that "a jack of all trades is master of none." This is so from the fact that, working at many things, neither the hand nor brain can attain to a high order of proficiency or skill. It is the specialist that advances the standard of progress in all the directions of human discovery. Concentration of thought and action makes the great masters of the world, while by a diffusion of the same the greatest genius is dissipated and fails to attain to a marked degree of eminence.

So, in learning to write, the pupil who vacillates between many systems and multitudinous forms of letters must inevitably fail of becoming an expert and skilful writer.

It is a matter of frequent observation that persons learning or practicing writing vacillate between from two to six different forms of the capitals, and as many as are possible in the small letters, apparently in the belief that variety is the chief element of good writing, which is a double mistake, as it detracts from the good appearance of the writing at the same time that it enhances the difficulty of learning and of executing it.

For example, we have known writers who, in executing a short piece of writing, would for many of the letters make use of forms as varied and numerous as follows:

and use more or less variety in all of the letters, thus requiring study and practice upon *about one hundred* different and unnecessarily complicated forms for the alphabet, in place of twenty-six. Thus the labor and uncertainty of becoming a skillful writer is magnified fourfold. A single and simple form for each letter, capital and small, should be adopted, and, with a few exceptions, which we shall hereafter explain, should be invariably practiced. The frequent and uniform repetition will impart that accuracy of form, grace and facility of execution which constitute good writing.

The simple forms are not only more easily acquired and more rapidly executed, but they are more easily read than the more ornate styles; in fact, those forms that cost the most are worth the least. It is as if a merchant should constantly purchase an inferior class of merchandise and pay the high price of the best; his chances for success certainly would not be very promising.

ECONOMY OF FORM.

Labor, whether of the clerk or mechanic, is rewarded according to the results it can produce.

The copyist or clerk who can write one hundred words equally as well in the same time that another writes fifty will certainly, other things being equal, command twice as much pay. The rapidity with which writing can be executed depends largely upon the simplicity of the forms of letters used and the size of the writing. A medium or small hand is written with much more ease and rapidity than a large hand, from the fact that the pen can be carried over short spaces in less time and with greater ease than over long ones, and can execute simple

forms more easily and rapidly than complicated ones. To illustrate: Suppose one writer were to habitually make the capital *R* thus:

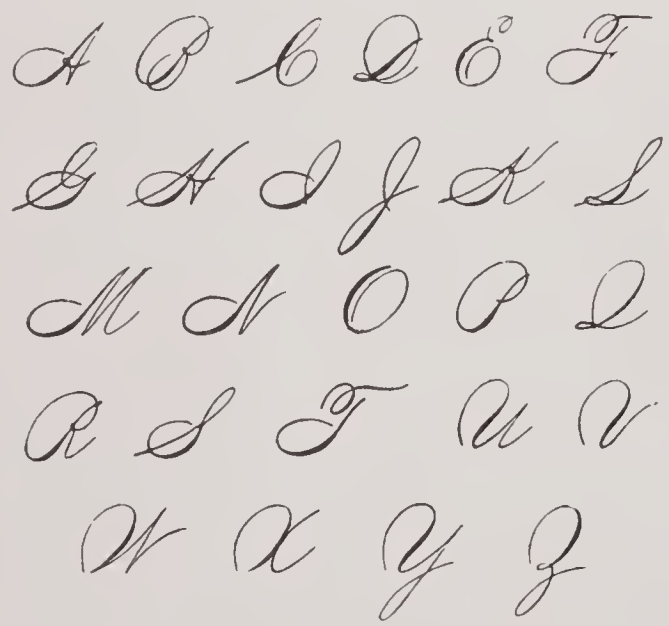
Which requires eleven motions of the hand to execute; and that another were to uniformly make it thus:

Requiring only four motions of the hand. It is apparent that the difference of time required to make each cannot be less than the proportion of eleven to four. That is not all. The complicated form consists of many lines, some of which are required to run parallel to each other, and all made with reference to balancing or harmonizing with some other line, and requires to be made with much greater care and skill than the more simple form, so that the disadvantage is even greater than indicated by the simple proportion between eleven and four.

The practice of these complex forms of the alphabet will be fatal to rapid and legible business writing.

These remarks are intended to apply more especially to business and unprofessional writing. Where show and beauty are of greater consideration than dispatch, variety and complexity of forms are quite proper, and even necessary.

We give here the entire alphabet of capitals such as we would recommend for all business purposes, as combining simplicity of form and ease of construction:



We would add as not objectionable the following:

CORRECT PROPORTION ESSENTIAL TO GOOD WRITING.

One might be able to execute faultlessly each single letter of the alphabet, and yet be a most miserable writer. Writing, to be really good, must be harmonious in all its parts; letters must be proportionate to each other, properly connected, spaced, have a uniform slope and degree of pen-pressure, etc., as well as an easy and graceful movement. The following example will illustrate the bad effect of disproportion of letters:

It will be seen that each letter, taken by itself, is creditably accurate in form, and yet, when associated with each other in a word, they present an appearance as ungainly as would an ox yoked with an elephant. We have often seen writing in which the letters were really badly formed, yet so harmonious in their combinations, and easy in their construction, as to present an attractive, not to say an elegant, effect; while, upon the other hand, we have often seen writing in which the letters were well formed, and yet so awkward in their combinations, and labored in their execution, as to be really painful to the sight of persons having a refined and correct taste regarding writing.

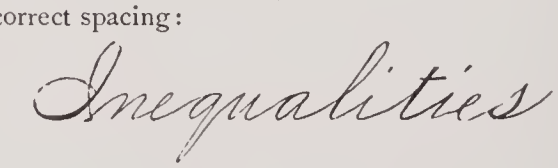
CORRECT AND INCORRECT SPACING.

Another important factor of good writing is the proper spacing and connecting of letters and words. Upon these very much depends, as in many instances the connecting lines alone impart the distinctive character to letters.

In determining the proper spacing of writing, the distance between the straight lines of the small *u* may be taken as a space in width. The distance between the parts of letters having more than one downward stroke should be one space; between the letters one and one-fourth spaces, measured at the head line, except *a*, *d*, *g* and *q*, which should occupy two spaces, measuring from the preceding letter to the point of the ovals; between words there should be two spaces.

Example of correct spacing:

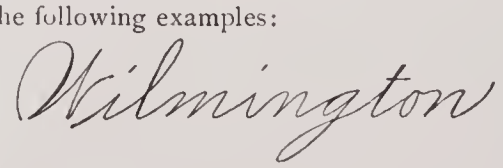
Incorrect spacing:



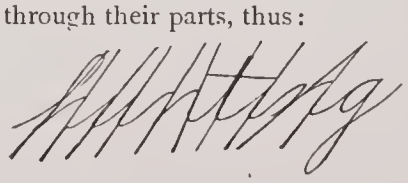
SLANT OF WRITING.

The degree of slant now adopted by the leading authors, and one which we approve, is at an angle of 52° from the horizontal, as per diagram in a preceding column.

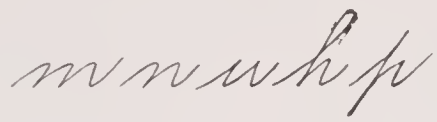
The relative effects of incorrect and correct slope may be seen in the following examples:



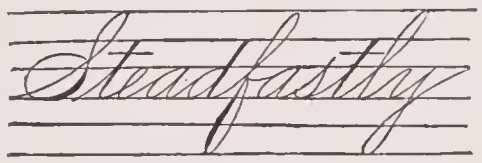
The variation in the slope of different letters and their parts will be rendered much more perceptible by drawing straight extended lines through their parts, thus:



One of the most common faults in slope occurs on the last part of letters *m*, *n*, *u*, *h* and *p*, which are made thus:



Example of correct slant, space, proportion, etc.:



SIZE OF WRITING.

In its practical application to the affairs of life, writing must be greatly varied in its size, according to place and purpose.

It would be obviously bad taste to use the same size and style of writing for the headings of a ledger and other books of account or record that would be employed on the body of a page. In the address of a letter and superscription upon the envelope much greater license, as regards size and style, may be taken than in the body of the writing. Nor is it practical at all times to maintain a uniform size for body writing. It may, with propriety, be written larger upon wide than narrow-ruled paper. Care should always be taken to gauge the size of the writing according to the space in and the purpose for which it is to be written. This should be done by varying the scale rather than the proportions of the writing. When writing upon ruled paper we should always imagine the space between the lines to be divided into four equal spaces, three of which may be occupied by the writing; the fourth must not be touched, save by the downward extended letters from the line above. This open space between the lines separates them, and enables the eye more readily to follow and distinguish between the lines when reading. A small or medium hand is the best, both as regards the readiness with which it is read and the ease and rapidity of its execution.

In a large hand, the writing is apt to be more or less intermingled and confused, the loops of one line often cutting into and obscuring the writing upon other lines, while the more extended sweeps of the pen in the large writing are proportionately slow and tedious.

For legibility, ease and rapidity of execution, small, unshaded writing is decidedly the best.

HOW TO LEARN AND TEACH WRITING.

CONSPICUOUS FAULTS.

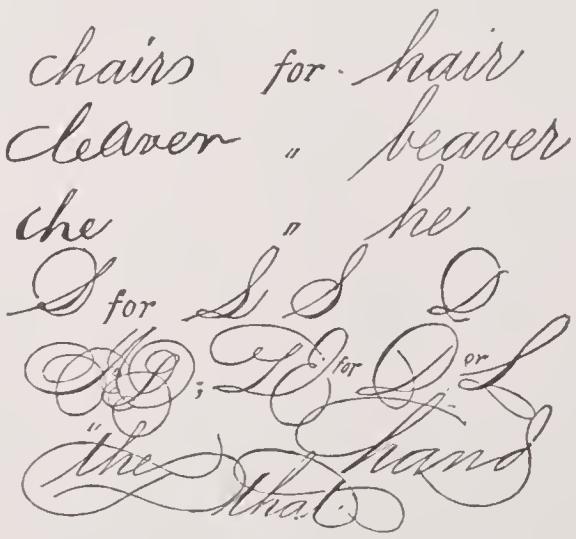
To note and indicate all the faults liable to occur in writing, or to prescribe a cure-all remedy, is more than we presume to undertake. They are as numerous and varied as are the circumstances, habits, tastes and accomplishments of the writers; but it is quite safe to say that a very large proportion of all the "unpleasantness" in writing comes from sheer carelessness on the part of the writers, which is manifest in the awkward, nondescript or uncertain forms which are employed—forms often most easy and graceful, but which, taken separately, represent no intelligible character, and, apart from the context, are liable to be mistaken for any one of the several letters that are similar in their construction. This fault is specially grievous where it occurs in an initial letter, in short names, abbreviations and cipher writing, as in such cases the context furnishes the reader little or no aid.

Another prolific source of annoyance, and not unfrequently illegibility, arises from the inexcusable use of flourishes and superfluous lines. We say *inexcusable*, because, at best, they mix and confuse the writing, and, when hurriedly and carelessly made, they frequently take forms which are liable to be mistaken by the reader for letters or parts of letters, and thereby puzzle and annoy, if not entirely change the intent of the writer. Another frequent fault is the personal eccentricity which leads writers to adopt, as *their style*, forms for letters, and especially capitals and in autographs, which are entirely outside the pale of any known system of writing, and whose identity can only be guessed at by those unfamiliar with the peculiarity.

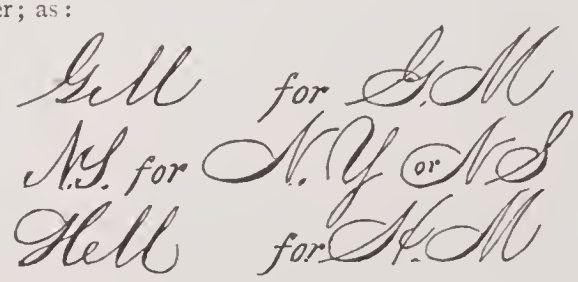
While, as we have stated, it is quite impossible to name all the sources of bad writing, or to formulate rules for its prevention or correction, we do believe that there are many of the most common faults—among which are those enumerated above—that with a little thought and care may be avoided.

To aid the student, as far as possible by negative instruction, to avoid some of the more common and inexcusable faults, we have formulated a few rules, with examples illustrative, which we here present.

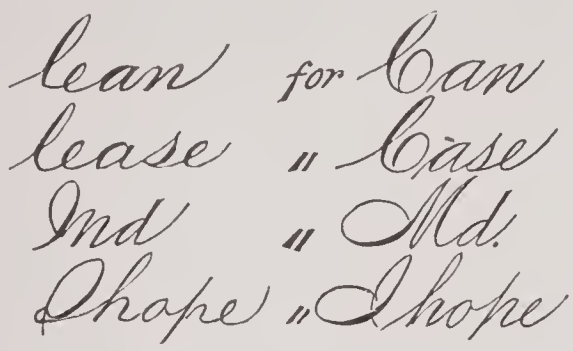
Rule First.—All unnecessary, superfluous or flourished lines must be omitted; as:



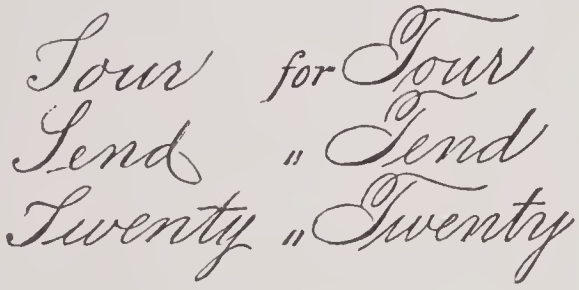
Rule Second.—No capital letters or words should be joined together; as:



Rule Third.—Capital letters should not be joined to the smaller letters; as:

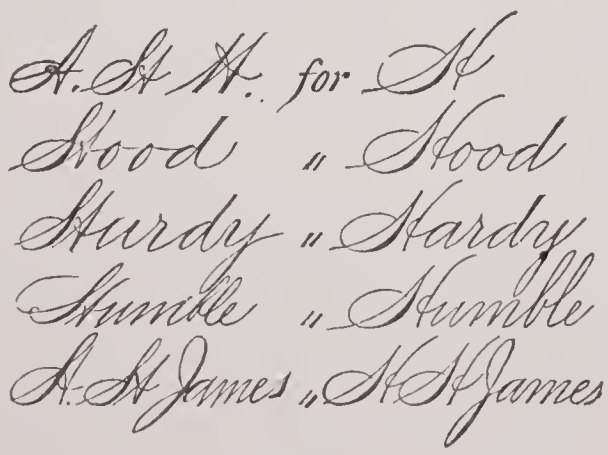


Rule Four.—The capital *T* should never be looped at the top; as:

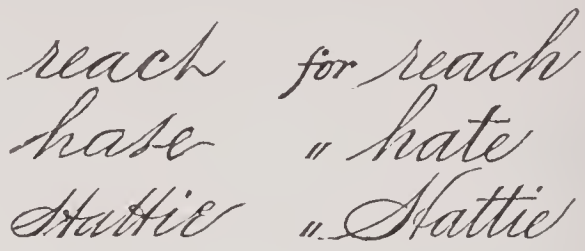


Several expensive litigations have grown out of the delivery of messages having the latter combination, as Seventy when it was written for Twenty, or *vice versa*, by the sender of the dispatch. We are not informed respecting the precise circumstances of any of the cases, but, supposing the error to have been in orders to buy twenty thousand bushels of grain, shares of stock, or other thing of similar value, the consequence might have been serious.

Rule Five.—A capital *H* should never be so made as to be mistaken for an *A* or other combination; as:



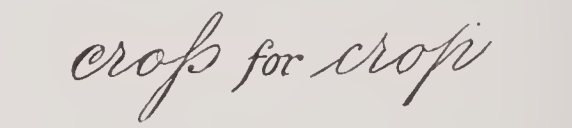
Rule Six.—Cross all *t*'s with a single horizontal line at the top.



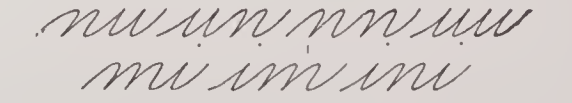
A telegraph dispatch addressed as above was taken down and sent to Ha-Hi-E, who was not known at the street and number to which it was directed, and it was consequently returned; and when the error was discovered, and traced to the operator who made it, he was asked how he came to make such a mistake, and whom he supposed Ha-Hi-E to be. The operator replied, "Some Indian Chief or Chinese"—a very natural supposition in such a city of all peoples as is New York.

Rule Seven.—The capital *I* should always be made above the line, while the *J* should extend below. Otherwise, when used as initials or in cipher-writing, they cannot be distinguished with certainty.

Rule Eight.—The small *s* should never be made with the loop below the line, as it is liable to be mistaken for a *p* or *f;* as:

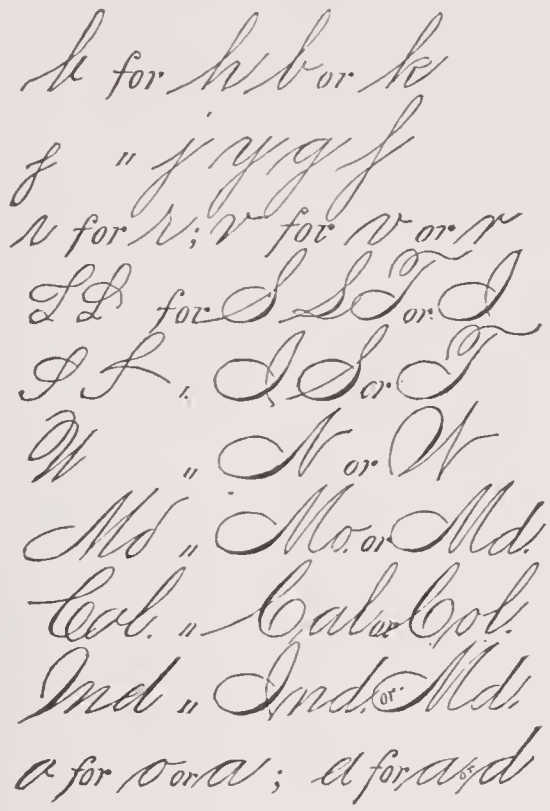


Rule Nine.—Letters should be connected in their parts, and with other letters, by the proper and characteristic curved or straight lines. It is a common and grievous fault in writing that a straight line or the wrong curve is employed in the construction and connection of letters, thus leaving them without distinctive character, or imparting one which is false and misleading. For instance, a form made thus may be taken for an , a , and, possibly, for a . In cases where the context does not determine, its identity becomes a mere matter of guess, and when extended thus its significance, as will be seen, is still more vague and uncertain, as it might be intended for either of the following seven combinations:

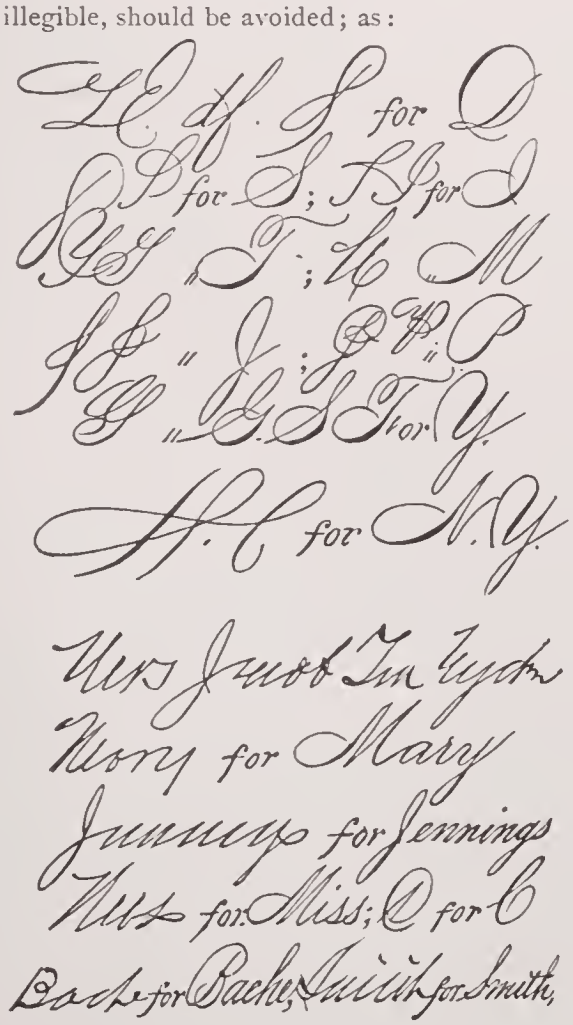


With a properly trained hand no more time or effort is required to impart the true and unmistakable characteristics to each letter than to make forms whose identity is open to doubt and conjecture.

Rule Ten.—No letter should have a doubtful form, such as may be mistaken for one of several letters; as:



Rule Eleven.—All eccentric forms and conspicuous personal oddities, which so often render writing, and especially autographs, illegible, should be avoided; as:



This example was used as an initial letter in a communication recently received. In addressing the author we could only do as we are often obliged to do with doubtful initials—make a *fac-simile*, and leave it to the postmaster to decipher at the office of delivery. Writers should remember that short names and initial letters, when carelessly written, are very liable to be misread, from the fact that no aid can be derived from the context.

A large proportion of letters which miscarry through the mails do so from the careless manner in which they are superscribed. As an example, let us suppose that a writer desires to address an important communication to

J. H. Howell,
Sherman,
Cal.

but he hurriedly and carelessly superscribes it thus:

I. A. Stowell
Herman,
Cal.

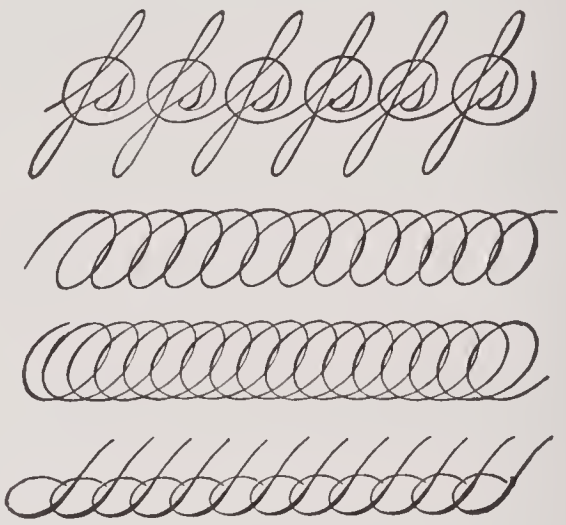
The abbreviation for the name of the State (*Cal.*) is so indefinite that the letter goes first to Colorado, but, there being no Herman or Sherman in that State, it is finally re-directed to Herman, *Cal.* The initial *S* and following letter *h* being of so indefinite and doubtful a character, they together were naturally mistaken for an *H*, but, there being no Herman post-office in California, the mistake is finally discovered by a distributing agent, and the letter is again re-directed to Sherman, Cal.; here the *H* in Howell is read *St*, and accordingly the letter is placed in *S* box for general delivery; not being called for, it is at length advertised in the list of undelivered letters, thus: *I. A. Stowell.* The *J*, having been made above the line, is mistaken for an *I*, while the initial *H* is so nearly closed at the top that it is mistaken for an *A*. After being duly advertised, the letter is sent to the Dead Letter Office at Washington, and from there returned, after several weeks, to the writer. J. H. Howell, in the meantime, has enquired daily for letters at the Sherman post-office, when the delivery clerk has looked in the *H* box and answered, "Nothing." Mr. Howell has also carefully scanned every list of advertised letters, but never could he have imagined that the letter advertised for I. A. Stowell was the one he had so long and anxiously looked for.

It is just such errors as those above described that cause a large percentage of the miscarriages of mail matter.

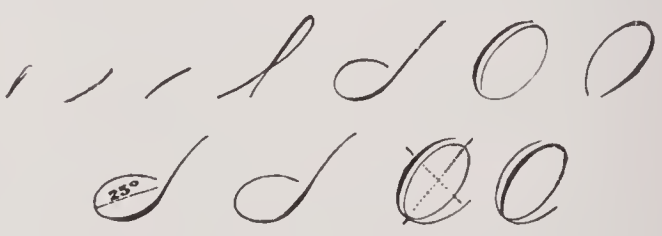
Movement Exercises.

Much patience should be devoted by the learner to practice upon movement exercises, for the purpose of disciplining and bringing under perfect control the motions of the hand and arm.

The following will serve a good purpose, and, with the copies following, will be a guide to a course of twenty lessons, with or without the aid of a teacher:



PRINCIPLES



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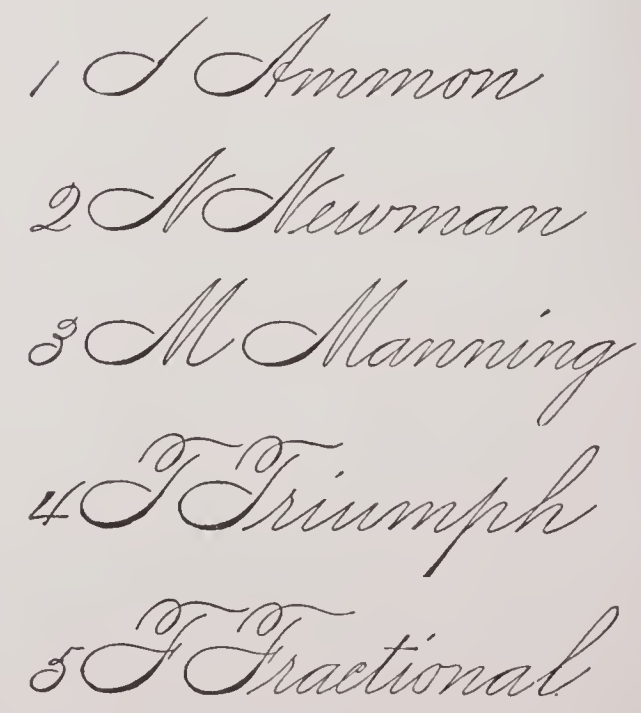


6 G Grammar

7 S Sojourning

8 L Lawrence

9 H Hamilton

10 K Kingston

11 P Bannister

12 R Raymond

13 I Improving

14 J Jefferson

15 O Obliquity

16 E Exchange

17 Dixon Quiz

18 V U Yours

19 W X Zone

20 & & Co $ %

1 I Aim to reach perfection. I

2 Benevolence is commendable. B

3 Command all excellence. Come

4 Diligence will win success. D

5 Emulate all that is good. End.

6 Fortune favors the brave. Fine.

7 Generosity will be rewarded. G

8 Honesty is the best policy. Iris.

9 Justice wrongs no man. James.

10 Knowledge is power. Lamartine.

11 Much pains much skill. Man.

12 New brooms sweep clean. Nine.

13 Opinions are opinions still. Ow.

14 Practice is the way to perfection

15 Quit evil associates. Q. Razors.

16 Save best you want. Turning.

17 Union gives strength. Venezuela.

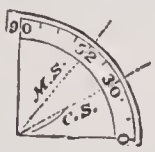
18 Write with great care. Xerxes

19 Youth is the time to learn. Yf

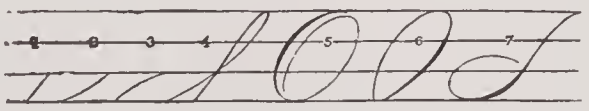
20 Jones are five in number.

Penmanship.

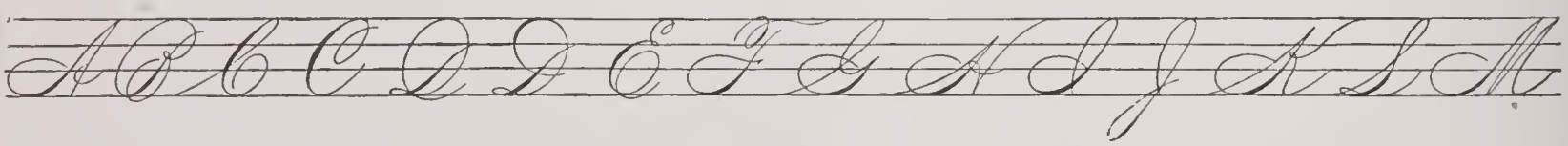
Penmanship Department.

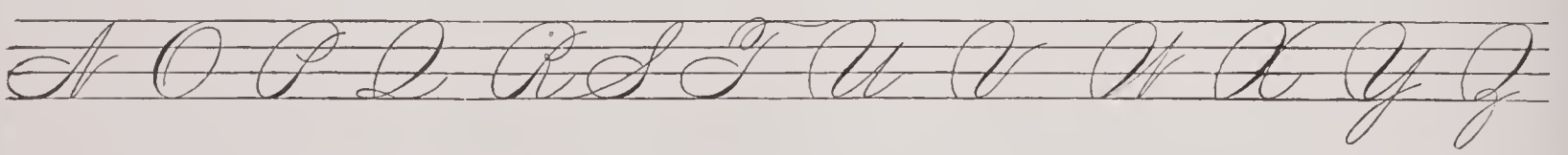
SCALE OF  SLANT.

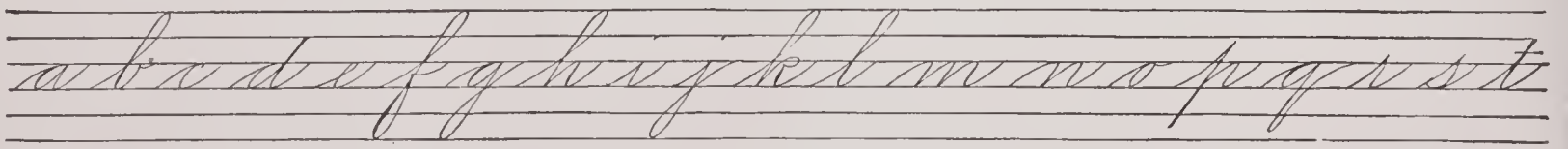
PRINCIPLES.

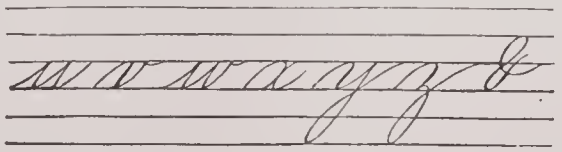


SCALE OF PROPORTIONS OF LETTERS.









STANDARD ALPHABETS.

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z.
1 2 3 4 5 6 7 8 9 0.

ABBREVIATE CAPITALS FOR BUSINESS.

A A B C D E F G H H I J K L M M
N O P Q R S T U V W X Y Z

EXTENDED LETTERS FOR LADIES' EPISTOLARY WRITING.

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z

Writing for Business should be constructed in the plainest manner possible. It should be written with a free rapid movement of medium size, with little shade and no flourishes.

Writing for Correspondence should be very plain, below medium in size, and be written in a light free running style.

Ambidextrous Brilliant Compton Dillingham Eminence
Gillman Hampton Indolent Jameson Kinsman Lawns

Maxims Noonday Omission Penmanship Quartz Rolling
Saxony Triumph Unionville Visions Wood Xenia York Zone

Due A. H. Kinman or order on demand for value received
Five Hundred Sixty Eight and $^{00}/_{100}$ Dollars.

$2295 $^{00}/_{100}$. New York, October 15, 19—

At three days sight pay to Charles Rollinson or order Twenty Two Hundred and Ninety five Dollars value received.

R. S. Peale & Co.
St. Louis Mo.

George J. Ames.

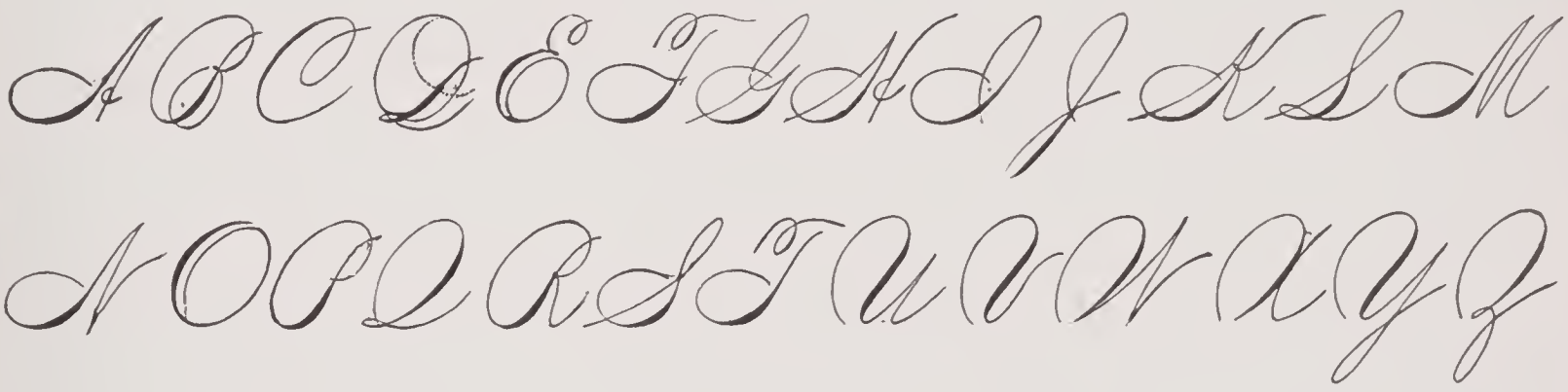
$1750 $^{00}/_{100}$ Chicago, September 20, 19—

Six months after date I promise to pay Benj. F. Kelley or order One Thousand Seven Hundred and Fifty Dollars value received.

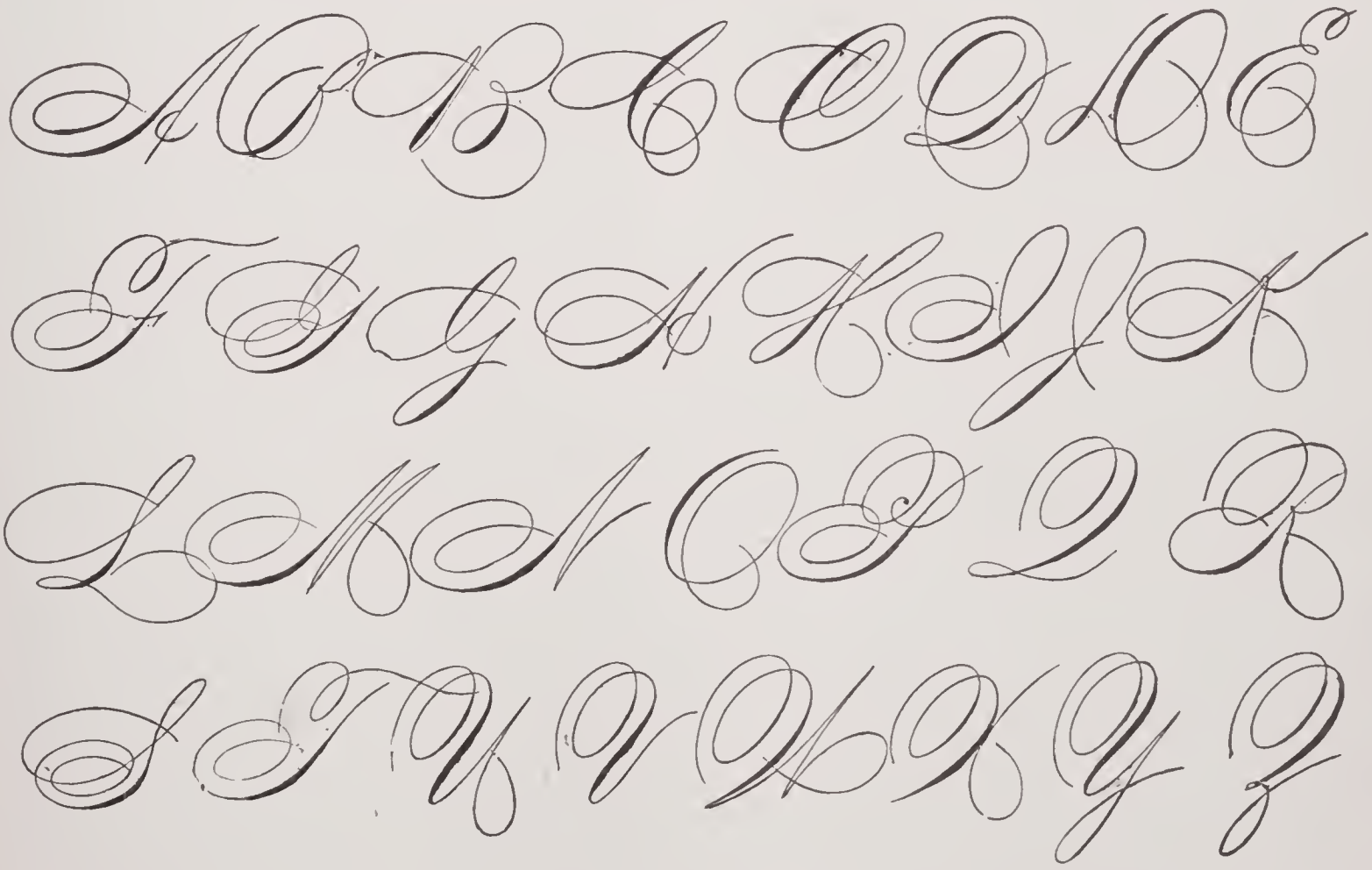
Joel H. Barlow.

Whole Arm Capitals may be used for Superscriptions Ledger Headings and Professional Penmanship where license and display are permissible, if not desirable.

WHOLE-ARM CAPITALS.—PLAIN.



WHOLE-ARM CAPITALS.—FLOURISHED.



$91.— Cincinnati, Oct. 19, 19—

Ninety days after date I promise to pay William Duncan, or order, Ninety-one Dollars. (Value received.

D. A. Fremont.

ROUND WRITING FOR HEADINGS.

Practical Penmanship.
Dr. Bills Receivable. & Co.
Bills Payable. New York.
Merchandise Commission
Writing School. Cash. Cr.

296 Broadway, New York.
August 10, 19—

Mr. Samuel C. Woodford,
St. Louis, Mo.

Dear Sir

I am informed that Mr. Edward J. Cummins was lately and for some years in your employ.

Would you kindly and (confidentially) favor me with such information as you can respecting him, stating in what capacity he was in your service, and your estimation of his general character and capability as a business man, and also please inform me respecting his social standing during the period he was in your employ or of your acquaintance.

Hoping an early response, I am

Yours Respectfully

William M. Leonard.

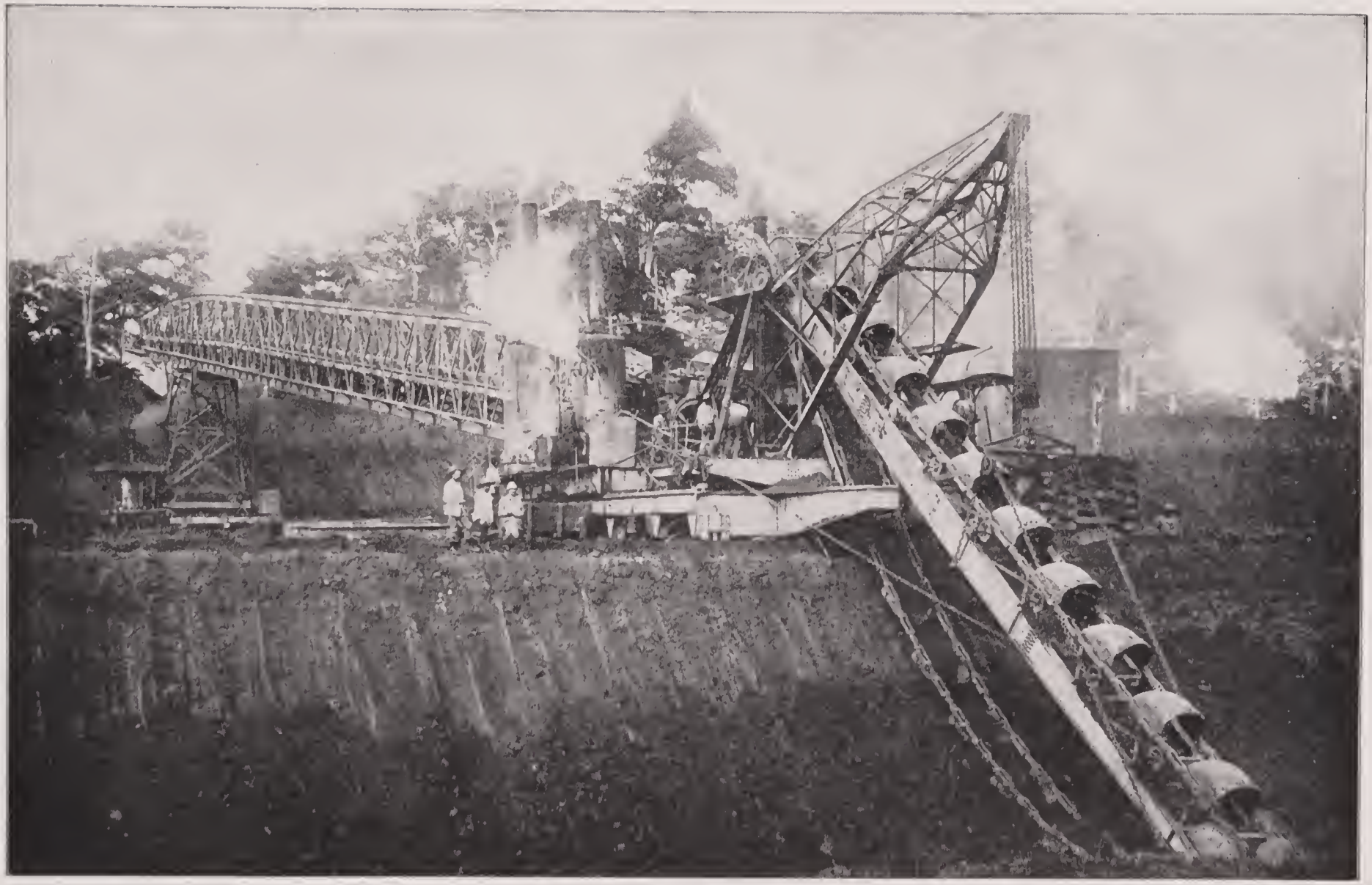
429 Market St. St. Louis, Mo.
August 15, 19—

Mr. William M. Leonard,
New York City.

Dear Sir:

In response to yours of the 10th inst. making inquiries respecting Mr. E. J. Cummins, I would say that he was in my employ nearly nine years. During the first two years as corresponding clerk, the remaining years he was my general manager and purchasing agent. Our business relations terminated last January on account of the sale of my entire establishment and my retiring from business. I regard Mr. Cummins as a very trustworthy and capable business man and possessed of excellent social qualities. During my acquaintance his social standing has been enviable.

Yours Respectfully
Samuel C. Woodford.



DREDGING MACHINE AT WORK ON THE PANAMA CANAL

SCIENTIFIC DEPARTMENT.

A Simple Explanation of all the Sciences.

WE are all children of one Father, and His works it should be our delight to study. As the child, standing by its parent's knee, asks explanations alike of the simplest phenomena and of the most profound problems, so should man, turning to Nature, the living, visible oracle of his Creator, continually ask for knowledge.

In scientific language, Nature is defined as "the united totality of all that the senses can perceive;" in the language of theology, it "embraces everything that cannot be made by man," hence is synonymous with "God's creation."

In Nature there is no such thing as chance. Every effect has its cause, as Nature herself is but a name for an effect whose cause is God. When Newton observed an apple fall to the ground he asked the cause, and in answer to his inquiry came one of the grandest discoveries of science—a discovery which let in a flood of light upon the human mind, and led the way to the true knowledge of many things theretofore shrouded in error or mystery. Montgolfier first conceived the idea of air-balloons while watching fogs floating in the atmosphere, and all the wonderful discoveries of science may thus be traced to simple phenomena, carefully pondered and diligently studied in all their bearings as to cause and effect.

"Nature," says Whipple, "does not capriciously scatter her secrets as golden gifts to lazy pets and luxurious darlings, but imposes tasks when she presents opportunities, and uplifts him whom she would inform. The apple that she drops at the feet of Newton is but a coy invitation to follow her to the stars." The greatest philosophers have been those who have clung to the demonstrative sciences, and have held that a simple truth, well ascertained, is greater than the most ingenious theory founded upon questionable premises. The discoveries of Newton have borne the searching test of time because he snatched at nothing, leaped over no chasm to establish a favorite dogma, but learned to read Nature correctly by regarding the merest trifles as well as the highest phenomena. Thus he discovered a letter in each atom, a word in each blade of grass, a sentence in each phenomenon, and in the volume thus composed he read the wisdom and the power of the Almighty. Every flower, every ray of light, every drop of

dew, each flake of snow, the lowering cloud, the bright sun, the pale moon, the azure of the heavens by day and the twinkling stars of night, all are eloquent of the great Hand that made them.

From the earliest ages man has sought to read the open leaves of the book of Nature, but even now, after centuries of research and discovery, he does not grasp it all, cause and effect being followed up step by step until the mind is lost in the search. One discovery only leads to another, and the scientist of twenty centuries hence will be compelled to acknowledge that one-half of the wonderful book is still a mystery. However, all may peruse its pages, and all will find pleasure and profit in observing what is daily going on around them in earth, sea and sky. It is, indeed, only by a study of the material world that discoveries are accomplished. Let an attentive observer watch a ray of light passing from the air into the water, and he will see it deviate from the straight line by refraction. Let him seek the origin of a sound, and he will discover that it results from a shock or a vibration. This is physical science in its infancy.

In the pages following it is purposed to present in brief and entertaining form much useful as well as practical scientific knowledge. It has been sought to convey to the mind of the uninitiated, in as simple and practical a way as possible, a general idea of the various branches of science, as well as to state scientific facts briefly and in proper consecutive order, in such a manner that the advanced student may freshen his memory and revive his interest. Technical terms have been avoided as much as possible, and where they are used of necessity the context will furnish ample explanation.

When a person who is a stranger seeks to be directed to some point in a large and poorly laid-out city, whose streets, courts and places start from everywhere and end nowhere, crossing each other in a perverse and confusing manner, it were worse than useless to attempt to give him all the directions at once. The better way would be to point out to him the general direction, and then let him inquire as he progresses on the journey. In this connection it may be said that there is nothing so conducive to loss of time as short cuts to those who are not familiar with them. They generally verify the axiom that "Haste makes waste." With these introductory remarks we will take the reader to the broad fields of Science, and point out to him the general direction of the respective paths, noting in our way the most prominent turns, and if our readers desire more specific information we will refer them to the writings of those great men who have devoted their lives to the solution of Nature's problems, and have enabled us to give the reason for many things which, but for their genius and unremitting labors, would still be shrouded by the veil of ignorance.

Among the various works that have aided in the familiar exposition of science presented in this work may be mentioned the following: "Les Récréations Scientifiques," by Gaston Tissandier; "Astronomy," in the series of *New Works on Physics* by J. A. Gillet and W. J. Rolfe; "Physik und Meteorologie," by Dr. E. Lommel; "The Teacher's Examiner," by A. H. Thompson; "Guide to Familiar Science," by Rev. E. C. Brewer; "Lockyer's Solar Physics," Newcomb's "Popular Astronomy," etc., etc. We desire in an especial manner to thank Professors Rolfe and Gillet for the use of a number of beautiful and accurate astronomical illustrations from their excellent work.

ASTRONOMY.

"He, who through vast immensity can pierce,
See worlds on worlds compose one universe,
Observe how system into system runs,
What other planets circle other suns,
What varied being peoples every star,
May tell us why Heaven has made us as we are."
—POPE.

The Wonders of the Heavens as Revealed by the Telescope.

A History of the Progress of Astronomical Science.

ASTRONOMY is the science which treats of the heavenly bodies and the laws which govern them. The space in which the celestial orbs are set is infinite and known as the "firmament" or "heaven." We can see a few stars, comparatively speaking, but there are numbers whose light has never yet reached the earth. When we calmly reason upon the immeasurable distances, and the awful rapidity of motion, with the masses of matter thus in movement, we are constrained to acknowledge that all our boasted knowledge is as nothing in the wondrous dispensation of Him who "telleth the number of the stars and calleth them all by their names."

Astronomy is the most ancient of all sciences. The study of the stars is, without doubt, as old as man himself, and hence many of its discoveries date back of authentic records, amid the dim mysteries of tradition.

The Chinese possess an account of a conjunction of four planets and the moon, which must have occurred a century before the flood. They have also the first record of an eclipse of the sun, which took place about two hundred and twenty years after the deluge.

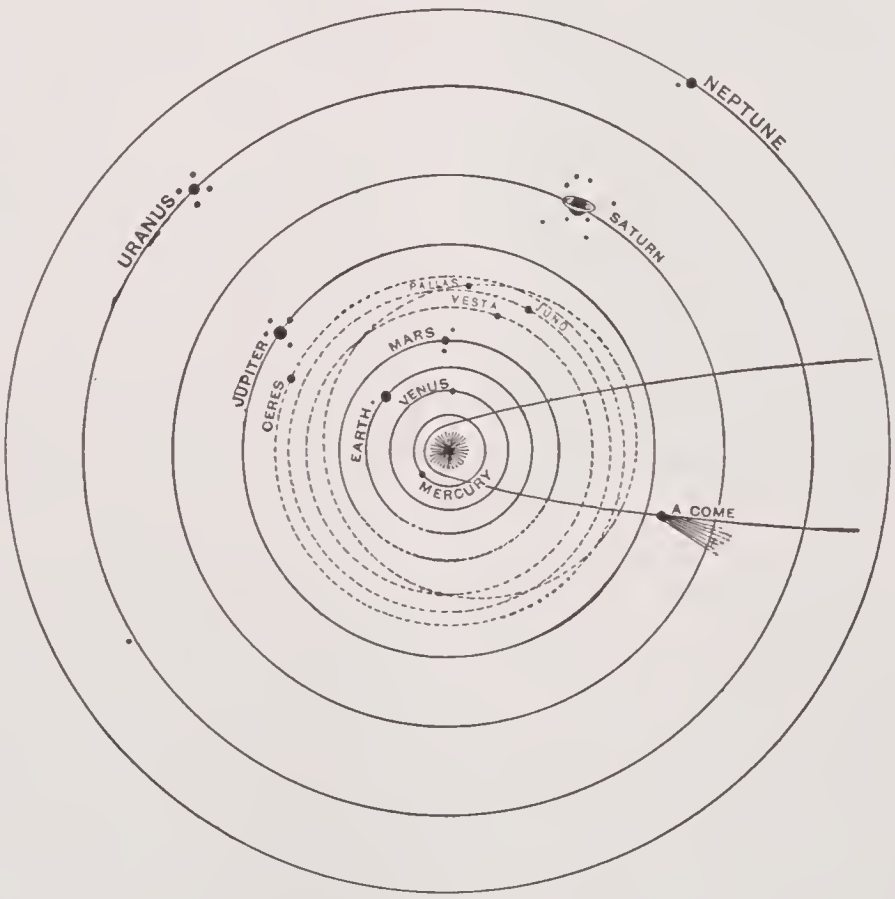


Fig. 1. The Solar System.

The Chaldean shepherds, watching their flocks by night under the open sky, could not fail to become familiar with many of the movements of the heavenly bodies. The Chaldeans invented the sun-dial, and also discovered the "Saros," or "Chaldean Period," which is the length of time in which the eclipses of the sun and moon repeat themselves in the same order.

Thales, who was noted for his electrical discoveries, and acquired much renown, established the first school of astronomy in Greece. He taught that the earth is round, and that the moon receives her light from the sun. He also introduced the division of the earth's surface into zones, and the theory of the obliquity of the ecliptic. He predicted an eclipse of the sun which is memorable in ancient history as having terminated a war between the Medes and the Lydians. These nations were engaged in a fierce battle, but the awe produced by the darkening of the sun was so great that both sides threw down their arms and made peace.

Anaximander and Anaxagoras were pupils of Thales. Anaximander taught that the stars are suns, and that the planets are

inhabited. Anaxagoras maintained that there is but one God, that the sun is solid, and as large as the country of Greece, and attempted to explain eclipses and other celestial phenomena by natural causes. For his audacity and impiety, as his countrymen considered it, he and his family were doomed to perpetual banishment.

Pythagoras founded the second celebrated astronomical school at Crotona, at which were educated hundreds of enthusiastic pupils. He knew the causes of eclipses, and calculated them by means of the Saros. Pythagoras was most emphatically a dreamer. He conceived a system of the universe in many respects correct; yet he advanced no proof, and made few converts to his views, and they were soon well nigh forgotten. He held that the sun is the center of the solar system, and that the planets revolve about it in circular orbits; that the earth revolves daily on its axis, and yearly around the sun; that Venus is both morning and evening star; that the planets are inhabited — and he even attempted to calculate the size of some of the animals in the moon; that the planets are placed at intervals corresponding to the scale in music, and that they move in harmony, making the "music of the spheres," but that this celestial concert is heard only by the gods — the ears of man being too gross for such divine melody. Pythagoras believed the sun to be 44,000 miles from the earth, and 75 miles in diameter.

Eudoxus held that the heavenly bodies are set, like gems, in hollow, transparent crystal globes, so pure that they do not obstruct the view, and that they all revolve around the earth.

Hipparchus, who flourished in the second century B.C., has been called the "Newton of Antiquity." He was the most celebrated of the Greek astronomers; he calculated the length of the year within six minutes, discovered the precession of the equinoxes, and made the first catalogue of the stars — 1,081 in number.

Egypt, as well as Chaldea, was noted for its knowledge of the sciences long before they were cultivated in Greece. It was the practice of Grecian philosophers, before aspiring to the rank of teacher, to travel for years through these countries, and gather wisdom at its fountain-head. Pythagoras thus spent thirty years in traveling.

About two hundred years after Pythagoras the celebrated school of Alexandria was established. Here were concentrated in vast libraries and princely halls nearly all the wisdom and learning of the world; here flourished all the sciences and arts, under the patronage of generous kings.

The Ptolemaic System.

Ptolemy of Alexandria (A.D. 130–150) was the founder of a theory called the Ptolemaic system, based largely upon the materials gathered by previous astronomers, such as Hipparchus, already mentioned, and Eratosthenes, who computed the size of the earth by means even now considered the best—the measurement of an arc of the meridian. The advocates of the Ptolemaic theory assumed that every planet revolves in a circle, and that the earth is the fixed center around which the sun and the heavenly bodies move. They conceived that a bar, or something equivalent, is connected at one end with the earth; that at some part of this bar the sun is attached; while between that and the earth, Venus is fastened, not to the bar directly, but to a sort of crank; and farther on, Mercury is hitched on in the same way. They did not fully understand the nature of these bars—whether they were real or only imaginary—but they did comprehend their action, as they thought; and so they supposed the bar revolved, carrying the sun and planets along in a large circle about the earth; while all the short cranks kept flying around, thus sweeping each planet through a smaller circle.

The movements of the planets were to the ancients extremely complex. Venus, for instance, was sometimes seen as "evening star" in the west; and then again as "morning star" in the east. Sometimes she seemed to be moving in the same direction as the sun, then, going apparently behind the sun, she appeared to pass on again in a course directly opposite. At one time she would recede from the sun more and more slowly and coyly, until she would appear to be entirely stationary; then she would retrace her steps, and seem to meet the sun. All these facts were attempted to be accounted for by an incongruous system of "cycles and epicycles."

The system of Ptolemy passed current for 1400 years, and during this time

Astrology

was ranked as one of the most important brancnes of knowledge. Star diviners were held in the greatest estimation, and the issue of any important undertaking, or the fortune of an individual, was foretold by means of horoscopes representing the position of the stars and planets. The system of the astrologers was very complicated, and contained regular rules to guide the interpretation, so intricate that years of study were required for their mastery. Venus foretold love; Mars, war; the Pleiades, storms at sea. Not only the ignorant were the dupes of this system, Lord Bacon believing in it most firmly.

The Copernican System.

The system as now accepted is called the Copernican system, after Nicholas Kopernik, or Copernicus, who, in 1543, breaking away from the theory of Ptolemy, revived that of Pythagoras. He saw the beautiful simplicity of considering the sun the grand center about which revolve the earth and all the planets. He noticed how constantly, when we are riding swiftly, we forget our motion, and think that objects really stationary are gliding by us in the contrary direction. He applied this thought to the movements of the heavenly bodies, and maintained that, instead of the starry hosts revolving about the earth once in twenty-four hours, the earth simply turns on its own axis; that this produces the apparent daily revolution of the sun and stars, while the yearly motion of the earth about the sun, transferred in the same manner to that body, would account for its various movements.

Tycho Brahe opposed the Copernican theory, but made many important investigations. Then came Kepler, who adopted the Copernican theory, and whose observations upon the planet Mars cleared away many complications. He laid down three laws, as follows: 1. *Planets revolve in ellipses with the sun at one focus.* 2. *A line connecting the center of the earth with the*

center of the sun passes over equal spaces in equal times. 3. The squares of the times of revolution of the planets about the sun are proportional to the cubes of their mean distances from the sun. Kepler also remarked that gravity was a power existing between all bodies, and reasoned upon the tides being caused by the attraction of the moon for the waters. About this time, viz.: the beginning of the seventeenth century, the telescope was invented, and logarithms came into use. The telescope did not penetrate into Southern Europe till 1608–9.

Galileo, who had discovered the laws of the pendulum and of falling bodies, learned that a Dutch watchmaker had invented a contrivance for making distant objects appear near. With his profound knowledge of optics and philosophical instruments, he instantly caught the idea, and soon had a telescope completed that would magnify thirty times. With this instrument he examined the moon, discovered its mountains and valleys, and watched the dense shadows sweep over its plains. Near Jupiter he saw three bright stars, as he considered them, which were invisible to the naked eye. Shortly after, he noticed those stars had changed their relative positions. Being somewhat perplexed, he waited three days for a fair night in which to resume his observations. The fourth night was favorable, and he again found the three stars had shifted. After continued observations he discovered a fourth star, and finally found that they were all rapidly revolving around Jupiter, each in its elliptical orbit, with its own rate of motion, and all accompanying the planet in its journey around the sun. Here was a miniature Copernican system, hung up in the sky for all to see and examine for themselves. Galileo met with the most bitter opposition. A great many refused to look through the telescope, lest they might become victims of the philosopher's magic. Some prated of the wickedness of digging out valleys in the fair face of the moon; while others doggedly clung to the theory they had held from their youth up.

Then Newton promulgated his immortal discovery of the law of gravitation—that *every particle of matter in the universe attracts every other particle of matter with a force directly proportional to its quantity of matter, and decreasing as the square of the distance increases*—and the relations of the sun and planets became more evident.

Subsequent researches brought astronomy into prominence more and more. The spectroscope has, in the able hands of living astronomers, revealed to us elements existing in the vapors and composition of the sun and other heavenly bodies. Stars are now known to be suns, some bearing a great resemblance to our sun, others differing materially. The nebulæ have been analyzed, and found to be stars, or gas, burning in space—hydrogen and nitrogen being the chief constituents of this glowing matter. Instruments for astronomical observation have now been brought to a pitch of perfection scarcely ever dreamed of, and month by month discoveries are made and recorded, while calculations as to certain combinations can be made with almost miraculous accuracy. The transit of Venus, the approaches of comets, eclipses, and the movements of stars, are now known accurately and commented on long before the events can take place.

THE SOLAR SYSTEM.

Gravitation is the force which keeps the planets in their orbits. The sun attracts the planets, and they influence him in a minor degree. Likewise the moon and stars and our earth attract each other. But as the sun's mass is far greater than the masses of the planets he influences them more, and could absorb them all without inconvenience or disturbance from his center of gravity.

Every body will remain at rest unless force compels it to change its position, and it will then go on forever in a straight path, unless something stops it. But if this body be acted on simultaneously by two forces in different directions it will go in the direction of the greater force. Two equal forces will tend to give it an intermediate direction, and an equal opposing

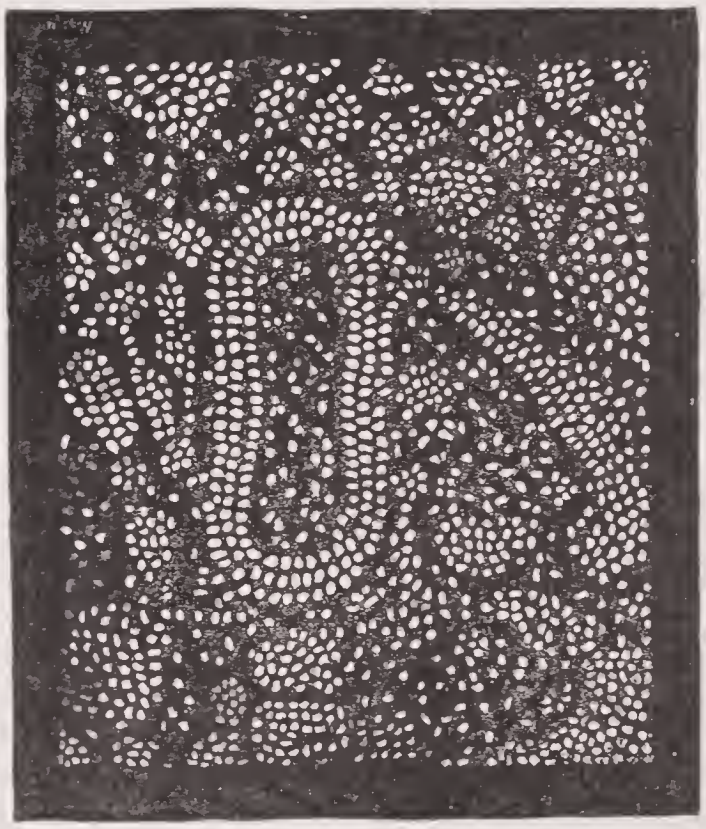


Fig. 2.
The Surface of the Sun as seen through a Powerful Telescope.

force will stop it. The last axiom but one—viz., the two equal forces in different, not opposing directions—gives us the key to the curving line of the planetary motions. Were it not for the attraction of the sun, the planets would fly off at a tangent; while, on the other hand, were not the impelling force as great as it is, they would fall into the sun. Thus they take an intermediate line, and circle round the center of the solar system—the SUN.

The solar system consists of: (1) The sun—the center; (2) the major planets—Vulcan (undetermined), Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune; (3) the asteroids, or minor planets, at present (January, 1892) 322 in number; (4) the satellites, or moons, which revolve around the different planets; (5) meteors and shooting stars; (6) comets.

The stars called planets have certain motions, going from east to west, from west to east, and sometimes again appearing quite motionless. This change of place, appearing now at one side of the sun and now at another, has given them their title of "wanderers." The planets and their satellites, the asteroids, comets and meteors, all circle round the sun in more or less regular orbits. And there must be families of comets that have not yet appeared to us, and whole systems of meteors as yet unseen.

THE SUN.

When we consider the power and grandeur of the sun, we may well feel lost in the contemplation. He balances the planets and keeps them in their orbits. He gives us light and heat, and in darkness nothing will come to maturity. We obtain rain and dew owing to his evaporative power, and no action could go on upon the earth without him.

The sun is not solid so far as we can tell. It is apparently a mass of white-hot vapor, and is enabled to shine by reason of its own light, which the planets and stars cannot do, they shining only by the sun's reflected light. From this we might conclude that the sun is entirely gaseous, but, in the recent researches in *spectrum analysis*, the light of the sun has been examined by means of the spectroscope, and split up into its component colors, and scientists have discovered that a number of elements exist in the sun in a vaporous state. Hydrogen is there, with other gases unknown to us, and many metals, discovered by their *spectra*, which are the same under similar circumstances. The sun is supposed to be spherical in shape — not flattened at the poles, as our earth is — and to be composed of materials similar to those which constitute the earth, only that in the sun these materials are still in a heated condition. Thus we can argue, by analogy from the *spectra* of earthly elements, that as the sun and star light give us similar spectra, the heavenly bodies are composed of the same elements as our globe.

When the surface of the sun is examined with a good telescope, under favorable atmospheric conditions, it appears to be composed of minute grains of intense brilliancy and of irregular form, floating in a darker medium and arranged in groups and streaks, as shown in Fig. 2. With a rather low power the general effect of the surface is much like that of rough drawing-paper.

The sun's average distance from the earth is 91,500,000 miles.

The volume of the sun is 1,253,000 times that of the earth, but its density is only about one-fourth that of the earth. The attraction of gravitation at the sun must be more than that of the earth's surface twenty-seven times. A body dropped near the surface of the sun would fall 436 feet in the first second, and would then have attained a velocity of ten miles a minute.

The light of the sun is equal to 5,563 wax candles, held at a distance of one foot from the eye. It would require 800,000 full moons to produce a day as brilliant as one of cloudless sunshine.

The amount of heat we receive annually is sufficient to melt a layer of ice thirty-eight yards in thickness, extending over the whole earth.

The sun appears to be about half a degree in diameter, so that 360 disks like the sun, laid side by side, would make a half circle of the celestial sphere. It seems a little larger to us in winter than in summer, as we are 3,000,000 miles nearer it.

The sun makes the apparent circuit of the heavens in 365 *d.* 6 *h.* 9 *m.* 9.6 *s.*; the transit from one vernal equinox to the next being only 365 *d.* 5 *h.* 48 *m.* 48.6 *s.*, owing to the precession of the equinoxes, explained elsewhere.

The Sun's Apparent Motion.

If we rise early in the morning we shall, as the reader will say, see the sun rise—that is, he appears to us to rise as the earth rotates. By the accompanying diagram (Fig. 3) we can

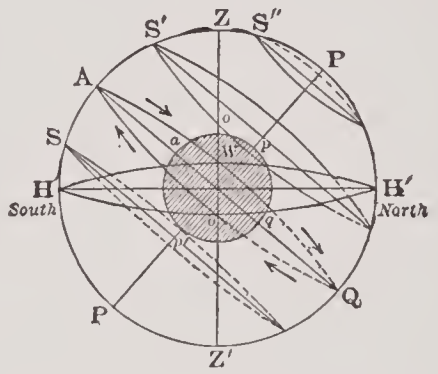


Fig. 3. The Sun's Apparent Motion.

understand how Sol makes his appearance, and how he comes up again. The earth rotates from west to east, and so the sun appears to move from east to west. If we look at the diagram we shall see that after rising at O the sun advances toward the meridian in an oblique arc to A, the highest or culminating point—midday. He then returns, descending to W; this path is the diurnal arc. At Q similarly, during his passage in the nocturnal arc, he reaches the lowest or inferior culmination. H H is the meridian.

On the 21st of March this path brings the sun on the "equinoctial" line. Day and night are then of equal duration, as the arcs are equal. So this is the *vernal* (or spring) *equinox*. Some weeks after the sun is at midday higher up at S′, and so, the diurnal arc being longer, the day is longer. (Z is the zenith, Z′ is the nadir, P P′ is the celestial axis.) From that time he descends *again* toward the equinoctial to the autumnal equinox, and so on, the diurnal arc becoming smaller and smaller until the *winter solstice* is reached (S).

Now, the sun has a two-fold apparent motion — viz., a circular motion obliquely ascending from the horizon, which is explained by the rotation of the earth, and by our position, *o*, to the earth's axis, *p p′*, and also by a rising and setting motion between the solstitial points, S and S′, which causes the inequality of the days and nights. Independently of the daily motion of the sun, we observe that at the summer solstice, on the 21st of June, at midday, the sun is at S′, and one half year later, viz., on the 21st of December, at midnight, the sun is at *s*, from which he arrives again in the space of half a year at S′; so we are able to represent this annual motion of the sun by a

circle, the diameter of which is the line S′ *s*. This circle is called the *Ecliptic*.

The plane of the ecliptic, S′ *s*, cuts the plane of the equinoctial, A Q, at an angle of 23½°, and the axis of the ecliptic, S‴ *s*″, makes the same angle with the axis of the heavens, P P. The two parallel circles S′ *s*′ and S *s* include a zone extend-

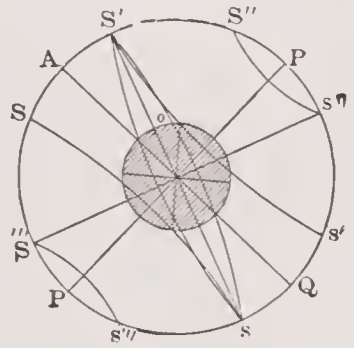


Fig. 4. The Ecliptic.

ing to both sides of the equinoctial, and beyond which the sun never passes. These circles are called the *tropics*, from *trepo*, *I turn*, because the sun turns back at these points, and again approaches the equinoctial. The parallel circles S″ *s*″ and S‴ *s*‴ described by the poles of the ecliptic, S‴ *s*‴, about the celestial poles, P P, are called the *arctic* and *antarctic circles*.

Whenever the sun crosses the equinoctial, there is the equinox; but the points of intersection are not invariably the same every year. There is a gradual westerly movement, so it is a little behind its former crossing-place every year. This is the "*precession of the equinoxes*," because the time of the equinoxes is hastened, but it is really a retrograde movement. Hipparchus discovered this motion, which amounts to about fifty seconds in a year. So the whole revolution will be completed in about 28,000 years.

Sun-Spots.

Sun-spots, as they are generally called, are hollows in the sun's vapory substance, and are of enormous extent; and there are brilliant places near those spots, which are termed *faculæ*. These spots have been observed to be changing continuously, and passing from east to west across the sun, and then to come again at the east, to go over the same space again. Now this fact has proved that the sun turns around upon his axis, and, although he does not move, as we imagine, from east to west, round the earth, the orb *does* move — in fact, the sun has three motions: one on his axis; secondly, a motion about the center of gravity of the solar system, and a progressive movement toward the constellation Hercules.

Solar Prominences.

During solar eclipses the sun exhibits what are termed "red prominences,"— the luminous vapors existing around it. When the orb is eclipsed, bright-colored vapors can be seen shooting out from underneath the dark shadow. These red prominences were first observed in 1842, and in 1851 it was proved that they appertained to the sun, for the moon hid them as the eclipse began. "The luminosity of these prominences is intense," says Secci, "and they often rise to a height of 80,000 miles, and occasionally to more than twice that; then, bending back, they fall again upon the sun like the jets of fountains. Then they spread into figures resembling gigantic trees, more or less rich in branches."

THE PLANETS.

The ancients knew five of the planets and named them *Mercury*, *Venus*, *Mars*, *Jupiter* and *Saturn*. In later years a great number were discovered, but we must confine ourselves to the consideration of the principal ones, eight in number, including our own *Earth*, *Uranus* and *Neptune* completing the list. Of these, Venus and Mercury are the interior (or inferior) planets, moving between us and the sun; the others are called exterior (or superior), and pass quite round the heavens. All the planets are spheroids, and they vary greatly in size. Their comparative distance and magnitude are thus interestingly illustrated by Sir John Herschel:

"Choose any well-leveled field, and on it place a globe two feet in diameter to represent the sun. Mercury will be represented by a grain of mustard seed on the circumference of a circle 164 feet in diameter for its orbit; Venus, a pea, on a circle 284 feet in diameter; the Earth, also a pea on a circle 430 feet; Mars, a rather large pin's head on a circle of 654 feet; Juno, Ceres, Vesta, and Pallas, grains of sand in orbits of 1,000 to 1,200 feet; Jupiter, a moderate-sized orange on a circle nearly half a mile across; Saturn, a small orange on a circle four-fifths of a mile; and Uranus, a full-sized cherry, or small plum, upon the circumference of a circle more than a mile and a half in diameter."

*Comparative Table showing the Diameter, Distance from the Sun, Volume, Density, etc., of the Planets of the Solar System.**

	Diameter in Miles.	Mean distance from the sun, in miles, (about).	Sidereal period of revolution. (Length of year). d.	h.	m.	Time of rotation on their axes. d.	h.	Average velocity. Miles per second.	Volume, earth being 1.	Density, earth being 1.	Weight, earth being 1.	Date of Discovery.
The Sun	888,646								1,415,225.00	0.25	354,936.00	
Mercury	3,089	35,000,000	87	23	16	24	5½	30	0.05	1.22	0.07	Antiquity.
Venus	7,896	66,000,000	224	16	50	23	21⅓	22	0.99	0.90	0.91	Antiquity.
Earth	7,926	91,000,000	365	6	9	23	56	18	1.00	1.00	1.00	
Mars	4,070	139,000,000	686	23	31	24	37⅓	15	0.13	0.97	0.13	Antiquity.
Jupiter	92,164	476,000,000	4,332	14	2	9	55½	8⅓	1,491.00	0.22	338.71	Antiquity.
Saturn	75,070	872,000,000	10,759	5	16	10	15	.....	772.00	0.13	101.36	Antiquity.
Uranus	36,216	1,753,000,000	30,686	17	21	9	30	.....	86.50	0.16	14.25	Herschel, 1781.
Neptune	33,610	2,746,000,000	60,126	17	5	.....		3⅔	76.60	0.32	18.98	Leverrier and Galle, 1846.

* The planet Vulcan, discovered in 1859, and having its orbit next to the sun, is still undetermined. Prof. Tice estimates that its diameter is as large as that of Uranus.

The planets revolve upon their axes in the same manner as the earth. This we know by telescopic observation to be the case with many planets, and by analogy the rule may be extended to all. Conformably to the principles of gravitation, their velocity is greatest at those parts of their orbit which are nearest the sun, and least at the parts which are most distant from it; in other words, they move quickest in perihelion, and slowest in aphelion.

The question whether the planets are inhabited cannot be satisfactorily answered. There are many who think that the only object God can possibly have in making any world is to form an abode for man. Our own earth was evidently fitted up, although perhaps not created, for this express purpose. When we turn to the planets we do not know but God has other races of intelligent beings who inhabit them, or even entirely different ends to attain. Of this, however, we are fully assured, that, if inhabited, the conditions on which life is supported vary much from those familiar to us.

Fig. 5. General Appearance of a Sun-Spot.

Satellites, or "*planetary moons*," are plainly perceived attending upon the great planets. One we are all familiar with—the moon, which lends a beauty to our nights which no other light that we can command can ever do.

Mars possesses two moons and Jupiter four; Uranus rejoices in the latter number; Neptune has only one; no less than eight satellites wait upon Saturn. No doubt there are many more of these moons to be found, and every year will doubtless bring us further knowledge respecting them. Mars' moons were discovered only in 1877, although known to exist. Jupiter's moons are supposed to be as large as our own moon; Neptune and Uranus can boast of equally-sized attendants.

MERCURY.

The distance of Mercury from the sun is less than half that of our earth, and so it receives much more heat and light than we do. The sun to the Mercurians, if there be any inhabitants upon the planet, must appear about seven times larger than he does to us. When the sky is very clear we may sometimes see Mercury, just after the setting of the sun, as a bright, sparkling star near the western horizon. Its elevation increases evening by evening, but never exceeds 30°. And if we watch it closely, we shall find that it again approaches the sun and becomes lost in his rays. Some days afterward, just before sunrise, we can see the same star in the east, rising higher each morning, until its greatest elevation equals that which it before attained in the west. Mercury's orbit is the most eccentric of any of the eight principal planets, so that, although when in perihelion it approaches to within 28,000,000 miles, in aphelion it speeds away 15,000,000 miles farther, or to the distance of 43,000,000 miles. Being so near the sun, its motion in its orbit is correspondingly rapid — thirty miles per second.

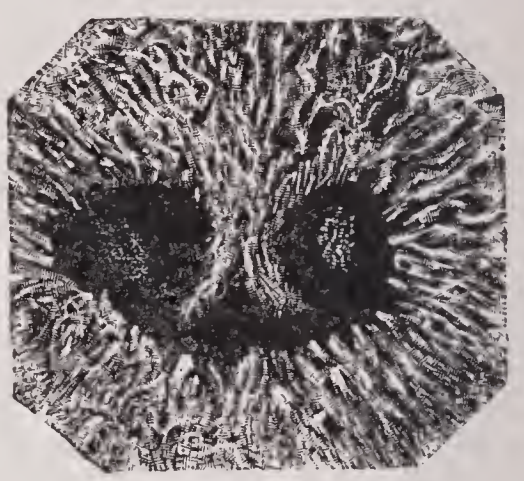


Fig. 6. A Sun-Spot as seen by Secchi.

VENUS.

Venus, the nearest planet to the earth, is somewhat smaller than the latter. This planet is both a morning and evening star, and is very brilliant—so much so, that close observation with the telescope is impossible. When at her nearest point she is invisible, as she passes between us and the sun, and of course when fully illuminated she is directly beyond the sun, and inclosed in his rays. But under other circumstances she is distinctly visible as a crescent in the evening, and nearly full as a morning star. Venus has long been celebrated as the morning and evening star, as "Lucifer" and "Hesperus."

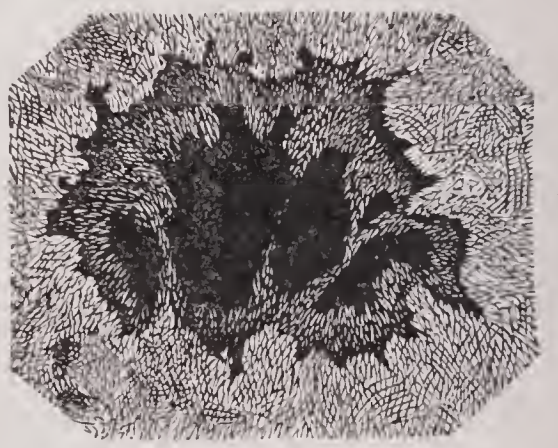


Fig. 7. A Sun-Spot as seen by Nasmith.

That Venus possesses an atmosphere denser than our own can scarcely be doubted. The observations made during successive transits seem to have established the fact that aqueous vapor exists around, and water in, Venus. No satellite can be found, although the ancients reported such an attendant. A transit of Venus, like one of Mercury, is simply a passing of the planet across the illuminated disc of the sun. The transits afford means to ascertain the volume, distance, etc., of the sun. The last occurred in 1882, and there will not be another for more

than a hundred years. The seasons in Venus must be very different from ours. As her inclination is greater than that of our earth, and as the sun is so much nearer to her than to us, her tropical and polar regions are close, and a vertical sun is scarcely enjoyed by two places for three successive days, and she may have two winters and summers, two springs and autumns.

Fig. 8. A Solar Prominence.

The evidence of an atmosphere, as well as of mountains, rests very much upon the peculiar appearance attending her crescent shape. The luminous part does not end abruptly; on the contrary its light diminishes gradually. This diminution may be entirely explained by the twilight on the planet. The existence of an atmosphere which diffuses the rays of light into regions where the sun has already set, has hence been inferred. Thus, on Venus, the evenings, like ours, are lighted by twilight, and the mornings by dawn. The edge of the illuminated portion of the planet is uneven and irregular, and this appearance is doubtless the effect of shadows cast by mountains.

OUR EARTH AND HER SATELLITE.

It seems rather strange to class our earth, which is dark and opaque, and which appears to us so vast, among the bright heavenly bodies. Nevertheless it is one of the smallest of the principal planets of the solar system, and although we see in it no motion, while the orbs about us seem constantly changing their position, science has demonstrated that it revolves around the sun, in an orbit of nearly 600,000,000 miles, at the tremendous rate of eighteen miles per second, or 65,000 miles an hour. To other worlds our earth appears as a star does to us. In studying astronomy we must consider that it is a planet shining brightly in the heavens, held in its course by the invisible power of gravitation, and that in reality it is small and insignificant beside some of the mighty globes that so gently shine upon us from distances almost inconceivable; that our earth, in fact, is only one atom in a universe of worlds, all firm and solid, and all, perhaps, equally well fitted to be the abode of life.

Science teaches us that the earth was doubtless once a glowing star, and under the head of *Physical Geography* we can see that the Scriptures confirm this doctrine. The crust upon which we thrive is only the cinders and ashes of a fearful conflagration, and the air we breathe is only the gas left over when the fuel was consumed.

The earth has two motions—one from east to west, in its course round the sun, and one on its own axis. If we send a ball rolling we perceive that it turns round as it proceeds. So the earth turns on its axis, the extremities of which are called the *poles*. The horizon appears to us stationary, and so the stars we see at night seem to move. Those on the west, which are passed over and hidden, seem to have sunk or set, and those on the east seem to have moved above or risen. The sun seems to move by day, and the stars by night, but this is a mere optical delusion—a delusion in which the untaught mind is confirmed by the relative fixity of everything on our globe, the apparent rest of everything around.

The earth's rotation, according to sidereal time, is less than solar time, and we have 365 solar days and 366 sidereal days. A person going round the world would gain or lose a day, as he traveled east or west, according to his reckoning as compared with the reckoning of friends at home. We can best ascertain the earth's motion by watching the stars rise and set. The earth proceeds at its tremendous pace round the sun in an ellipse or oval track, 600,000,000 miles in length, from which it never moves, year by year, in any appreciable degree. Now what prevents this earth of ours from rushing off by itself into

Fig. 9. The Earth in Space.

space? The reason is because the sun holds it back. The force of the sun's gravitation is so enormously great that it suffices to retain our globe and all the planets in their various orbits, and to counteract the force which launches them through space. If the earth were suddenly to increase her velocity or the sun to contract his mass, we should be flung into infinite

space, and in a short time would be frozen up completely. Our present diurnal course would probably proceed, but all life would cease as we whirled with distant planets through infinity. If, on the other hand, the earth were to stop suddenly, an amount of heat would be engendered sufficient to raise the temperature of a globe of lead the same size as our globe 384,000° of the Centigrade thermometer, and, as Prof. Tyndall says, the greater part, if not the whole, of our planet would be reduced to vapor. But against such a catastrophe we are assured by the immutability of God's laws. The variation in the earth's revolution has not exceeded the hundredth part of a second in 2,000 years.

The Seasons.

In the diagram (Fig. 10) we shall at once find the explanation of the constantly recurring seasons, and the amount of

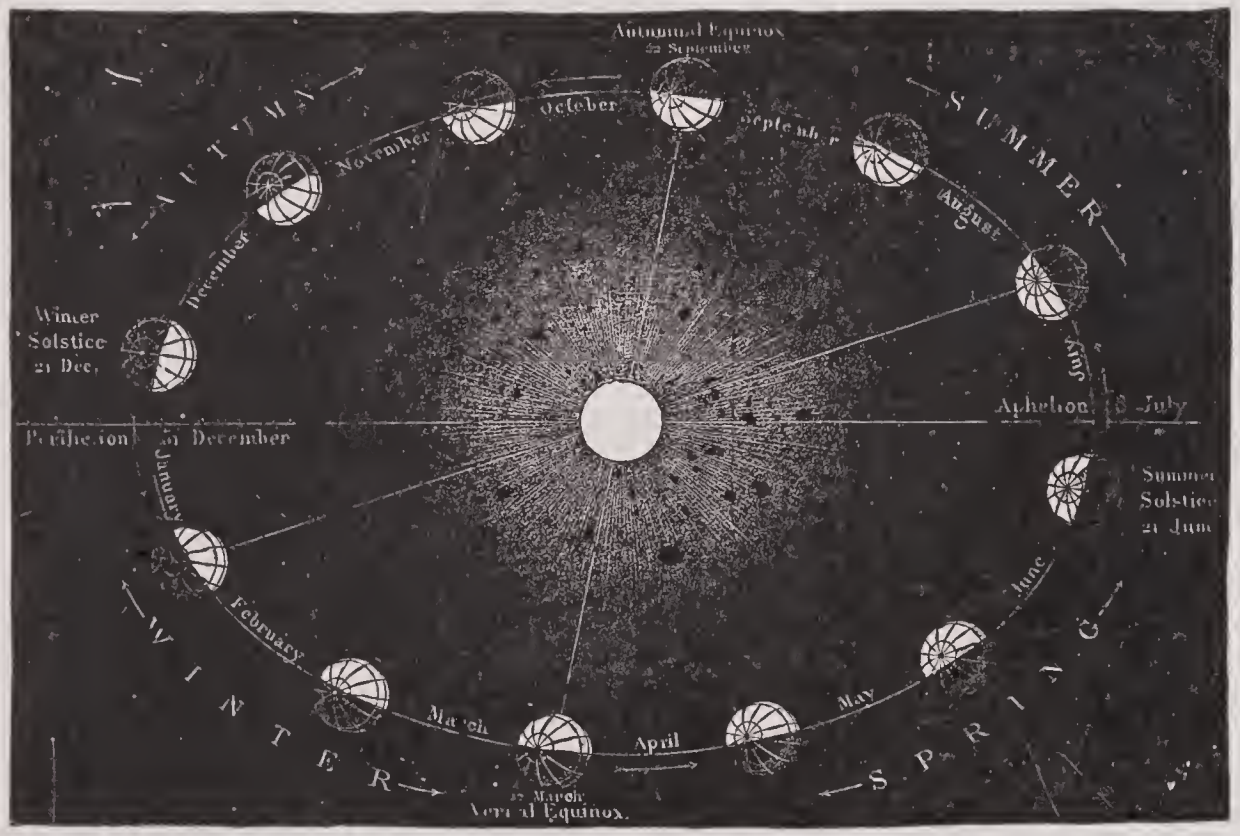


Fig. 10. The Seasons.

our globe which is illuminated by the sun at various times. It will be easily understood that the poles have six months day and six months night. When the earth is at an equinox, one-half of the surface is illuminated and the other half in shade; therefore the days and nights are equal. But when the north pole turns more and more toward the sun, the south pole is turning away from it in the same ratio,—the days and nights respectively are getting longer and longer, and at the north and south poles day and night are continuous, for the small spaces round the poles are, during a certain period, wholly in sunshine and shade respectively.

When the earth is in Libra, and also when in Aries,* the rays strike vertically at the equator, and more and more obliquely in the northern and southern hemispheres, as the distance from the equator increases, until at the poles they strike almost horizontally. This variation in the direction of the rays produces a corresponding variation in the intensity of the sun's heat and light at different places, and accounts for the difference between the torrid and polar regions. As the earth changes its position, the angle at which the rays strike any portion is varied. For instance, take the earth as it enters Capricornus, and the sun in Cancer. He is now overhead 23½° *north* of the equator. His rays strike less obliquely in the northern hemisphere than when the earth was in Libra. Let six months elapse: The earth is now in Cancer and the sun in Capricornus; and he is overhead 23½° *south* of the equator. His rays strike less obliquely in the southern hemisphere than before, but in the northern hemisphere more obliquely. These six months have changed the direction of the sun's rays on every part of the earth's surface. This accounts for the difference in temperature between summer and winter.

At the equinoxes one-half of each hemisphere is illuminated; hence the name equinox (*æquus*, equal, and *nox*, night). At these points of the orbit the days and nights are equal over the entire earth, each being twelve hours in length.

When the earth is at the summer solstice, about the 21st of June, the sun is overhead 23½° north of the equator, and if its vertical rays could leave a golden line on the surface of the earth as it revolves, they would mark the Tropic of Cancer. The sun is at its furthest northern declination, ascends the highest it is ever seen above our horizon, and rises and sets 23½° north of the east and west points. It seems now to stand still in its northern and southern course; and hence the name solstice (*sol*, the sun, *sto*, to stand). The days in the north temperate zone are longer than the nights. It is our summer, and the 21st of June is the longest day of the year. In the south temperate zone it is winter, and the shortest day of the year. The circle that separates day from night extends 23½° beyond the north pole; and if the sun's rays could in like manner leave a golden line on that day, they would trace on the earth the Arctic Circle. It is the noon of the long, six-months polar day. The reverse is true at the Antarctic Circle, and it is there the midnight of the long, six-months polar night.

* When we say that the earth is in Libra, we mean that a spectator placed at the sun would see the earth in that part of the heavens which is occupied by the sign of Libra. See *Zodiac* (Dictionary of Astronomical Terms).

The earth crosses the aphelion point the 1st of July, when it is at its furthest distance from the sun, which is then said to be in *apogee*. The sun, each day rising and setting a trifle further toward the south, passes through a lower circuit in the heavens. We reach the autumnal equinox the 22d of September. The sun being now on the equinoctial, if its vertical rays could leave a line of golden light, they would mark on the earth the circle of the equator. It is autumn in the north temperate zone, and spring in the south temperate zone. The days and nights are equal over the whole earth, the sun rising at 6 A.M., and setting at 6 P.M., exactly in the east and west where the equinoctial intersects the horizon.

The sun, after passing the equinoctial — "crossing the line," as it is called — sinks lower toward the southern horizon each day. We reach the winter solstice the 21st of December. The sun is now directly overhead 23½° south of the equator; and if its rays could leave a line of golden light, they would mark on the earth's surface the Tropic ot Capricorn. It is at its furthest southern declination, and rises and sets 23½° south of the east and west points. It is our winter, and the 21st of December is the shortest day of the year. In the south temperate zone it is summer and the longest day of the year. The circle that separates day from night extends 23½° beyond the south pole; and if the sun's rays in like manner could leave a line of golden light, they would mark the Antarctic Circle. It is there the noon of the long six-months polar day. At the Arctic Circle the reverse is true; the rays fall 23½° short of the north pole, and it is there the midnight of the long six-months polar night. Here, again, the sun appears to us to stand still a day or two before retracing its course, and it is therefore called the winter solstice.

Fig. 11. The Moon by Earth-light.

The earth reaches its perihelion about the 31st of December. It is then nearest the sun, which is, therefore, said to be in *perigee*. The sun rises and sets each day further and further north, and climbs up higher in the heavens at midday. Our days gradually increase in length, and our nights shorten in the same proportion. On the 21st of March the sun reaches the equinoctial, at the vernal equinox. He is overhead at the equator, and the days and nights are again equal. It is our spring, but in the south temperate zone it is autumn.

We are nearer the sun by 3,000,000 miles in winter than in summer. The obliqueness with which the rays strike the north temperate zone at that time prevents our receiving any special benefit from this favorable position of the earth. We notice that we do not have our greatest heat at the time of the summer solstice nor our greatest cold at the time of the winter solstice. After the 21st of June, the earth, already warmed by the genial spring days, continues to receive more heat from the sun by day than it radiates by night; thus its temperature still increases. On the other hand, after the 21st of December, the earth continues to become colder, because it loses more heat during the night than it receives during the day.

As the sun is not in the center of the earth's orbit, but at one of its *foci*, that portion of the orbit which the earth passes through in going from the vernal to the autumnal equinox comprises more than one-half the entire ecliptic. On this account the summer is longer than the winter.

The velocity of the earth varies in different portions of its orbit. When passing from the vernal equinox to aphelion, the attraction of the sun tends to check its speed; from that point to the autumnal equinox, the attraction is partly in the direction of its motion, and so increases its velocity.

If the axis of the earth were perpendicular to the ecliptic, the sun would always appear to move through the equinoctial. He would rise and set every day at the same points on the horizon, and pass through the same circle in the heavens, while the days and nights would be equal the year round. There would be near the equator a fierce torrid heat, while north and south the climate would melt away into temperate spring, and, lastly, into the rigors of a perpetual winter.

If the equator were perpendicular to the ecliptic, odd results would follow. To a spectator at the equator, as the earth leaves the vernal equinox, the sun would each day pass through a smaller circle, until at the summer solstice he would reach the north pole, when he would halt for a time and then slowly return in an inverse manner. In our own latitude, the sun would make his diurnal revolutions in the way we have just described, his rays shining past the north pole further and further, until we were included in the region of perpetual day, when he would seem to wind in a spiral course up to the north pole, and then return in a descending curve to the equator.

Fig. 12. Telescopic View of the Full Moon.

The sun and moon appear flattened when near the horizon, because the rays from the lower edge pass through a denser layer of the atmosphere, and are, therefore, refracted about 4′ more than those from the upper edge. The effect of this is to make the vertical diameter appear about 4′ less than the horizontal, and so distort the figure of the disk into an oval shape.

The dim and hazy appearance of the heavenly bodies when near the horizon is caused not only by the rays of light having to pass through a larger space in the atmosphere, but also by their traversing the lower and denser part. The intensity of the solar light is so greatly diminished by passing through the lower strata, that we are enabled to look upon the sun at that time without being dazzled by his brilliant beams.

The glow of light after sunset, and before sunrise, which we term twilight, is caused by the refraction and reflection of the sun's rays by the atmosphere.

The diffused light of day is produced in the same manner as that of twilight. The atmosphere reflects and scatters the sunlight in every direction. Were it not for this, no object would be visible to us out of direct sunshine; every shadow of a passing cloud would be pitchy darkness; the stars would be visible all day; no window would admit light except as the sun shone directly through it, and a man would require a lantern to go round his house at noon.

The blue light reflected to our eyes from the atmosphere above us, or more probably from the vapor in the air, produces the optical delusion we call the sky. Were it not for this, every time we cast our eyes upward we should feel like one gazing over a dizzy precipice; while now the crystal dome of blue smiles down upon us so lovingly and beautifully that we call it heaven.

THE MOON.

"Fancy," says Lockyer, "a world without ice, cloud, rain, snow; without rivers or streams, and therefore without vegetation to support animal life; — a world without twilight or any gradations between the fiercest sunshine and the blackest night; — a world, also, without sound, for, as sound is carried by the air, the highest mountain on the airless moon might be riven by an earthquake inaudibly." If it were possible to reach the moon, as Jules Verne's travelers did, we should find a very irregular and corrugated

Fig. 13. A Map of the Moon.

surface — plains and mountains without water. There being no atmosphere, we should be able to see the stars in the daytime. The appearance of our earth from the moon, and the beauty of the stars in the unclouded and waterless space around the satellite, must be very grand, as depicted in a measure, in the illustration (Fig. 11).

When we look steadily at the full moon through a telescope we perceive upon its surface dark and light tracts, called "seas," though they are dried up now. Thus, we hear of the "Sea of

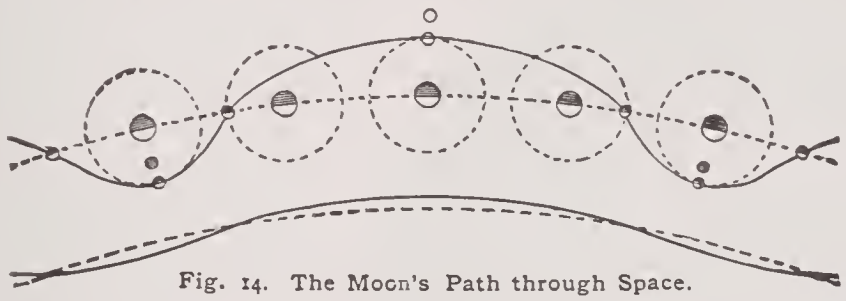


Fig. 14. The Moon's Path through Space.

Serenity," the "Sea of Storms" and the "Sea of Tranquility." The hill ranges extend for hundreds of miles, and the elevation reaches 30,000 feet, and even more. The so-called craters do not resemble volcanoes when viewed closely, but appear like basins or valleys surrounded by lofty hills. One great plain, called Copernicus, is more than fifty miles across.

The moon moves around us in $27d.\ 7h.\ 43m.\ 11.461s.$ Its diameter is about 2,160 miles, and it is much less dense than our earth, and so the force of gravity is less there than here. Its mean distance from us is 238,833 miles. The moon goes through certain changes or phases every twenty-nine days or so; and while rotating on its own axis our satellite goes round the earth, so that we only see one side of the moon, inasmuch as the two motions occupy almost exactly the same length of time. So we generally see the same space of the moon, though at times there is a slight variation. This movement or swaying of the central point is called the moon's "libration," and is an optical effect, due to the inequalities in the motion of the moon in its orbit, and to the inclination of its equator and orbit to the ecliptic.

The Phases of the Moon.

The moon, as we have seen, revolves around the earth in the same time as she turns upon her own axis, and always presents one side to us when she appears. Any one can ascertain this if he will put a candle upon a round table, and walk round it facing the candle. The experimentalist will find that he will turn upon his own axis as well as turn around the table. Thus we shall see how the moon changes.

The time intervening between one "new" moon and another is $29d.\ 12h.\ 44m.\ 2s.$, and is termed a synodic revolution. This is longer than the sidereal revolution, because the earth is also moving in the same direction, and the moon has to make up the time the earth has got on in front, as it were. So the moon travels nearly thirteen times round the earth while the latter is going round the sun.

The revolutions of the moon have been a measurement of time for ages, and her varying appearances during lunation are always observed with interest. The illustration (Fig. 15) will assist us materially. The sun's rays fall in a parallel direction upon the earth and moon, and let us suppose that S is the sun in the diagram and T the earth; *c* at the various points is the moon, the capital letters, A, B, C, etc., indicating the planet as she appears from the sun, and the small letters showing how she appears to us from the earth. Let us suppose that the sun, earth and moon are in conjunction—that is, in a direct line. The phases C and G are the moon's "quadratures." At A we see the sun shining on the moon, but we only have the dark side. It is then "new moon." But by degrees, as she goes round in her orbit, we perceive a small crescent-shaped portion, lighted up by the sun at B and *b*. At *c'* we have the first quarter or half-moon, and so on to the last quarter.

The moon revolves round the earth in a changeable elliptical orbit, intersecting the ecliptic at certain points called *nodes*. When the moon is nearest to the earth she is said to be in *perigee;* when farthest from us she is in *apogee*. The line uniting these points is the line of *apsides*, the difference in distance being about 4,000 miles.

Eclipses.

The moon passes the sun periodically, and so, if she moved in the plane of the ecliptic, there would be eclipses of the sun

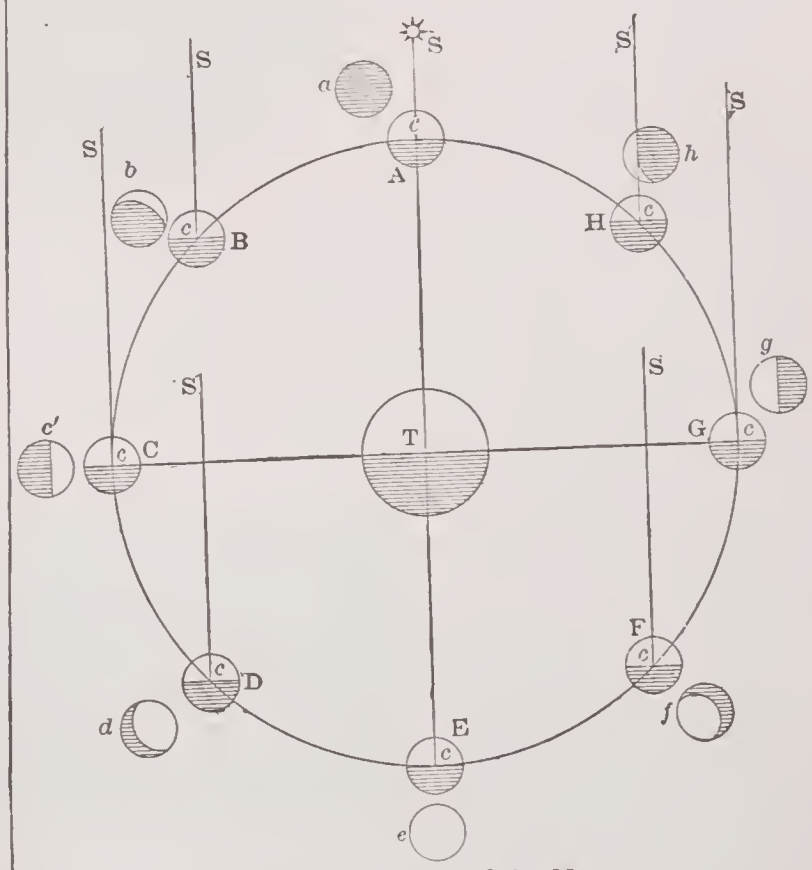


Fig. 15. The Phases of the Moon.

and moon twice a month; but, as the orbit is inclined a little, she escapes by moving north or south.

There are eclipses of the sun and of the moon. The former occur at the time of new moon, and the latter at full moon; and this will be at once understood when we remember that the sun is eclipsed by the moon passing between us and the

sun; and the moon is eclipsed because the *shadow of the earth* falls upon her when she is *opposite* the sun, and therefore "full."

There are total, partial, and annular eclipses. The last of these terms is derived from "annulus," a ring; for a ring of light is left around the dark portion eclipsed, and is only seen in solar eclipses. In one sense the eclipse of the sun is really an eclipse of the earth, because it is caused by the shadow of the moon falling upon the earth.

Various singular appearances always attend a total eclipse. Around the sun is seen a beautiful corona, or halo of light, like that which painters give to the head of the Virgin Mary. Flames of a blood-red color play round the disk of the moon; and, when only a mere crescent of the sun is visible, it seems to resolve itself into bright spots, interspersed with dark spaces, having the appearance of a string of bright beads.

Fig. 15. The Corona as seen in 1857.

The Tides.

The ebb and flow of tidal waters depend upon the moon to a great extent. Twice every day we have the tides, twelve hours apart, and the flow and ebb are merely examples of the attraction of gravitation which is exercised on all bodies, whether liquid or solid. The tides may be compared to a great wave, which, raised by the moon's attraction, follows her in her course round the earth. The sun also aids in this effect, but as the moon is so much nearer the earth her influence is far greater. The tides are highest at the equator and lowest at the poles, because the tropics are more exposed to the lunar attraction.

MARS

Appears to the naked eye as a bright red star, rarely scintillating, and shining with a steady light, which distinguishes it from the fixed stars. Its ruddy appearance has led to its being celebrated among all nations. The Jews gave it the appellation of "blazing," and it bore in other languages a similar name. The orbit of Mars is exterior to the earth's, as is proved by his never appearing "horned," nor ever passing across the sun's disc. Therefore, no transits of Mars can take place as transits of Venus and Mercury. When in "opposition," or on the opposite side of us from the sun, Mars is at his brightest. This happened in September, 1877. He will come close again to us in 1892. Of all the planets Mars has the most eccentric orbit. He curls about, so to speak, in loops and curves, in a very irregular manner, and therefore his distance from the earth varies considerably.

Fig. 17. The Rotation of Mars, as shown by the Movement of the Spots on its Disc.

Mars is most like the earth of all the planets, and its inhabitants—if, indeed, it is now inhabited—must have a beautiful view of us when the weather is fine, for we are so much larger. When examined with a good telescope, the seas and continents of Mars can be distinctly perceived. At the poles there appears to be a white or snowy region at varying periods, which would lead us to the conclusion that the atmospheric changes and the seasons are similar to our own; and as the inclination of the planet is nearly the same as the earth, this supposition may be accepted as a fact.

The seasons of Mars are not equal, in consequence of his wandering propensities, and winter is warmer up there than our winter, while summer is cooler than our summer. That there are clouds and an aqueous atmosphere surrounding the planet we learn from analysis and spectroscopic observation. Respecting the question of habitation, Richard Proctor says: "I fear my own conclusion about Mars is that his present condition is very desolate. I look on the ruddiness of tint as one of the signs that the planet of war has long since passed its prime. There are lands and seas in Mars, the vapor of water is present in his air, clouds form, rains and snows fall upon his surface, and doubtless brooks and rivers irrigate his soil, and carry down the moisture collected on his wide continents to the seas whence the clouds had originally been formed. But I do not think there is much vegetation on Mars, or that many living creatures of the higher types of Martian life as it once existed still remain. All that is known about the planet tends to show that the time when it attained that stage of planetary existence through which our earth is now passing must be set millions of years,

perhaps hundreds of millions of years ago. He has not yet, indeed, reached that airless and waterless condition, that extremity of internal cold, or in fact that utter unfitness to support any kind of life, which would seem to prevail in the moon. The planet of war in some respects resembles a desolate battle-field, and I fancy that there is not a single region of the earth now inhabited by man which is not infinitely more comfortable as an abode of life than the most favored regions of Mars at the present time would be for creatures like ourselves."

Mars is attended by two satellites, or moons, discovered in 1877—both being very small, their diameter not exceeding six miles, although late astronomers have reasoned that they must be three times as large.

JUPITER, THE GIANT PLANET,

Is thirteen hundred times larger than our earth. His inclination is very small, and he therefore enjoys very small changes of seasons. He has four satellites. Jupiter himself was well known to the ancients, but his moons were discovered by

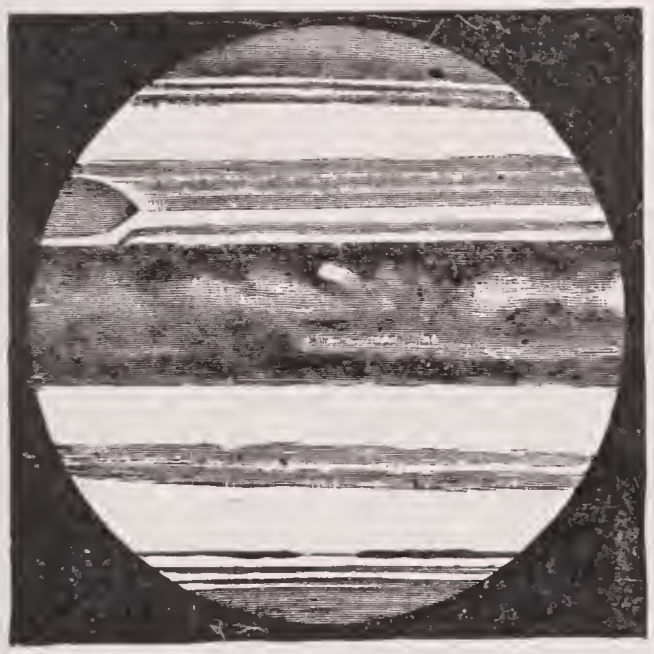


Fig. 18. Jupiter as shown by the Telescope.

Galileo. These moons were found to revolve around Jupiter in times varying from nearly two days to nearly sixteen days, according as they were at a less or greater distance from him. They were also found to have their times of eclipses and transits. They act with respect to Jupiter very much as the inner planets act with respect to the sun, for observation showed Galileo that the satellites sometimes appeared on one side of the planet, and at other times on the opposite side.

Jupiter is the largest of the planets, and only Venus is brighter. He revolves at a distance of 476,000,000 of miles from the sun, and his year is equal to nearly twelve of ours, while his day is scarcely ten hours long, showing a rapidity more than twenty times the rate of our earth. Jupiter, therefore, must have a very much greater diameter than the earth.

There is much less sunlight and heat found on Jupiter than upon earth, because he is so much farther from the sun than we are. There is but little difference in the length of his days and nights, which are each of about five hours' duration. At the poles the sun is visible for nearly six years, and then remains set for the same length of time. The seasons vary but slightly. Summer reigns near the equator, while the temperate regions enjoy perpetual spring.

When Jupiter is examined with the telescope it will be seen that he is crossed by belts of vapor; and when we consider the results of the spectrum analysis of the planet, we may fairly assume that Jupiter is in a very heated state, and that we cannot really perceive the actual body of the planet. There is an immense quantity of water thus surrounding Jupiter, and he seems to be still in the condition in which our earth was before geology grasps its state, and long ere vegetation or life appeared. The waters have yet to be "gathered together unto one place," and the dry land has yet to appear. Under these conditions we can safely assume that there are no inhabitants on the "giant planet." The belts or zones of Jupiter vary in hue, and the continual changes which are taking place in this cloud region tend to show that disturbances of great magnitude and importance are occurring.

It is useless to speculate upon what will happen in Jupiter when the disc is eventually cooled. The planet, we know, has not nearly reached maturity; the earth is in the full prime of its life, and the moon is dead and deserted. What the millions of years which must elapse before Jupiter has cooled may bring forth we need not try to find out. The earth will then, in all probability, be as dreary as the moon is now, and we shall have returned to dust.

The velocity of light was discovered by an attentive examination of the eclipses of Jupiter's moons, by Romer, a Danish astronomer, in 1617, who was led to discover the progressive motion of light. Before him, it had been considered instantaneous. He noticed that the observed times of the eclipses were sometimes earlier and sometimes later than the calculated times, according as Jupiter was nearest or farthest fromthe earth. His investigations convinced him that it requires about 16½ minutes for light to traverse the orbit of the earth. Romer's conclusion has since been verified by the phenomena of aberration of light.

SATURN

Is an immense globe, surrounded by a beautiful bright ring, or, rather, series of rings, and attended by eight moons. He appears to possess much the same constitution as Jupiter, but is enveloped in an even denser atmosphere. He revolves on an inclined axis, and has seasonal alterations of unequal length. The rings of Saturn are apparently broad, and flat, and thin, resembling roughly the horizon of a globe, and are supposed to be a close agglomeration of stars, or satellites, revolving around the planet, and encircling him in a belt. The two outermost rings are very bright, the inner ring being darker, and partially transparent, for the ball of Saturn can be perceived through it. The rings are not always so plainly seen as in the illustration (Fig. 19). Sometimes they appear as a mere line of light on each side of the planet. This occurs at the time of the equinox. By degrees, however, as they become

inclined, they appear broader. The inner ring may be formed of vapor, but the outer ones are of something more solid, as indicated by the shadows they cast upon the planet, and it casts upon them at certain times. Saturn possesses eight moons, seven of them revolving in orbits on the plane of the rings but one more inclined.

Saturn, on account of its distance, shines with a feeble, but steady, pale yellow light, which distinguishes it from the fixed stars. Its orbit is so vast that its movement among the constellations may be easily traced through one's lifetime. It requires two and a half years to pass through a single sign of the zodiac; hence, when once known, it may be easily found again.

As the earth and Saturn occupy different portions of their orbits, the distances between them at different times may vary 200,000,000 miles.

The light and heat of the sun at Saturn are only $\frac{1}{100}$ that which we receive. The axis of the planet is inclined from a perpendicular to the plane of its orbit about 31°. The seasons, therefore, are similar to those on the earth, but on a larger scale.

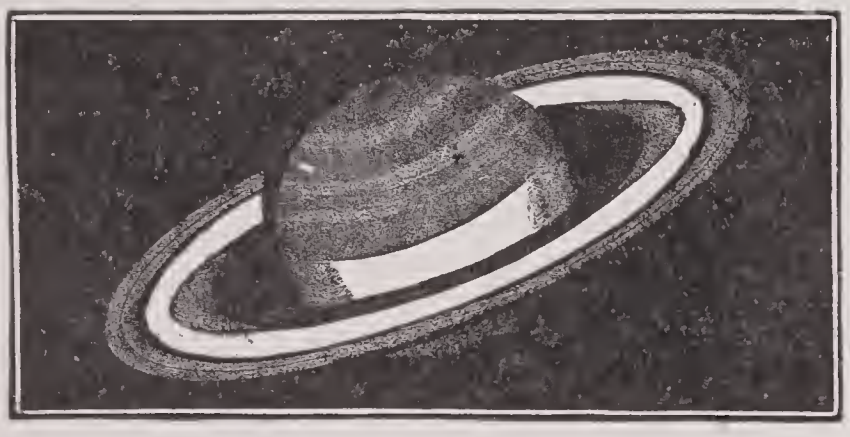


Fig. 19. Saturn and his Rings.

The sun climbs in summer about 8° higher above the horizon, and sinks correspondingly lower in winter. The tropics are 16° further apart, and the Arctic and Antarctic circles 8° further from the poles. Each of Saturn's seasons lasts more than seven of our years. There is about fifteen years' interval between the autumn and spring equinoxes, and between the summer and winter solstices. For fifteen years the sun shines on the north pole, and a night of the same length envelopes the south pole.

URANUS.

Uranus was discovered by Herschel, in 1781, and has been called after its discoverer, and sometimes the "Georgium Sidus." It revolves at an enormous distance from the sun—viz.: 1,753,000,000 of miles. It takes about eighty-four of our years (30,686 days) to go round the sun, and possesses four moons. It is very much larger than the earth—about four times the diameter, and forty times its volume. We can only speculate concerning its physical constitution, which is assumed to be similar to that of Jupiter, while the changes of temperature and seasons must vary immensely. Uranus has four moons, called Ariel, Umbriel, Titania and Oberon. The outer pair can be seen without much difficulty.

NEPTUNE

Is the far-off sentinel at the very outposts of the solar system. The existence of this planet was determined by calculation before it had been seen at all. Uranus was observed to be disturbed in his orbit, moving sometimes faster than at others; and even before Uranus had been discovered Saturn and Jupiter had been seen to be affected by some body in the system. Leverrier determined to ascertain the cause of this, and came to the conclusion that some other planet was influencing Uranus. The Newtonian theory here received a most convincing proof. While Leverrier was calculating, Mr. Adams, of Cambridge, leaped to the same conclusion, and wrote the result of his calculations to Professor Airy, and the planet was seen, but not reported upon. Meantime Leverrier published his calculations, and the observers at Berlin detected the new planet in September, 1846.

Very little can be said concerning Neptune, as its distance is too great for observation. It has one moon, which moves round the planet in 5 *d.* 21 *h.*, and is of great size.

THE ASTEROIDS, OR MINOR PLANETS.

The Asteroids are smaller planets circulating outside the orbit of Mars. They are all at distances from the sun ranging between 200,000,000 and 300,000,000 miles, the periods of sidereal revolution ranging from 1,100 to 3,000 days. Consequently their years are from three to nine times as long as ours. Nearly 325 of these minor planets have been discovered, and they are all very much smaller than the earth, some, indeed being only a few miles in diameter.

In olden times astronomers noticed a very considerable gap between Mars and Jupiter, which was remarkable when the regular progression of the distances between the planets was remembered. The discovery of CERES in 1801 led to other discoveries, and now we have nearly two hundred asteroids. PALLAS was discovered in 1802; JUNO, 1804; VESTA, 1807; ASTRÆA, 1845, and since 1848 every year has added to the list.

The hypothesis that all these asteroids are fragments of one large planet which has been destroyed was started by Olbers; and in confirmation of this view it has been determined that the asteroids have essentially the same character. The orbits of these minor planets are different from the larger "wanderers," and cross each other, so that a collision may one day ensue.

Vesta is the first in order in the system, and revolves in 1,325 days, at a mean distance of 225,000,000 of miles from the sun. Juno and Ceres take each about four of our years to revolve in their orbits, at greater distances still, averaging 260,000,000 of miles. Pallas and Ceres are most alike in their periods and distance from the sun. The principal asteroids are only about 300 miles in diameter.

METEORS.

Meteors are small erratic bodies rushing through the planetary system, and, getting hot in the process, appear in the atmosphere surrounding our earth as "shooting stars." Some of these falling bodies have reached the earth, and such are

called "aerolites" or "meteorites." Numbers, of course, are burnt up before they reach us, and who can tell what destruction such a catastrophe may represent, or whether it be or be not an inhabited world which has thus been plunged to destruction by fire? They are of a metallic or stony nature. On certain nights in August and November it has been calculated that these meteors

Fig. 20. An Exploding Meteor.

will appear. They fall from certain constellations, after which they are named; as Leonides, from Leo, in the November displays.

The star showers sometimes present the appearance of a beautiful display of rockets. Millions of them rush round the sun, and when, as occasionally happens, our earth comes near them, we have a grand display of celestial fireworks.

It is estimated that the average number of meteors that traverse the atmosphere daily, and which are large enough to be visible to the eye on a dark, clear night, is 7,500,000; and if to these the telescopic meteors be added, the number will be increased to 400,000,000. In the space traversed by the earth there are, on the average, in each volume the size of our globe (including its atmosphere), as many as 13,000 small bodies, each one capable of furnishing a shooting star visible under favorable circumstances to the naked eye.

COMETS.

It has been lately suggested that there is a great degree of affinity between comets and meteors — in fact, that a comet is merely an aggregation of meteors. Comets have been supposed to be bodies of burning gas. Their mass is very great, and their brilliant tails are many millions of miles in extent. In their orbits, they differ greatly from the planets. While the latter are direct in their wanderings, comets are most irregular and eccentric. When first seen, the comet resembles a faint spot of light upon the dark background of the sky. As it comes nearer, the brightness increases and the tail begins to show itself.

The term *comet* signifies a hairy body. A comet consists usually of three parts: the nucleus, a bright point in the center of the head; the coma (hair), the cloud-like mass surrounding the nucleus; and the tail, a luminous train extending generally in a direction from the sun.

It is not understood whether comets shine by their own or by reflected light. If, however, their nuclei consist of white-hot matter, a passage through such a furnace would be anything but desirable or satisfactory.

It is to Halley that the discovery of the elliptical orbit of comets is due. A comet had been observed in 1607, and Halley made a calculation that it would reappear in 1757. The expected visitor passed the perihelion in 1759. This comet, on its appearance at Constantinople, is said to have caused much consternation, and Christians regarded it as a "sign," for the Turks had just then captured Constantinople and were threatening Europe. Halley's comet was last observed in 1835.

Encke's, Biela's and the comets of 1843 and 1858 are comparatively recent. Others came in 1861, 1874, 1883. In 1881 two comets appeared. Some comets of antiquity were very remarkable, and are reputed to have equaled the sun in magnitude. One tail is usually supposed to be the distinguishing mark of a comet, but in 1774 one appeared with six tails, arranged something like a fan. Sometimes the tail is separated from the head. Some comets appear at regular intervals, and their approach can be determined with accuracy. Of course we only see those which are attracted by the sun, or those which

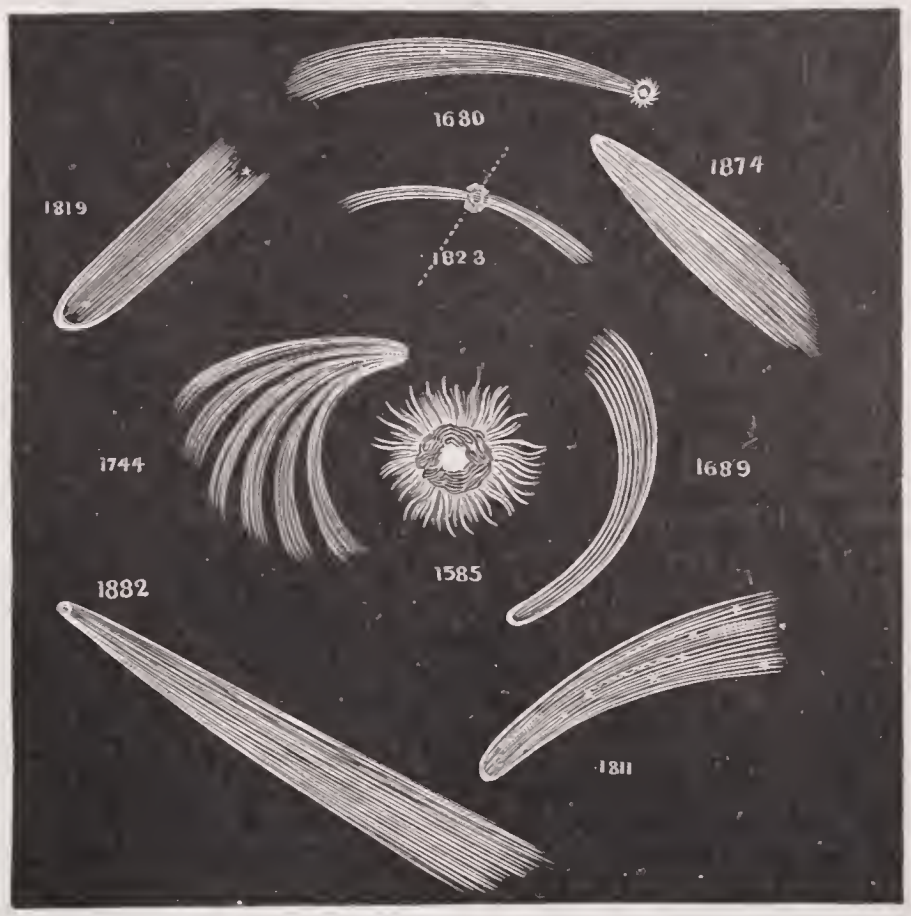


Fig. 21. Various Forms of Comets.

revolve in the solar system. There must be thousands of other comets which we never see at all.

The comet of 1680 pursued its course for two months at a

velocity of 800,000 miles an hour. The tail was estimated to extend 123,000,000 of miles, and a length of 60,000,000 of miles was emitted in two days. This comet appeared B.C. 34, and again at intervals of about 575 years, and will reappear about 2255.

Biela's comet was the cause of much anxiety in 1832, for a collision with the earth was feared. A month, however, intervened between the period at which the comet was expected at a certain place in the system and the earth's arrival at that spot, and so the comet was 60,000,000 miles away when the collision was apprehended. What the effect of such a collision would

Fig. 22. Orbits of the Comets.

be, cannot be said. Wonderful atmospheric phenomena and increased temperature would, however, certainly result. If comets, as is believed, consist partly of solid particles, a collision would certainly be unpleasant; but their weight is probably a mere nothing compared to their vapory volume, which must be enormous. That the tails must be of a very attenuated medium, is evident, as the stars can be seen through them, although a very thin cloud will obscure a star.

THE ZODIACAL LIGHT.

This phenomenon, which may be seen in the western horizon on any clear winter or spring evening, after twilight, and also in the eastern horizon, just before daybreak, in summer or autumn, consists of a faint luminosity, extending out on each side of the sun, and lying nearly in the plane of the ecliptic. It can generally be traced to about 90 degrees from the sun, growing fainter as it rises above the horizon. In a very clear tropical atmosphere, however, it forms a complete ring, and may be traced all the way across the heavens. These appearances seem to indicate that it is due to a lens-shaped appendage surrounding the sun and extending a little beyond the earth's orbit. Various attempts have been made to explain the phenomenon, but the most probable theory is that it is due to an immense number of meteors revolving round the sun, and which lie mostly within the earth's orbit, each reflecting a sensible portion of sunlight, but far too small to be separately visible.

THE FIXED STARS.

Those stars which shine with a clear, distinct light, and visibly change their position with respect to the others, are called *planets*, and these have been fully described according to their order in our solar system. Those stars which apparently remain immovable, and shine with a shifting, twinkling light, are termed *fixed stars*, although it is now known that they also are in motion. Arcturus, for instance, moves at the rate of fifty miles a second, and others less, but only the rates of a few are known.

In the daytime we cannot see the stars because of the superior light of the sun; but with a telescope they can be traced, and an astronomer will find certain stars as well at noon as at midnight. When looking at the sky from the bottom of a deep well or lofty chimney, if a bright star happens to be directly overhead, it can be seen with the naked eye, even at midday.

In reality we *never see the stars*. This assertion seems paradoxical, yet it is strictly true. So far are the stars removed from us that we see only the light they send, but not the surface of the worlds themselves.

The number of the stars is beyond our calculation. Those visible only in the telescope amount to millions, and are called telescopic stars. The stars visible to the unaided eye amount to about six thousand. There are more visible in the southern than in the northern hemisphere. The magnitudes of the stars range in classes according to the brightness of the stars observed, for this is really the test from the first magnitude to the sixth; after that the telescopic stars are seen up to the fifteenth or sixteenth. We can only see about three thousand stars at one time from any place, although, as remarked above, many millions may be observed with a good telescope, and as many more, probably twenty millions, are invisible.

The Motion of the Heavenly Bodies.

Attentive observation of the starry heavens will convince us that all the visible stars describe circles which are the smaller the nearer the stars are to a certain point of the heavens, P (Fig. 23). Near this point there is a tolerably bright star, the *Pole-star*, which appears to the eye as always occupying the same position. A line, P P′, drawn from the star through the center of the earth, C, represents the axis

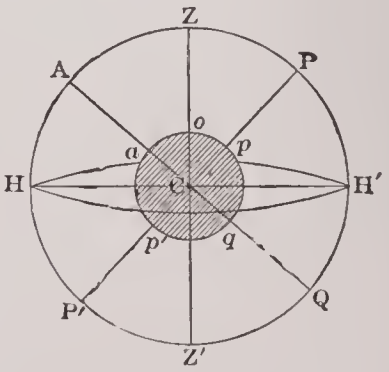


Fig. 23. The Celestial Axis.

around which all the heavenly bodies perform their apparent motions. The part of the celestial axis, PP′, passing through the earth, is the earth's axis; the North Pole, *p*, is on the same side as the Pole-star, and the South Pole, *p′*, is on the opposite side. Thus *pp′* is the earth's axis, and the line *aq*, the plane of which cuts the earth's axis at right angles, is the equator, equally distant from both poles. Now if we suppose the plane of the equator to be extended to the heavens, we have the celestial equator, A Q, or *equinoctial*, dividing the heavens into the northern and southern hemispheres. The equinoctial cannot be actually described or made visible, but its line of direction may be imagined by observing the stars through which it passes.

Fig. 24. The Constellation Ursa Major, or the Great Bear, containing the Great Dipper, or Charles' Wain.

By assigning to an observer stations on the earth's surface differing in relation to the earth's axis, the aspects of celestial phenomena will be essentially modified. One of these stations may be supposed to be, for example, at one of the two poles, at *p*, or at any point of the equator, as at *q*, or, finally, on any portion of the earth's surface which lies between the pole and the equator, as, for example, *o*.

The Constellations.

At a very early period in the history of astronomy the observers of the heavens grouped stars together in fancied resemblances to men and animals, and these *constellations*, as they are termed, are combinations of fixed stars. Many of the constellations are familiar by name to everybody. Illustrations of some of the more interesting are given. We shall find that the forms are in greater part due to the imagination of the ancients, and do not bear out our ideas of the animals, etc., they are supposed to represent, while at the same time they cross and recross with other constellations in the skies in a very puzzling manner. The twelve maps of the stars presented in subsequent pages will, however, enable us to gain a knowledge of the constellations as they appear on the sky on any night during the year.

Fig. 25. Virgo (The Virgin).

The arrangement of the constellations is plunged in the obscurity of ages, but B.C. 370 there were forty-five thus grouped. The brighter stars have all proper names, but most of the names have dropped entirely out of astronomical use, though many are popularly retained. The brighter stars are now generally designated by the letters of the Greek alphabet — *alpha*, *beta*, *gamma*, *delta*, etc.,—to which is appended the genitive of the Latin name of the constellation. Thus Aldeboran would be designated as *Alpha Tauri*. When the letters of the Greek alphabet are exhausted, those of the Roman alphabet are employed. The fainter stars in a constellation are usually designated by some system of numbers.

Double and Multiple Stars.

Many stars which appear single to the naked eye are really double when seen through the telescope, that is, they are composed of a pair of stars lying side by side. Pairs of stars are not considered double unless the components are so near together that they both appear in the field of view when examined with a telescope. When what appears as a single star is resolved into more than two components by the telescope, it is called a multiple star.

New and Variable Stars.

There are many stars which undergo changes of brilliancy, sometimes slight, but occasionally very marked. These changes, in some cases, are apparently irregular, and in others periodic. All such stars are said to be variable. Algol, in the constellation Perseus, is a variable star, whose period is now known to be *2d. 20h. 49 m.* Mira, in the constellation Cetus, is generally invisible, but at intervals of about eleven months it shines forth as a star of the second or third magnitude. The star η of the constellation Argo (*Eta Argus*), in the southern hemisphere, is perhaps the most remarkable variable star in the heavens. It was first observed by Sir John Herschel, while at the Cape of Good Hope. He says: "On the 16th of December, 1837, my astonishment was excited by the appearance of a new candidate for distinction among the very brightest stars of the first magnitude in a part of the heavens where I was certain that no such brilliant object had ever been seen. * * * I finally became satisfied of

its identity with my old acquaintance *Eta Argus*, although its light was nearly tripled." It continued to increase until January 2, 1838, then faded a little till April following. In 1842 and 1843 it blazed up brighter than ever, and in March of the latter year was second only to Sirius. During the twenty-five years following it slowly but steadily diminished; in 1867 it was barely visible to the naked eye, and the next year it vanished entirely from the unassisted view, and has not yet begun to recover its brightness.

Fig. 26. Orion and Taurus.

New or temporary stars are such as have suddenly appeared, and even become very brilliant, and then faded away and disappeared. They are now classified by astronomers among the variable stars, their changes being of very irregular and fitful character. In 1572 an apparently new star appeared in Cassiopeia, and was first seen by Tycho Brahé on November 11, when it had attained the first magnitude. It became rapidly brighter, rivaling Venus in splendor, so that good eyes could discern it in full daylight. In December it began to wane, and in the following May it had disappeared entirely. Kepler's star, first seen in October, 1604, in Ophiuchus, began to fade in the following winter, but remained visible throughout 1605, disappearing entirely early in 1606. It was noted for its brilliant scintillation. Astronomers suppose that this star also appeared in 393, 798 and 1203, which would make it a variable star with a period of a little over 400 years. In May, 1866, a star of the second magnitude suddenly appeared in Corona Borealis, and this is the most striking case of the kind in recent times.

Fig. 27. Coma Berenices (Berenices Hair).

Distance of the Stars.

Such is the distance of the stars that only in a comparatively few instances has any displacement of these bodies been detected when viewed from opposite points of the earth's orbit — that is, from points 185,000,000 miles apart — and then only by the most careful and delicate measurement. Half of the above displacement, or the displacement of the star as seen from the earth instead of the sun, is called the *parallax* of the star. In no case has a parallax of one second as yet been discovered. The distance of a star whose parallax is one second would be 206,265 times the distance of the earth from the sun, or about 19,000,000,000,000 miles. It is quite certain that no star is nearer the earth than this. Light has a velocity which would take it seven and a half times around the earth in one second; but it would require more than three years to reach us from the distance named. If the Almighty, in his inscrutable wisdom, should blot all the stars out of existence, it would be more than three years before we should miss a single one. The star *a* in the constellation of the Centaur is supposed to be the nearest of the fixed stars, and it is estimated that it would take its light about three years and a half to reach us. It has also been estimated that it would take light over 16 years to reach us from Sirius, about 18 from Vega, about 25 from Arcturus and over 40 from the Pole-star. The stars named, however, are comparatively near to us, and there are many so far removed that their light requires a thousand years to reach the earth.

Proper Motion of the Stars.

The discovery of the real motion of the stars, called their "proper motion," is due to Halley. He noticed that three very bright stars, Sirius, Aldeboran and Arcturus, were not in the places assigned to them. The stars have come to be universally denominated as *fixed* because they seem to retain their relative positions from year to year. Although moving at the rate of many miles a second, their distance is so enormous that, in the majority of cases, it would be thousands of years before this rate of motion would produce a sufficient displacement to be noticeable to the unaided eye. In the course of ages, however, a marked change in the configuration of the stars will be produced.

Fig. 28. Arcturus and Bootes.

The stars in all parts of the heavens are found to move in all directions, and with all sorts of velocities. When, however, their motions are averaged, there is found to be an apparent proper motion common to all the stars. Those in the neighborhood of Hercules appear to be approaching us, and those in the opposite part of the heavens appear to be receding from us. In other words, all the stars appear to be moving

away from Hercules and towards the opposite part of the heavens.

Astronomers hold that this apparent common motion of the stars is due to the real motion the sun and the planets of his system through space. Whether this motion of the sun is in a straight line or around some distant center, has not been determined, but it is estimated that our great luminary moves along his path at the rate of about 150,000,000 miles a year.

Fig. 29. Canes Venatici (The Hunting Dogs).

In some cases, groups of stars, probably forming connected systems, have a common proper motion, entirely different from that of the stars around and among them. The most remarkable instance of this kind occurs in the constellation Taurus. Proctor has shown that five of the seven stars forming the Great Dipper have a common proper motion, and he proposes for this phenomenon the name of *Star-drift.*

NEBULÆ AND STAR-CLUSTERS

Are numerous in the heavens. The most important are those in Orion and in Andromeda. But there are other very beautiful "patches" of luminous matter, or cloud appearances, composed of stars invisible to the naked eye. There must be thousands of these star-clouds.

The nebulæ present the appearance of various forms — circular, elliptical, annular and spiral. Sometimes one or more minute stars are enveloped in a nebulous haze, and are hence called nebulous stars. The great nebula of Andromeda is one of the few that are visible to the naked eye. One can see at a glance that it is not a star, but a mass of diffused light, and it has sometimes very naturally been mistaken for a comet. Its spectrum suggests that it is really an immense star-cluster, so distant that the highest telescopic power cannot resolve it, yet in the largest telescopes it looks more like a gas than in those of moderate size.

The great nebula of Orion, surrounding the middle star of the three forming the sword, has above all others excited the wonder of observers. In its center are four stars, easily distinguished by a small telescope, together with two smaller ones requiring a nine-inch telescope to be well seen. Besides these, the whole nebula is dotted with stars. A good eye will perceive that what appears as a single star, instead of looking like a bright point, has a hazy appearance, due to the surrounding nebula. Huyghens first described the object in 1659. He says: "There is one phenomenon among the fixed stars worthy of mention, which, so far as I know, has hitherto been noticed by no one, and indeed cannot be well observed except with large telescopes. In the sword of Orion are three stars quire close together. In 1656, as I chanced to be viewing the middle one of these with the telescope, instead of a single star, twelve showed themselves (a not uncommon circumstance). Three of these almost touched each other, and with four others shone through a nebula, so that the space around them seemed far brighter than the rest of the heavens, which was entirely clear, and appeared quite black; the effect being that of an opening in the sky, through which a brighter region was visible."

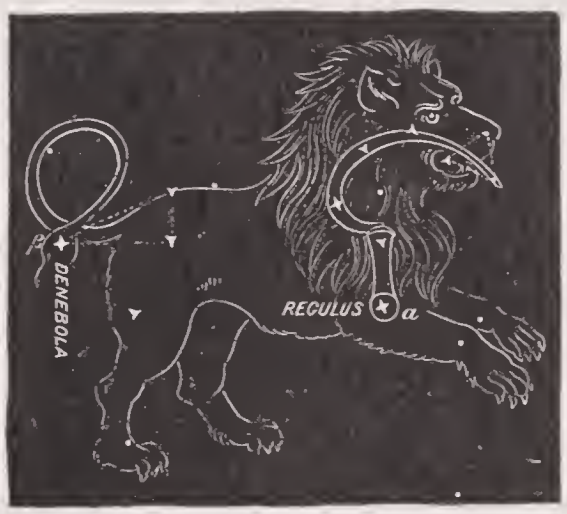


Fig. 30. Leo (The Lion).

The Nebular Hypothesis.

What is termed the *Nebular Hypothesis* was put forward by Laplace, and by it he endeavored to account for the regular development of the stellar system, which is supposed to have originated from an immense nebular cloud. This immense mass would rotate and contract, and the outer portions would separate and develop into rings like Saturn's rings. Then the rings break into separate portions, and each portion condenses into a planet, or the small "bits" travel round the sun like asteroids, and in this manner various systems were formed. This theory was considered to be quite exploded when stars were discerned in nebulæ by the more recent telescopes; but then the spectroscope came to our aid, and it was discovered that there were some nebulæ which are simply masses of glowing gas or aggregations of stones which are dashing against each other in so forcible a manner as to produce heat and luminosity.

Fig. 31. Corvus (The Crow).

Proctor has put forward a hypothesis that the star or meteor showers are the original cause of the sidereal system, and that this rain of meteors has fallen for all time, gradually consolidating into orbs.

THE MILKY WAY

Is a whitish, vapory-looking belt, and is composed of multitudes of millions of suns, of which our own sun itself is one, so far removed from us that their light mingles and makes only a fleecy whiteness. Philosophers have frequently discoursed upon this phenomenon, but all statements must remain more or less speculative. From Kepler's to the present time astronomers have been considering the Milky Way, but an actual knowledge is still beyond us. It is agreed, however, that the galaxy is not a continuous stream, but a series of luminous patches, most extraordinary aggregations of stars, which it is not only impossible to count, but each of which appears to be independent of the others. "The sidereal system," says Proctor, in his *Universe of Stars*, "is altogether more complicated, altogether more varied in structure than has hitherto been supposed. Within one and the same region co-exist stars of many orders of real magnitude, the greatest being thousands of times larger than the least. All the nebulæ hitherto discovered, whether gaseous or stellar, irregular, planetary, ring-formed, or elliptic, exist within the limits of the sidereal system. They all form part and parcel of that wonderful system whose nearer and brighter parts constitute the glories of our nocturnal heavens."

Fig. 32. A Spiral Nebula.

And a little reflection will show how true this is. Not very long ago in the world's life the solar system was supposed to consist of one sun with a few planets wandering around him. Then some more were found, and they were called "satellites." For a long time man fancied he had reached the "ultima thule" of astronomy in these depths; but the whole idea was changed when it was discovered that beyond Mars there lie the asteroids and the host of bodies in this solar system which we cannot do more than allude to. Then when we consider this "sun" of ours, which we think so enormous, and which keeps in subjection and illuminates so many heavenly bodies, and when we reflect that there are in space, and visible, stars many times larger than our ruling orb, each a sun, and that our sun would, if placed where the great Sirius glows, be but a speck in the firmament, and his system invisible to our eyes, we may well wonder at the magnitude of the subject and bow down before the wisdom and power of Him "at whose sight all the stars hide their diminished heads."

A DICTIONARY OF ASTRONOMICAL DEFINITIONS.

Aphelion. That point of a planet or comet's orbit which is most distant from the sun; the opposite point is called the *perihelion*.

Apogee. The point of a planet's orbit farthest from the earth. (Generally used only when speaking of the moon.)

Apsides (plural of *Apsis*.) The two points of an orbit which are respectively the greatest and least distance from the central body.

Axis. A real or imaginary straight line on which a body revolves or is supposed to revolve.

Azimuth. An arc of the horizon intercepted between the meridian of the place and a vertical circle passing through the center of any object. See *Nadir and Zenith*.

Celestial Globe. An artificial globe representing the constellations and the signs of the Zodiac in their places in the heavens.

Celestial Sphere. The blue arch of the sky as it appears spread above us.

Circumference. The line that goes round or encompasses a circular figure.

Colures. Two circles dividing the ecliptic into four equal parts, and making the seasons. The "equinoctial colure" passes through the equinoxes at Aries and Libra. The other, north and south, is the "solstitial colure."

Conjunction. Planets are in conjunction with each other when in the same sign and degree. A planet with the sun between it and the earth is in conjunction with the sun.

Declination. The distance of the heavenly bodies from the equinoctial measured as a meridian. In other words, latitude upon a celestial globe. The *Tropics* indicate the limits of the sun's declination.

Degree. The 360th part of the circumference of a circle.

Diameter. A right line passing through the center of a circle or sphere.

Disc. The apparently flat surface of a planet.

Diurnal. Constituting the measure of a day. *Diurnal arc*, the arc described by the sun during the daytime or while above the horizon. *Diurnal circle*, the apparent circle described by a celestial body in consequence of the earth's rotation.

Ecliptic. The earth's orbit about the sun, or the sun's apparent path through the heavens. The sun, of course, does not actually move, and therefore the track, or supposed circle, is really the earth's motion observable from the sun. When the moon is near this circle eclipses happen. The ecliptic cuts the equinoctial at an angle of $23^{\circ}\ 28'$, one-half being to the north and the other to the south of the equinoctial. The poles of the ecliptic are the points where the axis of the earth's orbit meets the celestial sphere.

Elliptical. Oval or oblong, with rounded ends.

Epicycle. A circle in the center of a greater circle.

Equator. An imaginary great circle on the earth's surface, everywhere equally distant from the two poles and dividing the earth into two hemispheres. The *equator of the heavens* is a great circle of the celestial sphere, coincident with the plane of the earth's equator, and called the *equinoctial*.

Equinoctial. The plane of the equator extended to the heavens. When the sun appears in that line the days and nights are of equal duration—12 hours each. This occurs about the 21st of March and the 23d of September. The term *equinoctial* is from the two Latin words *equaes*, equal, and *nox*, night.

Equinoxes. The points where the equinoctial and the ecliptic (the sun's apparent path through the heavens) intersect. The *vernal equinox* is the place where the sun crosses the equinoctial, commonly called "crossing the line," in going north, which occurs about the 21st of March. The *autumnal equinox* is the place where the sun crosses the equinoctial in going south, which occurs about the 21st of September.

Horizon. The *rational horizon* is the great circle passing through the center of the earth, separating the visible from the invisible heavens. The sensible (apparent) horizon is the small circle where the earth and sky seem to meet. It is parallel to the rational horizon, but distant from it the semi-diameter of the earth. No two places have the same sensible horizon.

Latitude. The distance from the ecliptic at a right angle north or south. Parallels of latitude are familiar circles parallel to the equator. Latitude and longitude upon a celestial globe are known respectively as "declination" and "right ascension."

Longitude. The distance in degrees, reckoned from the vernal equinox, on the ecliptic, to a circle at right angles to it passing through the heavenly body whose longitude is designated.

Lunar. Relating to the moon.

Lunation. The period of a synodic revolution of the moon, or the period from one new moon to the next.

Meridians. Circles passing through the poles at right angles to the equinoctial. Every place is supposed to have a meridian, but astronomers apply only twenty-four to the heavens, and they represent the sun's, or the planets', "movements" every hour—15° being one hour, 360° being 24 hours.

Nadir and **Zenith.** The poles of the horizon. The zenith is the point directly overhead, and the nadir the one directly under foot. *Azimuth circles* are circles drawn through these points.

Nocturnal. Relating to night.

Nodes. The opposite points of a planet where its orbit cuts the ecliptic or the earth's orbit.

Occident. The western quarter of the hemisphere.

Occultation. The hiding of a heavenly body from sight by the intervention of some other of the heavenly bodies.

Opposition. A planet with the earth between it and the sun is in opposition.

Orbit. The path described by a planet revolving round the sun. The *plane* of the orbit is an imaginary surface cutting through the center of the sun and the planet and extending to the stars. The inclination of an orbit is the plane of the orbit with reference to the plane of the earth.

Orient. The part of the horizon where the sun first appears in the morning.

Orrery. An apparatus illustrating, by means of small balls mounted on rods and moved by wheelwork, the size, motions, positions, orbits, &c., of the bodies of the solar system.

Oscillation. Moving backward and forward, or swinging like a pendulum; vibration.

Parallax. The difference between the position of a body as seen from some point on the earth's surface and its position as seen from some other conventional point, as the earth's center or the sun.

Parallel. A line which, throughout its whole extent, is equidistant from another line.

Parhelion. A mock sun or meteor, appearing in the form of a bright light near the sun, and sometimes tinged with colors like the rainbow, with a luminous train.

Penumbra. The shadow cast, in an eclipse, where the light is only partly cut off by the intervening body; the space of partial illumination, between the *umbra*, or perfect shadow, and the light.

Perigee. The opposite of *apogee*.

Perihelion. That point in the orbit of a planet or comet in which it is nearest to the sun.

Radius Vector. A line drawn from a planet to the sun, wherever the planet may be.

Right Ascension. Corresponds to "longitude" on a celestial globe.

Sidereal. "Measured by the apparent motion of the stars." See *Time*.

Sign. The twelfth part of the ecliptic or zodiac. See *Zodiac*.

Solstices. The points in the ecliptic at which the sun is farthest from the equator, north or south, namely, the first point of Cancer and the first point of Capricorn, the former, about the 21st of June, being called the summer solstice, and the latter, about the 21st of December, the winter solstice.

Spectroscope. An optical instrument used in determining the physical constitution of the heavenly bodies by analyzing their light.

Sphere. 1. An orb or star. 2. The apparent surface of the heavens, which seems to the eye spherical, and in which the heavenly bodies appear to have their places.

Time. "Apparent" time is indicated by the sun; "sidereal" time by the stars. Mean time is that marked by a perfect clock, giving every day in the year equal length. A sidereal day is the exact interval of time in which the earth revolves on its axis. It is found by marking two successive passages of a star across the meridian of any place. This is so absolutely uniform that the length of the sidereal day has not varied 1-100 of a second in 2,000 years. The sidereal day is divided into twenty-four equal portions, which are called sidereal hours, and each of these into sixty portions, termed sidereal minutes, etc. A solar day is the interval between two successive passages of the sun across the meridian of any place. If the earth were stationary in its orbit, the solar day would be of the same length as the sidereal; but while the earth is turning around on its axis, it is going forward at the rate of 360° in a year, or about 1° per day. When the earth has made a complete revolution, it must, therefore, perform a part of another revolution through this additional degree, in order to bring the same meridian vertically under the sun. One degree of diurnal revolution is about equal to four minutes of time; hence, the solar day is about four minutes longer than the sidereal day. The civil day extends from midnight to midnight. The present method of dividing the day into two portions of twelve hours each, was adopted by Hipparchus, 150 years B. C., and is now in general use over the civilized world. Until recently, however, very many nations terminated one day and commenced the next at sunset. Under this plan, 10 o'clock on one day would not mean the same as 10 o'clock on another day. The Puritans commenced the day at 6 P. M. The Babylonians, Persians, and modern Greeks begin the day at sunrise.

Transit. 1. The passage of a smaller heavenly body across the disc of a larger; as of Venus or Mercury across the sun's disc. 2. The passage of a body over the meridian of a place, or through the field of a telescope.

Vertical. Planets are vertical when directly overhead.

Zenith. See *Nadir*.

Zodiac. A girdle extending 8° on each side of the ecliptic, in which space of 16° the planets move. The zodiac is divided into twelve parts of 30° each, called the "Signs." Their names are as under written:

NORTHERN SIGNS.

Spring.

Aries, the Ram, March.
Taurus, the Bull, April.
Gemini, the Twins, May.

Summer.

Cancer, the Crab, June.
Leo, the Lion, July.
Virgo, the Virgin, August.

SOUTHERN SIGNS.

Autumn.

Libra, the Balance, September.
Scorpio, the Scorpion, October.
Sagittarius, the Archer, November.

Winter.

Capricornus, the Goat, December.
Aquarius, the Waterbearer, January.
Pisces, the Fishes, February.

The signs are reckoned from the point of intersection of the ecliptic and equator at the vernal equinox. The names were originally the names of the constellations occupying severally the divisions of the zodiac, by which they are now retained. In consequence of the precession of the equinoxes, however, the signs have, in process of time, became separated about 30 degrees from these constellations, and each of the latter now lies in the sign next in advance, or to the east of the one which bears its name. The constellation Aries now lies, for instance, in the sign Taurus, etc.

HOW TO READ THE SKY.

Half-Hours with the Stars: A Plain and Easy Guide to the Knowledge of the Constellations.

WITH TWELVE MAPS OF THE HEAVENS, TRUE FOR EVERY YEAR.

BY RICHARD A. PROCTOR, B.A., F.R.A.S.

IT is very easy to gain a knowledge of the stars, if the learner sets to work in the proper manner. But he commonly meets with a difficulty at the outset of his task. He provides himself with a set of the ordinary star-maps, and then finds himself at a loss how to make use of them. Such maps tell him nothing of the position of the constellations on the sky. If he happen to recognize a constellation, then, indeed, his maps, if properly constructed, will tell him the names of the stars forming the constellation, and also he may be able to recognize a few of the neighboring constellations. But when he has done this, he may meet with a new difficulty, even as respects this very constellation. For if he look for it again some months later, he will neither find it in its former place, nor will it present the same aspect,—if, indeed, it happen to be above the horizon at all.

It is clear, then, that what the learner wants is a set of maps specially constructed to show him in what part of the sky the constellations are to be looked for. He ought, on any night of the year, to be able to turn at once to the proper map, and in that map he ought to see at once what to look for, toward what point of the compass each visible constellation lies, and how high it is above the horizon. And, if possible (as the present work shows is the case), one map ought to suffice to exhibit the aspect of the whole heavens, in order that the beginner may not be confused by turning from map to map, and trying to find out how each fits in with the others.

It is to fulfill these requirements that the present maps have been constructed. Each exhibits the aspect of the whole sky at a given day and hour. The circumference of the map represents the natural horizon, the middle of the map representing the part of the sky which lies immediately overhead. If the learner hold one of these maps over his head, so as to look vertically upward at it, the different parts of the horizon marked in round the circumference being turned toward the proper compass points, he will see the same view of the heavens as he would if he were to lie on his back and look upward at the sky, only that the map is a planisphere, and the sky a hemisphere.

But, although this illustration serves to indicate the nature of the maps, the actual mode of using them is more convenient.

Let it first be noted that, properly speaking, the maps have neither top, bottom, nor sides. Each map may be held with any part of the circumference downward; then the center of the map is to be looked upon as the top for that part of the circumference. The portion of the map lying beneath the center represents the portion of the sky lying between the point overhead and a certain portion of the horizon—the part, in fact, corresponding to the particular part of the circumference which is turned downward. Thus, if on any night we wish to learn what are the stars toward the north, we look for the map corresponding to that night. At the hour named the stars toward the north will be those shown between the center of the map and the top; and, of course, we hold the map upside down, so as to bring the center above the northern part of the circumference.

Again, it must be noted that, although the maps are necessarily arranged in a certain order, there is in reality no first or last in the series. The map numbered I. follows the map numbered XII. in exactly the same manner that the latter follows the map numbered XI. The maps form a circular series, in fact.

The only reason for numbering the maps as at present is that the map numbered I. happens to exhibit the aspect of the sky at a convenient hour on the night of January 1. It will be found that the dates follow on with intervals of three or four days right round the year, the end of the year falling in the left-hand column of Map I., while the beginning of the year is in the middle column of the same map. It may be mentioned, in passing, that the dates have not been thrown in so as to fall regularly round the year, but correspond with the variations due to the earth's variable motion round the sun.

It will be seen at once that a map can always be found corresponding to a convenient hour on any night of the year, except only in midsummer, when, on a few of the dates, night has not begun at the hour named. It was impossible, without spoiling the regularity of the dating, or adopting an inconveniently late hour for all the maps, to avoid this difficulty. But, as a matter of fact, the difficulty disappears at once when the student is told that on any date named under a map, the aspect of the sky two hours later than that named, is that represented in the following map. Thus, at eight o'clock in the evening of June 21, the aspect of the stars is as shown in Map VI., but the stars cannot be seen, because it is still daylight; at ten o'clock, however, on the same night, the aspect of the sky is that shown in Map VII., as, indeed, the first date under that map shows.

Next as to finding the north point, or any point of the compass which will enable the observer to determine the rest. If he is only familiar with the aspect of those seven bright stars of the Great Bear which have been called Charles' Wain, the Butcher's Cleaver, the Great Dipper, and by other names, he can always determine the north point by means of the two stars called the pointers, since these seven stars never set. In the

explanation of each map it is shown where the Great Bear is to be looked for on each night, the observer being assumed to have such a general knowledge of the direction of the compass-points as will suffice for the purpose of finding so marked a collection of stars. Thus the pole-star is found, and for the purpose of such observations as are here considered, this star may be looked upon as marking the exact direction of the north.

It is worth noticing that the stars called the Guardians of the Pole form no bad time-piece when used with the aid of such maps as the present. They revolve round the pole once in twenty-four hours (less about four minutes), in a direction contrary to that of a clock's hands. But stars near the equator, whose motions are much more rapid, afford a yet better measure of time, if the direction of the south point is well determined.

It will be well for the student to remember that the planets Venus, Mars, Jupiter and Saturn will at times appear among the constellations here shown. Venus and Jupiter can always be recognized by their superior light, and Mars and Saturn by the steadiness with which they shine. As they never appear, save among the zodiacal constellations, it becomes very easy to recognize them.

The following list exhibits the names of all the stars of the first three magnitudes to which astronomers have given names; at least, all those whose names are in common use:

α *Andromedæ* (Andromeda) ..... *Alpheratz.*
β " ..... *Mirach Mizar.*
γ " ..... *Almach.*
α *Aquarii* (Aquarius—The Water-Bearer) ..... *Sadalmelik.*
β " ..... *Sadalsund.*
δ " ..... *Skat.*
α *Aquilæ* (Aquila—The Eagle) ..... *Altair.*
β " ..... *Alshain.*
γ " ..... *Tarazed.*
α *Arietis* (Aries—The Ram) ..... *Hamal.*
β " ..... *Sheratan.*
γ " ..... *Mesartim.*
α *Aurigæ* (Auriga—The Waggoner, or Charioteer) .... *Capella.*
β " ..... *Menkalinan.*
α *Boötis* (Boötes) ..... *Arcturus.*
β " ..... *Nekkar.*
ε " ..... *Izar, Mizar, Mirack.*
η " ..... *Muphrid.*
α *Canum Ven.* (Canes Venatici—The Hunting Dogs) *Cor Caroli.*
α *Canis Majoris* (Canis Major—The Great Dog) ..... *Sirius.*
β " " ..... *Mirzam.*
ε " " ..... *Adara.*
α *Canis Minoris* (Canis Minor—The Little Dog) .... *Procyon.*
β " " ..... *Gomeisa.*
α^2 *Capricorni* (Capricornus—The Goat) ..... *Secunda Giedi.*
δ " ..... *Deneb Algiedi.*
α *Cassiopeiæ* (Cassiopeia) ..... *Schedar.*
β " ..... *Chaph.*
α *Cephei* (Cepheus) ..... *Alderamin.*
β " ..... *Alphirk.*
γ " ..... *Errai.*
α *Ceti* (Cetus—The Whale, or The Sea Monster) ..... *Menkar.*
β " ..... *Diphda.*
ζ " ..... *Baten Kaitos.*
ο " ..... *Mira.*
α *Columbæ* (Columbæ—The Dove) ..... *Phact.*
α *Coronæ Bor.* (Corona Borealis—Northern Crown) .. *Alphecca.*
α *Corvi* (Corvus—The Crow) ..... *Alchiba.*
δ " ..... *Algores.*
α *Crateris* ..... *Alkes.*
α *Cygni* (Cygnus—The Swan) ..... *Arided, Deneb, Adige.*
β " ..... *Albireo.*
α *Draconis* (Draco) ..... *Thuban.*
β " ..... *Alwaid.*
γ " ..... *Etanin.*
β *Eridani* (Eridanus) ..... *Cursa.*
γ " ..... *Zaurac.*
α *Geminorum* (Gemini—The Twins) ..... *Castor.*
β " ..... *Pollux.*
γ " ..... *Alhena.*
δ " ..... *Wasat.*
ε " ..... *Mebsuta.*
α *Herculis* (Hercules) ..... *Ras Algethi.*
β " ..... *Korneforos.*
α *Hydræ* (Hydra—The Water Snake) ... *Alphard, Cor Hydræ.*
α *Leonis* (Leo—The Lion) ..... *Regulus, Cor Leonis.*
β " ..... *Deneb Aleet, Denebola, Deneb.*
γ " ..... *Algeiba.*
δ " ..... *Zosma.*
α *Leporis* (Lepus) ..... *Arneb.*
α *Libræ* (Libra—The Scales) ..... *Zuben el Genubi.*
β " ..... *Zuben el Chamali.*
γ " ..... *Zuben Hakrabi.*
α *Lyræ* (The Lyra—The Lyre) ..... *Vega.*
β " ..... *Sheliak.*
γ " ..... *Sulaphat.*
α *Ophiuchi* (Ophiuchus—The Serpent-Bearer) ... *Ras Alhague.*
β " ..... *Cebalrai.*
α *Orionis* (Orion) ..... *Betelgeux.*
β " ..... *Rigel.*
γ " ..... *Bellatrix.*
δ " ..... *Mintaka.*
ε " ..... *Alnilam.*
α *Pegasi* (Pegasus) ..... *Markab.*
β " ..... *Scheat.*
γ " ..... *Algenib.*
ε " ..... *Enif.*
ζ " ..... *Homan.*
α *Persei* (Perseus) ..... *Mirfak.*
β " ..... *Algol.*
α *Piscis Aust.* (Piscis Australis—The Southern Fish) *Fomalhaut.*
ε *Sagittarii* (Sagittarius—The Archer) ..... *Kaus Australis.*
α *Scorpionis* (Scorpio—The Scorpion) . *Antares, Cor Scorpionis.*
α *Serpentis* (Serpens—The Serpent) ..... *Unukalhai.*
α *Tauri* (Taurus—The Bull) ..... *Aldeboran.*
β " ..... *Nath.*
η " ..... *Alcyone* (*Pleiad*).
α *Ursæ Majoris* (Ursa Major—The Great Bear) ..... *Dubhe.*
β " " ..... *Merak.*
γ " " ..... *Phecda.*
ε " " ..... *Alioth.*
ζ " " ..... *Mizar.*
η " " ..... *Alkaid, Benetnasch.*
ι " " ..... *Talitha.*
α *Ursæ Minoris* (Ursa Minor—The Little Bear) ..... *Polaris.*
β " " ..... *Kochab.*
α *Virginis* (Virgo—The Virgin) ..... *Spica, Azimech, Spica.*
β " ..... *Zavijava.*
ε " ..... *Vindemiatrix.*

MAP I.—HALF-HOUR WITH THE STARS IN JANUARY.

Dec. 21, at 10 o'clock in the evening; Dec. 24, 9:45; Dec. 28, 9:30; Jan. 1, 9:15; Jan. 5, 9:00; Jan. 8, 8:45; Jan. 12, 8:30; Jan. 16, 8:15; Jan. 20, 8:00.

THE Great Bear lies toward the northeast. The Pointers are uppermost, and the pole star is toward the left. The two stars known as the Guardians of the Pole (β and γ of the Little Bear) hang below the pole-star, slightly toward the right. The Dragon forms a loop of stars below the Little Bear. The Lyre is low down on the left, its chief star, Vega, scintillating brilliantly. Still further on the left, almost due northwest, is the fine cross of Cygnus. Following the direction indicated by the upright of the cross, raise the eyes toward the point overhead, and recognize the constellation Cassiopeia, by the five bright stars forming a figure resembling the letter W (now raised on end, the points of the W to the left). Returning to the horizon, and looking further around to the left, we see due west the constellation Pegasus, or the Winged Horse. He is now inverted, his head being close to the horizon on the right. The square of Pegasus, formed by the bright stars Rigel, Betelgeux, Bellatrix and Alpherat, will attract the observer's notice, and lead him to the constellation Andromeda, Alpherat being in Andromeda's head. The length of this constellation is now almost vertical, and between the feet of Andromeda and the point overhead lies the constellation Perseus. Notice Algol (the Demon Star of the Arabs), lying due southwest, close up to the point overhead. Of the variations of this remarkable star a great deal might be said. Usually the observer will see it of the second magnitude, however, as it only remains a fourth magnitude star for about twenty minutes. Immediately below Peresus is Aries, recognizable by the three stars which form the Ram's head. Below that again is Citus, the Whale. Due south lies Eridanus, consisting chiefly of small stars, which cover a wide expanse of sky. Above is Taurus, recognizable at once by the Pleiades and Aldeboran. Still turning toward the left we see Orion nearly upright, but with his shoulders slightly thrown back. Immediately below Betelgeux (Ibt-al Jauza, the Giant's Shoulder) is Canis Major, on his hind feet, and throwing a forepaw toward the Little Hare (a constellation of small stars directly below Orion). Observe the leading star of the Dove (a Columbæ) directly below a Leporis. Almost due west, and midway between the horizon and the point overhead, are the twin stars Castor and Pollux, Castor being uppermost. Still higher lies Auriga, the star Capella, always a veryconspicuous object, shining very brilliantly at this elevation. Canis Minor lies below the feet of the Twins. Observe the small cluster of Præsepe, or the Beehive (only visible on very clear nights); it lies now almost exactly midway between Castor and the horizon. Further to the left, and near the horizon, is the Lion. It is well to notice "The Sickle" (the group of stars formed by Regulus, η, γ, μ, ε, and two small stars), as this is a well-marked object.

MAP II.—HALF-HOUR WITH THE STARS IN FEBRUARY.

Jan. 20, at 10 o'clock in the evening; Jan. 23, 9:45; Jan. 27, 9:30; Jan. 31, 9:15; Feb. 4, 9:00; Feb. 7, 8:45; Feb. 11, 8:30; Feb, 15, 8:15; Feb. 19, 8:00.

THE Great Bear is now midway between the horizon and the point overhead, and toward the northeast. The "pointers" are uppermost, and the pole-star lies toward the left (as shown in the map). The Guardians of the Pole are seen below, and toward the right. Immediately below the pole lies the Dragon's Head, the body and tail extending toward the right, to a point between the pointers and the Guardians of the Pole. Vega is seen just above the horizon, slightly to the left of the north point. Further to the left is the upper part of Cygnus, above which is the inconspicuous Cepheus. Due northwest, and high above the horizon, is Cassiopeia, the W being now in this position ≷. Further to the left, and close to the horizon, is the Flying Horse. The square of Pegasus stands just above the horizon. The upper corner (Alpherat) of the square belongs to Andromeda, still inverted; and above the feet of Andromeda we see Perseus. Algol is now due west. Below Algol, but slightly to the left, is Aries; and still lower, and further to the left, Cetus appears, the figure presented by its principal stars reminding one of the Mantis insect. It is now setting. The star Mira may not be visible, as this is a variable, invisible at regular intervals for months together. Notice Eridanus setting toward the southwest, and Taurus above; and then turn to Orion, almost due south, standing erect in all his glory, at the greatest elevation he ever attains in our latitude. To the left, low down, we see the Greater Dog, Sirius, now shining with his full splendor. The dog is still rampant; indeed, he is never seen otherwise in our latitudes. Looking upward, and somewhat further to the left, almost due southeast, we see the Twins, their feet resting on the borders of the Milky Way. Still higher is Auriga, now, in fact, overhead. Below the Twins see the Little Dog. Below this constellation the stern of the ship Argo is rising into view. But as the part of this constellation which rises above the horizon contains no conspicuous stars, we need not pay much attention to it at this stage of our star-gazing.

Somewhat to the east of southeast we see a single conspicuous star —though several small stars are seen in the neighborhood. This is Cor Hydræ, the heart of the Sea Serpent. The Arabian astronomers gave to this star the name of Al Fard, or the Solitary One. Leo lies toward the east, and between the Sickle in Leo and the Lesser Dog we recognize Præsepe, and the two small stars on either side, known to the ancients as the Aselli.

We have now come round again to the Great Bear. Observe how much larger an extent of sky this constellation covers than is commonly assigned to it by beginners. Below the Bear's tail the head and shoulders of Boötes are rising into view.

MAP III.—HALF-HOUR WITH THE STARS IN MARCH.

Feb. 19, at 10 o'clock in the evening; Feb. 22, 9:45; Feb. 26, 9:30; March 2, 9:15; March 6, 9:00; March 9, 8:45; March 13, 8:30; March 17, 8:15; March 21, 8:00.

THE Great Bear is now approaching the point overhead, but is easily recognized toward the northeast. The Pointers, as shown, indicate the pole-star toward the left, and considerably below them. The Guardians of the Pole now lie on the right of, and somewhat below, the pole-star. Vega shines just above the horizon, immediately below them. Between lies the Dragon's Head; and we see the body and tail of the Dragon curving round between the head and the Guardians of the Pole. The upper part of Cygnus is now all that can be seen of this constellation, almost due north on the horizon. Further to the left, and well raised above the horizon, we see Cassiopeia. Andromeda is now approaching the horizon, her head almost touching it toward the northwest. Next on the left is Aries, and above Aries is Perseus. Above Perseus is Auriga, Capella being almost due west. Cetus has nearly set, only its head being visible above the horizon. Above Eridanus (now nearly set) is Taurus, very favorably situated for observation. The Pleiades lie due west, and Aldeboran—a brilliant red star—to their left. Orion is toward the southwest, bending forward toward the west. Above him, but somewhat to the left, are the Twins, Castor still uppermost. Below the Twins are the two dogs, Canis Major toward the south-southwest, and low down. Cor Hydræ lies midway between the south and the southeast, and is well raised above the horizon. It is interesting to notice how blank this part of the heavens appears, so far, at least, as conspicuous stars are concerned. Toward the southeast is Alkes, the chief star in the Cup; and we notice the Crow just rising into view toward the left. Above we recognize Leo, the Sickle being now a conspicuous object. Virgo has risen partially into view above the eastern horizon. The cup-shaped group formed by the five stars shown in the map was called by the Arabian observers, for reasons not yet explained, "The Retreat of The Howling Dog." Boötes has now risen above the horizon, though as yet in a recumbent position. Arcturus is a conspicuous object on the right of this constellation. Below the head and shoulders of Boötes notice the Crown, one star only of which (Alphecca) is shown in the map. Doubtless this group of stars originally formed the right arm of Boötes. The constellation recently attracted much notice as the region in which a new star (or rather, an irregular variable) made its appearance a year or two ago. Hercules is gradually rising into view toward the northeast.

MAP IV.—HALF-HOUR WITH THE STARS IN APRIL.

March 21, at 10 o'clock in the evening; March 24, 9:45; March 28, 9:30; April 1, 9:15; April 5, 9:00; April 8, 8:45; April 12, 8:30; April 16, 8:15; April 20, 8:00.

THE Great Bear is now easily found, being nearly overhead. The pole lies below the Pointers.

The Guardians of the Pole are now somewhat higher than the pole toward the right. Below the pole-star is Cephus, and due west of him is Cassiopeia, the W gradually approaching its natural position. Andromeda's feet are to be seen above the southwestern horizon, and toward the left Aries is setting.

Above Aries is Perseus, now well situated for observation. The brilliancy of the Milky Way in this neighborhood is worth noticing.

Due west is the Bull, above which lies Auriga.

Orion is now approaching the horizon, and is prone toward his "western grave;" above him hang "the starry Gemini."

Toward the left are the two Dogs. The Greater Dog is now setting.

Cor Hydræ is somewhat to the west of south. Above is the Sickle in Leo, due south, and with its handle vertical.

The length of Hydra is now nearly raised above the horizon.

Virgo has risen, and the brilliant Spica is a conspicuous object toward the southeast. Just above the horizon is the second star of the Scales.

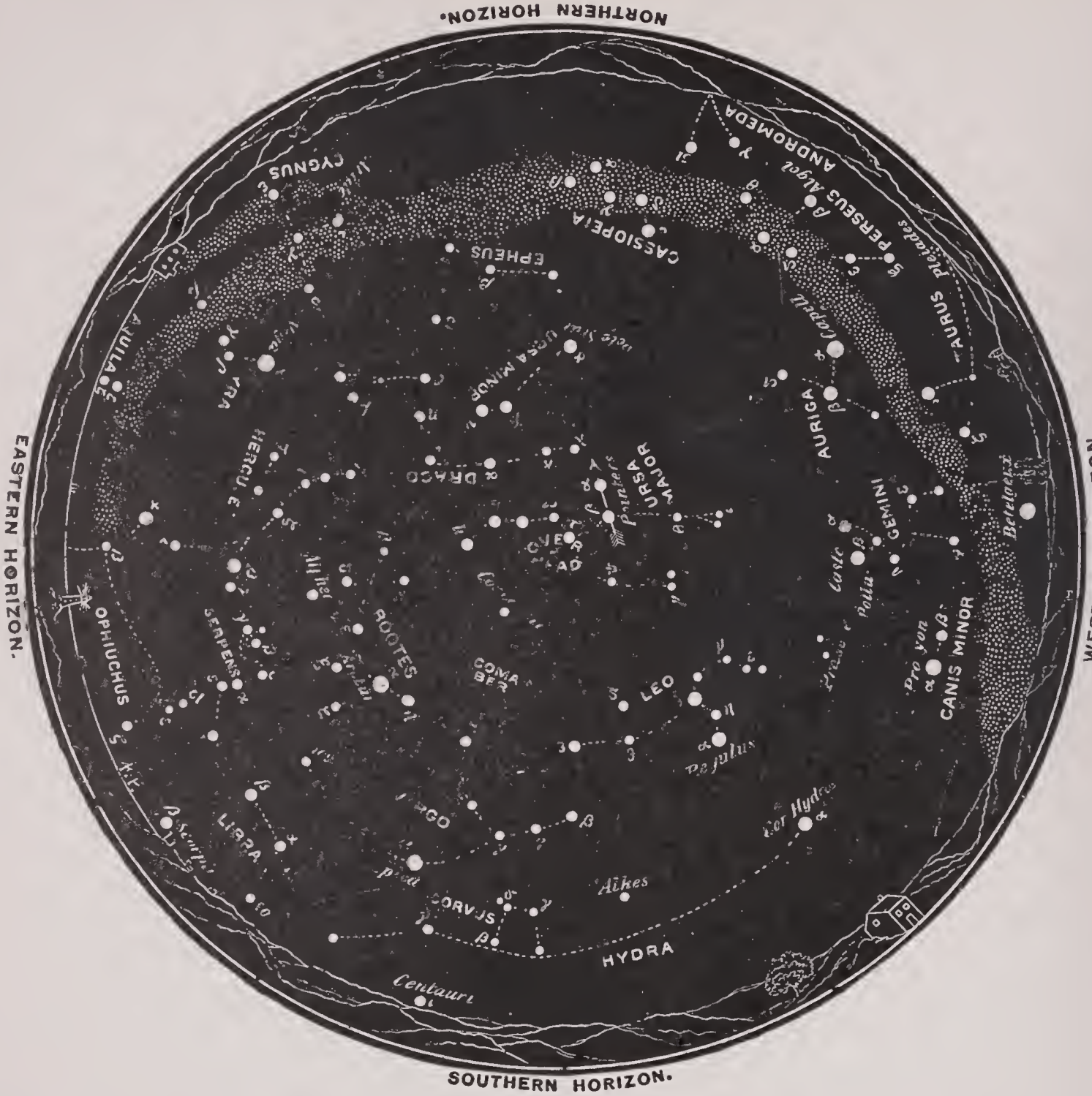
Due east is the Serpent just above the horizon. It must be noticed, however, that a part of this constellation lies on the further side of the as yet unrisen Ophiuchus. Serpens is the only constellation thus divided.

Above Serpens is Boötes, still nearly recumbent. Coma Berenices and Cor Caroli occupy the positions severally accorded to them in the map.

To the left of Serpens is Hercules, or Engonasin, the Kneeler, supposed by many to represent Adam kneeling on the head of the serpent, Draco.

The Lyra has now nearly risen, in the northeast, immediately beneath the Dragon's head.

Map V.—Half-Hour with the Stars in May.



April 20, at 10 o'clock in the evening; April 23, 9:45; April 27, 9:30; May 1, 9:15; May 5, 9:00; May 9, 8:45; May 13, 8:30; May 17, 8:15; May 21, 8:00.

THE Great Bear, still overhead, is found immediately, and the Pointers, which have now crossed over to the west of the zenith, point downward to the pole-star. The Guardians of the Pole are now higher than the pole, toward the right. Below the pole Cephus and Cassiopeia are seen, the former on the right. Andromeda has nearly disappeared; and Perseus has passed the northwest, and is approaching the horizon. The Pleiades are just setting, almost due northwest; and above is Auriga. In the west we see Betelgeux, the sole star belonging to Orion, now visible. Above, and due west, are the twin stars Castor and Pollux. We have, in fact, the configuration described by Tennyson, speaking of the season we are considering:

> "It fell on a time of year
> When the shining daffodil dies, and the Charioteer
> And starry Gemini hang like glorious crowns
> Over Orion's grave, low down in the west."

Canis Major has set, but the Lesser Dog is still above the horizon, to the left of and below the Twins. Cor Hydræ is almost exactly toward the southwest, and above is Leo. Due south, the small quadrangle of Corvus is seen, above which is "The Retreat of the Howling Dog," Spica shining conspicuously on the left, toward the south-southeast. Libra has risen into view, and somewhat to the east of southeast we see the first indications of the interesting southern constellation Scorpio. The vertical row of conspicuous stars formed by a part of Ophiuchus and the body of Serpens is well worth noticing. Above it is Boötes; to the left of which, and lower down, we see Hercules, inverted. His head is marked by the upper alpha, the lower representing the head of Ophiuchus, the Serpent-holder—typical, some suppose, of the Messiah. The feet of the kneeling Hercules are on the head of Draco, whose body and tail extend upward, between the Guardians of the Pole and the Greater Bear. It is impossible not to recognize, from the configuration of this constellation as now seen, that the ancients looked on the stars which form the Lesser Bear as forming a wing of Draco. Beneath the Dragon's head we see the Lyre. The Swan has now risen above the horizon, and the cross belonging to this constellation is seen in an almost horizontal position. The brilliancy of the Milky Way at this part of its extent is well worth noticing. In the space between the stars α, β and γ Cygni, there is a distinctly-marked black gap in the Milky Way, which has been termed the Northern Coalsack. The extension of the Milky Way toward Cepheus should also be noticed.

Map VI.—Half-Hour with the Stars in June.

May 21, at 10 o'clock in the evening; May 25, 9:45; May 28, 9:30; June 1, 9:15; June 5, 9:00; June 9, 8:45; June 13, 8:30; June 17, 8:15; June 21, 8:00.

THE last star of the Great Bear's tail is now just passing the point overhead. The Pointers are lowermost, and the pole-star is below, toward the right. The Guardians of the Pole are above the pole-star, a little toward the right. Below them is Cassiopeia, the W being now almost in the proper position of the letter. To the left is Perseus, Algol being quite close to the horizon. Further round to the left we see Capella and the other stars of Auriga low down toward the horizon. Not much higher are the twin-stars Castor and Pollux, Castor to the left, the feet of the twins resting on the horizon. It is interesting to compare the splendor of the sky near the horizon, from Gemini in the west-northwest, to Cassiopeia in the north, with the comparative blankness of the part of the sky immediately above these constellations. Præsepe is almost due west, about as high as Castor. Leo has come around so far toward the west that the tip of the Sickle just reaches that point of the compass. Below Regulus is Al Fard, now near setting. Virgo is now at her highest, Spica shining resplendently a little toward the west of south. Below Virgo notice Corvus and Crater, two of the neatest small constellations in the heavens. Due south, just above the horizon, is the head of the southern constellation the Centaur. Above Virgo, and almost due south, we see Boötes, now nearly upright, and presenting a fine figure as with uplifted arm (the stars belonging to the Crown) he chases Ursa Major past the zenith. Returning to the neighborhood of the horizon, observe the brilliant red star Antares, or Cor Scorpionis, lately risen above the southeastern horizon. Due southeast we see a fine line of brilliant stars formed by ζ, ε and δ Ophiuchi, and ε, α and δ Serpentis. These stars, with η Ophiuchi, and the stars γ and β Serpentis, form a figure much resembling a saber, the cross-handle being formed by two stars not shown in the map. Nearly the whole of the large constellation Ophiuchus (the reader will remember how Milton says of a comet, that it "fired the length of Ophiuchus large") has now risen above the horizon. It requires some imagination to recognize in it the figure of a man holding a serpent; but this is not the only instance in which the stars of a constellation bear little resemblance to the figure from which the constellation is named. Hercules is now nearly due east and high above the horizon. Toward the same quarter, but quite close to the horizon, Aquila is coming into view, the brilliant Altair scintillating finely. Lyra is above, Vega being almost exactly midway between the horizon and the point overhead. The leading star of Cygnus is toward the northeast, the length of the cross being still nearly horizontal. Between Cygnus and the point overhead is the head of the Dragon, the body and tail winding off toward the left and upward, above the Guardians of the Pole.

On some of the dates named under this map the stars cannot be seen, as it is not yet dark. Therefore use Map VII. two hours later. For instance, on June 21, use Map VII. at ten o'clock, and similarly for the other days at the end of June.

MAP VII.—HALF-HOUR WITH THE STARS IN JULY.

June 21, at 10 o'clock in the evening; June 25, 9:45; June 29, 9:30; July 3d, 9:15; July 7, 9:00; July 10, 8:45; July 14, 8:30; July 18, 8:15; July 22d, 8:00.

THE Great Bear is now descending toward the northwest. The Pointers lie nearly half-way between the point overhead and the horizon, toward the northwest. Thus the pole-star lies to the right of the Pointers. The Guardians of the Pole have passed above the pole toward the left. Below the pole, and close to the horizon, we see Perseus on the right, and Auriga on the left. Capella is scintillating brilliantly, as are Castor and Pollux, which are now setting near the northwest, Pollux lowest and on the left. Præsepe is nearly set, and will probably not be visible in the thick air so low down. Leo is approaching the horizon, the Sickle being inclined forward. Above β Leonis notice the Hair of Berenice, half-way between the horizon and the point overhead, and forming an interesting object at this elevation. Boötes stands now in the northwest, high up above the horizon. Below Arcturus is Spica, and lower still, toward the right, the Crow and Cup are setting. The constellation Scorpio forms a magnificent object in the south. The stars which are assigned to this constellation in maps form but a portion of the original constellation, and it is not difficult to recognize in the arrangement of the stars now lying toward the south a resemblance to the figure of a scorpion with extended claws. Above Scorpio we see the group of stars compared to a saber, now no longer vertical, but inclined forward. "Ophiuchus large" is fully raised, and reaches from the horizon more than half way to the point overhead, and from the south to the southeast. Below his head (a) we see Sagittarius just rising above the horizon; and above Ophiuchus, Hercules extends right up to the point overhead. The three bright stars in the body of Aquila are now midway between southeast and east; the uppermost is γ, the lowest β, and the middle star is Altair. Above, toward the left, is Lyra, Vega being now raised far toward the point overhead. Below Vega is the head of Cygnus, and the cross of Cygnus is now in a position exactly horizontal, and also exactly midway between the point overhead and the horizon; in other words, each of the stars a, γ and β Cygni now has an elevation of forty-five degrees above the horizon. Below Cygnus, Pegasus is rising into view, three stars of the square being visible, and the nose of the horse (ϵ) due east. Andromeda has just risen above the northeastern horizon. Above her feet we see Cassiopeia, the W still in its natural position. Draco forms a curve round and above the Guardians of the Pole, his head being to the east, and close to the point overhead.

On the last three dates mentioned under this map it will be better to use Map VIII., two hours later.

MAP VIII.—HALF-HOUR WITH THE STARS IN AUGUST.

July 22, at 10 o'clock in the evening; July 26, 9:45; July 30, 9:30; Aug. 3, 9:15; Aug. 7, 9:00; Aug. 11, 8:45; Aug. 15, 8:30; Aug. 19, 8:15; Aug. 23, 8;00.

THE Great Bear is now in the northwest, and midway between the point overhead and the horizon, the pole to the right of the Pointers. The Guardians of the Pole have swung round above the pole-star toward the north-northwest. Below the pole is the head of the Charioteer, Capella still low down toward the right of the north point. Above the Lesser Bear is the body of Draco, his head almost exactly overhead. Below the Great Bear, Leo is setting, only a part of the Sickle being visible. Coma Berenices lies immediately above the tip of the Lion's tail (β), and above Coma again is Cor Caroli and the poor constellation, the Hunting Dogs, of which Cor Caroli is the leading brilliant. Virgo is setting. To the left Spica is scintillating brilliantly, close to the horizon in the west-southwest. Boötes is now midway between the horizon and the point overhead, and inclining forward, his head and shoulders due west, his feet above Spica. In the southwest is Libra, close to the horizon. Above is Serpens, reaching to a point midway between the horizon and the point overhead. Between the head of the serpent (γ, β) and the zenith we see Hercules, reaching round from the south to the west, and still inverted. In fact Hercules is never seen upright in our latitudes. This kneeling figure must have been conceived by astronomers living in other latitudes, and at a time when the pole was very differently situated. Ophiuchus has now passed the south toward south-southwest, and Antares and the other stars of Scorpio lie toward the same quarter low down toward the horizon. It is interesting to notice the portion of the Milky Way now brought into view toward the south. We see here the commencement of that part of the Milky Way which, by its superior brilliancy, as seen in southern latitudes, indicates the greater proximity of the galaxy in that direction. It is also interesting to notice how singularly the two branches of the Milky Way vary in splendor along the southern half of the semi-circle now above the horizon. Lyra is high up toward the point overhead, the stars β and γ forming a pendant to the brilliant Vega. Below them, toward the southeast, and about half way between the horizon and the point overhead, is Altair, γ and β Aquilæ lying almost in a vertical line, one above, the other below Altair. Low down toward the horizon are the zodiacal constellations Sagittarius (extending from south to south-southeast), Capricornus (extending past the southeastern quarter) and Aquarius, reaching nearly to the east. It is, indeed, noteworthy that from the northwest right round through south to the northeast, the horizon is occupied by zodiacal constellations, no less than eight of which are thus situated—though Pisces, having no conspicuous stars, is not marked in, in Map VIII. Cygnus is high up toward the east, and below Arided is the square of Pegasus. The left-hand star of the square is Alpherat, and Andromeda lies in a nearly horizontal position, her feet being toward the northeast. Above these is Cassiopeia, the right-hand side of the W beginning to be the highest. Below, and close to the horizon is Perseus.

MAP IX.—HALF-HOUR WITH THE STARS IN SEPTEMBER.

Aug. 23, at 10 o'clock in the evening; Aug. 27, 9:45; Aug. 31, 9:30: Sept. 4, 9:15; Sept. 8, 9:00; Sept. 12, 8:45, Sept. 15, 8:30; Sept. 19, 8:15; Sept. 23, 8:00.

THE Great Bear is now passing toward the north, and getting low down. The pointers are to the right of the seven stars, and the pole-star lies above them, and toward the right. The Guardians of the Pole are to the left of, and scarcely higher than the pole-star. The Dragon passes between the two Bears toward the west, his head being still high above the horizon. Como Berenices is setting between northwest and west-northwest. Boötes has passed the west, and forms a fine figure above that part of the horizon. The Northern Crown, with the brilliant Alphecca, is due west, about midway between the horizon and the point overhead.

Above the Crown are the feet of Hercules. His head and shoulders are to the left of the Crown, and at about the same height above the horizon. The Serpent lies between the shoulders of Hercules and the horizon. On the left is "Ophiuchus large," toward the southwest, and extending from the horizon halfway to the point overhead. The brilliant Vega lies toward the same quarter, but much higher up.

Aquila is due south, Altair being about midway between the horizon and the point overhead. Close to the horizon, and extending from south-southwest to south, is Sagittarius. Next to him, on the left, is Capricornus, and next to that again is Aquarius, now covering a wide range of sky between Capricornus and Pigasus. In the zenith is Cygnus, the upright and cross-rod of the cross being now about equally inclined, to the horizon. The square of Pigasus has passed the east, the left-hand star being still Alpherat, and Andromeda still in a horizontal position. Cassiopeia is in the northeast, and raised somewhat more than halfway from the horizon toward the point overhead.

Below Andromeda, Aries has fully risen; and toward the northeast, low down, we see the Pleiades again. Between them and Cassiopeia lies Perseus. It is well to notice this constellation while in its present position, and also the richness of the background of milky light in this neighborhood. The whole of this part of the heavens is full of beauty, and contrasts strangely with the barren region close by, between the north point of the horizon and Cassiopeia.

Auriga is rising above the north-northeast horizon, and Capella is beginning to scintillate less brilliantly as it rises above the denser strata of the atmosphere.

Map X.—Half-Hour with the Stars in October.

Sept. 23, at 10 o'clock in the evening; Sept. 26, 9:45; Sept. 30, 9:30; Oct. 4, 9:15; Oct. 8, 9:00; Oct. 11, 8:45; Oct. 15, 8:30; Oct. 19, 8:15; Oct. 23, 8:00.

THE Great Bear is low down toward the north-northwest; the pole-star lying above, and very little to the right of the Pointers. The Guardians of the Pole are now below the pole-star, on the left, and almost exactly midway between the horizon and the point overhead. The Dragon passes between the two Bears, and round to the left of the Guardians of the Pole. His head is toward the west-northwest, high up above the horizon. Cor Caroli is approaching the horizon, and Boötes is already half set. So, also, is Serpens in the west. But Corona is still well raised above the north-northwest horizon. Hercules is in the west, but extends over a wide range, from side to side. Vega is due west, and high above the horizon, the stars β and γ lying to the left, at about the same height. Also at about the same height is the star β of the Swan, and the Cross of Cygnus is now upright again, Arided lying near the point overhead. Altair is in the southwest, raised somewhat less than halfway from the horizon toward the point overhead. Below Aquila is Sagittarius. Next, to the left and somewhat higher, is Capricornus, and, next, Aquarius, in the south. A noted star, Fomalhaut, the most southerly first-magnitude star ever seen in this country, is now visible toward the east of south, and very low down. It is the chief star of the Southern Fish, a constellation not to be confounded with the southermost of the Fishes. The Square of Pegasus is toward the southeast, raised high above the horizon. Alpherat is still the most easterly star of the square, and Andromeda is still horizontal, though now well raised above the eastern horizon. The Sea Monster, Cetus, covers a wide range of the sky, low down, toward the east-southeastern horizon. The limits of the constellation, indeed, as defined by astronomers, extend from the east to the south-southeast. Aries is in the east, about halfway between Andromeda and the horizon. Taurus has now risen in the east-northeast; Aldeboran, the brightest red star in the heavens, scintillating brilliantly low down toward the horizon. Above the head and horns of Taurus is Perseus, and immediately above Perseus, raised three-quarters of the way from the horizon toward the point overhead, is Cassiopeia, the W now almost on end, and having the points toward the right. Auriga has now risen in the northeast, Capella being almost exactly in that quarter, and raised somewhat more than one-fourth of the way toward the point overhead. Castor is just rising between the northeast and the north-northeast.

MAP XI.—HALF-HOUR WITH THE STARS IN NOVEMBER.

Oct. 23, at 10 o'clock in the evening; Oct. 26, 9:45; Oct. 30, 9:30; Nov. 3, 9:15; Nov. 7, 9:00; Nov. 10, 8:45; Nov. 14, 8:30; Nov. 18, 8:15; Nov. 22, 8:00.

THE Great Bear is now due north, and at its lowest, the pole-star lying above, and somewhat to the left of the Pointers. The Guardians of the Pole are below and to the left of the pole star, and immediately above the last star of the Great Bear's tail. The head of Draco has now come to the northwest, and is not nearly so high above the horizon as it was a month ago. Due northwest, and almost on the horizon, is Alphecca, the other stars of the Crown being also very close to the horizon. Between Alphecca and the Great Bear the head and shoulders of Boötes are still to be seen above the horizon. In the west-northwest, close to the horizon, are the heads of the two giant constellation figures Hercules and Ophiuchus. The left-hand and brighter *a* marks the place of the head of the Serpent-bearer, who is now passing below the horizon. The whole of Hercules, on the other hand, is still above the horizon, and, as usual, inverted. Above is Lyra, and Cygnus now occupies a conspicuous position in the west, midway between the horizon and the point overhead, the cross being still nearly vertical. Aquila, the Eagle, is approaching the western horizon, Altair being in the west-southwest, and raised almost exactly one-fourth of the way toward the point overhead. Above Altair, and toward the left, is an interesting little constellation not marked in the map—Delphinus. It will be recognized at once, though consisting only of small stars, by the resemblance it presents to the figure of a dolphin leaping from the sea. Capricornus is in the southwest, low down, and next to it is Aquarius, covering a wide range of the sky, and reaching almost to the south. Below is Fomalhaut, nearing the south-southwest horizon. The square of Pegasus is now at its highest. Andromeda is still horizontal; in fact, it is a peculiarity of this constellation that throughout its rise, from near the horizon to near the point overhead, the star Alpherat is always very nearly on the same level with a portion of the line joining the two stars γ and 51, which mark the feet of Andromeda. This is true from the epoch indicated in Map VII. to that indicated in Map XI., or through one-third part of the constellation's course round the pole. Cetus is now well raised above the south-southeast horizon. The star *a* (Menkar) lies to the east of southeast. Immediately above this star is the head of Aries; below it is Eridanus, now rising in the southeast. Orion also is rising, the three stars forming his belt almost upright toward the east. Above them is Aldeboran, and above that star are the Pleiades. Near the point overhead is Cassiopeia; below Cassiopeia, and somewhat to the right, is Perseus; below Perseus, and to the left, is Auriga, with the brilliant Capella; and below Auriga the twin stars Castor and Pollux have risen, Castor vertically above Pollux.

MAP XII.—HALF-HOUR WITH THE STARS IN DECEMBER.

Nov. 22, at 10 o'clock in the evening; Nov. 25, 9:45: Nov. 29, 9:30; Dec. 3, 9:15; Dec. 7, 9:00; Dec. 10, 8:45; Dec. 14, 8:30; Dec. 17, 8:15; Dec. 21, 8:00.

THE tip of the Great Bear's tail lies almost due north, and low down. The Pointers are toward the north-northeast, and the pole-star is above, and toward the left. The Guardians of the Pole hang below the pole-star, slightly toward the left. Draco hangs below the Lesser Bear, extending around from right to left, where his body bends downward again. The head of Draco lies between northwest and north-northwest, raised almost exactly one-fourth of the way from the horizon toward the point overhead. Toward the left, slightly lower, is Vega, the companion stars β and γ lying on the left. Cygnus is in the west-northwest, the cross again upright, and Arided raised somewhat less than half-way from the horizon toward the point overhead. Above, very near the point overhead, is Cassiopeia. Low down, and somewhat to the right of the western point of the horizon, is Altair, with his companion stars β and γ, the former on his left, the latter on his right. The square of Pegasus is still high above the horizon, toward the west-southwest. The highest star of the square is Alpherat, and Andromeda now extends from this point to the point overhead, close to which are both her feet. Aquarius is setting in the west-southwest. Cetus is due south, well raised above the horizon. The space below Cetus, quite bare of conspicuous stars, belongs to the southern constellations Sculptor and Fornax. Above Cetus is Aries, the star α due south, and raised nearly three-fourths of the way from the horizon toward the point overhead. Above the south-southeast horizon is Eridanus, covering a large space of the sky. Orion has now well risen above the southeastern horizon somewhat easterly. Above him is Taurus, the Pleiades now shining very conspicuously. Near the point overhead is Perseus, the star α being toward the east, and Algol toward the southeast. Below Perseus, somewhat to the left, is Auriga; and below the brilliant Capella are to be seen the twin-stars Castor and Pollux, the constellation Gemini being now in a horizontal position, the feet of the twins (μ and γ) resting on the Milky Way. Procyon has just risen above the eastern horizon. Toward the northeast the sky is almost blank. But low down may be seen two stars belonging to the Sickle in Leo, now rising above the northeastern horizon.

PHYSICAL GEOGRAPHY

AND
ITS SATELLITE SCIENCES
--OF--
GEOLOGY,
METEOROLOGY,
CLIMATOLOGY,
MINERALOGY,
BOTANY,
ZOOLOGY AND
ETHNOLOGY.

OUR GLOBE, AS IT WAS AND AS IT IS; WEATHER AND CLIMATE; ANIMAL AND VEGETABLE LIFE.

OUR EARTH is, indeed, a world of wonders, and whether we penetrate its crust or explore its surface, we will ever find opportunity for study, and food for reflection. When we were at school, and learnt the various countries of the world, we had maps showing us the several divisions of one realm from another. The mountains, lakes and other prominent features of each continent were conned and repeated, but we seldom, perhaps never, bestowed a thought upon the formation of the mountains, and the manner in which rivers ran down into, and through, lakes to the ocean. There were the mountains, there were the lakes, and rivers, and capes, and headlands, and there they are still, to all intents and purposes, the same to see, to climb up, to sail down, as the case may be. But the maps of some countries have undergone visible changes. Territory has changed hands. Some powers have extended their dominions, while other countries have been dismembered. This study is called Geography—Political Geography—for it marks the political boundaries. The knowledge of the formation of hills, headlands, lakes, rivers, seas—their causes, constitution and effects; how they rose, how they exist and wax or wane during the course of centuries—is *Physical Geography*. We must learn how this earth of ours has been gradually made fit for man's habitation, and what the various stages of its growth have been. We must consider plant and animal life upon our planet, and how the atmosphere affects them. All this is embraced in *Physical Geography* and its satellite sciences of Geology, Meteorology, Climatology, Mineralogy, Botany, Zoölogy and Ethnology.

Our globe is nearly round in shape. In the language of science, it is an oblate spheroid—that is, a body having the polar diameter shorter than the equatorial. That our earth is round is evident from the following facts:

1. Men have circumnavigated it—that is, they have sailed in one continuous direction as nearly as the configuration of the land would permit, and have arrived at the point of starting.

2. When we stand on the shore, and observe a ship coming in from the sea, we notice that the tops of the masts are seen first, and lastly the hull, or body. The hull is hidden by the curved surface of the water. In traveling across extensive plains, in like manner, the tops of mountains are seen before their bases.

3. An eclipse of the moon is caused by the shadow of the earth falling on the moon. This shadow is always circular. A spherical body is the only one which will cast a circular shadow in any position in which it may be placed.

4. The north star rises as we travel north, and declines as we go south, till we reach the equator, when it disappears.

For the purpose of locating the different portions of the earth's surface, imaginary circles are employed. Every circle, whether great or small, is divided into 360 equal parts, called degrees.

A great circle divides the earth's surface into two equal parts, or hemispheres; a small circle, into two unequal parts.

The *equator* is a great circle equally distant from the poles.

A *meridian circle* is any great circle passing through the poles.

A *meridian* is half of a meridian circle, extending from pole to pole.

The points on the earth's surface at the ends of the axis are called *poles*. The one which is nearest a certain fixed star called the north star, is the north pole; the other is the south pole.

The *circumference* of the earth is the distance around it, and measures about 25,000 miles.

The *diameter* of the earth is a straight line passing through its center, and terminating in opposite points of its surface. The equatorial diameter extends from any point on the equator to the opposite point, and is about 7,925½ miles long. The polar diameter extends from pole to pole, and thus coincides with its axis. Its length in miles is 7,899. The difference of length, about 26½ miles, is owing to the flattening of the earth, which brings each pole 13¼ miles nearer the center than are the points that lie on the equator.

COMMON FOX.

The *latitude* of a place is its distance from the equator, measured on its own meridian. Latitude is either north or south, and is reckoned in degrees (from 0 to 90), minutes and seconds. The latitude of places on the equator is 0.

The *longitude* of a place is its distance from some given meridian, measured on its own parallel. Longitude is either east or west, and is reckoned in degrees (from 0 to 180), minutes and seconds. The given meridian from which longitude is reckoned is called the first meridian.

Every degree of latitude is equal to about 69¼ statute miles. A degree of longitude, at the equator, is also about 69¼ statute miles; but, north or south of the equator, it becomes less and less as the meridians approach each other, and at the poles, where they meet, it is nothing.

The *polar circles* are the two parallels 23½ degrees from each pole. The northern polar circle is called the Arctic Circle; the southern, the Antarctic Circle.

The *tropics* are the two parallels 23½ degrees north and 23½ degrees south of the equator. The northern tropic is called the Tropic of Cancer; the southern, the Tropic of Capricorn.

Zones are belts of the earth, bounded by the polar circles and the tropics. The North Frigid Zone, which lies north of the Arctic Circle, is 23½ degrees wide. The North Temperate, which lies between the Arctic Circle and the Tropic of Cancer, is 43 degrees wide. The Torrid, which lies between the tropics, is 47 degrees wide. The South Temperate, which lies between the Tropic of Capricorn and the Antarctic Circle, is 43 degrees wide. The South Frigid, which lies south of the Antarctic Circle, is 23½ degrees wide.

The *circle of illumination* is the great circle which separates the light side of the earth from the dark.

DAY AND NIGHT.—EASTERN HEMISPHERE.

Day and Night.

The earth has two *constant motions:* (1) its *daily motion*, or rotation on its *axis* (its shorter diameter), from *west* to *east;* (2) its *yearly motion*, or movement in a nearly circular path (called its orbit) around the sun. The length of time the earth is turning on its axis is called a *day*. Every part of the earth's surface being successively carried into light and shade, the daily rotation causes the phenomena of *day and night*. The length of time the earth is in passing around the sun is called a *year*. It turns on its own axis in the same time about 365¼ times, hence there are 365¼ days in a year.

As the earth revolves from west to east, the sun will appear to travel from east to west.

At the equator the days and nights are always twelve hours long; the farther a point lies from the equator, the longer are its longest day and its longest night.

At the poles the year is made up of but one day and one night, each lasting six months.

All places in about 66½ degrees of latitude, north or south, have one day in the year twenty-four hours long, and one night of an equal length.

The Change of Seasons

Is produced by the earth's revolution around the sun, in connection with the fact that its axis is constantly inclined to the plane of the ecliptic, and always points in the same direction.

The earth's axis is constantly inclined 23½ degrees to the plane of its orbit. If this were not the case there would be no change of seasons; the circle of illumination would always be identical with some meridian circle. The sun's rays, reaching from pole to pole, would fall on each point of the earth's

surface at the same angle throughout the year, and days and nights would everywhere be of twelve hours' duration. (*See Astronomy.*)

GEOLOGY

Tells us about the external surface of the earth, its stones and rocks, and how they were formed, and generally something about the conformation of the crust of the earth and its history. As has been well said, "Geology is the Physical Geography of the past."

"Everything must have a beginning," and the earth must have had a beginning, although the actual manner of the physical creation of our planet is a disputed fact.

We are not about to discuss the religious side of the question, although we should undoubtedly find that Biblical teaching and Geology run side by side toward the same end, and the testimony of the earth and sky bears witness to the divine hand that created the universe, which we can trace back to the dim and distant ages when "the earth was without form, and void; and darkness was upon the face of the deep."

DAY AND NIGHT.—WESTERN HEMISPHERE.

The Six Eras of Creation.

It seems to be established that each of the six days of Creation was an era, a period, not of twenty-four hours, but of centuries, during which great changes and new appearances took place. The first of these eras was marked by the creation of light; the second, by the separation of vapors from the waters; the third, by the separation of land from water, and the appearance of grass, herb, fruit and tree. On the fourth day, or rather in the fourth era, "God made two great lights in the firmament of the heaven; the greater light to rule the day, and the lesser light to rule the night: and he made the stars also." In the fifth era were created fishes and birds—"great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind." In the sixth era appeared the beasts of the earth, and finally man, for whom the earth had now become a fit abode.

The earth appears at one time to have been an intensely heated molten ball, surrounded by a hot atmosphere filled with vapors and gases. By degrees the outer part of this molten mass gave its heat into space, and portions of its matter became solid as they cooled. As the cooling proceeded, these solid masses grew larger, and at last blended in a thin crust. The vapor in the atmosphere was next condensed, and thus was formed the great primeval ocean, covering the whole globe. From time to time this mighty ocean would break through weak places in the crust, and pour on the seething mass below. Great volumes of steam would then be formed, which would rend the solid barriers above it, and force through the openings thus made floods of melted rock, to flow over the earth, and, in course of time cool down into a new mineral deposit.

In the lapse of ages, innumerable changes of this kind occurred on the surface. Continents were upheaved, and the waters finally subsided into the hollow places, carrying with them and depositing a sediment of rocky matter. The crust gradually became thicker, the surface assumed a form comparatively permanent, and only occasional eruptions showed that fiery heat and waves of molten rock still raged within.

A succession of plants, marking distinct eras of vegetable life, were then called into being, and different orders of animals were created—living and preying upon each other, and dying, as they

do now. The most simple forms of animal life appeared first; then those of a higher organism; and finally man, created in the image of God.

If any one will take the pains to evaporate any saline solution in a capsule till it is about to crystallize, and observe attentively the pellicle of salt as it forms on the surface, an idea may be formed of our globe's physical history. First, a partial film will show itself in a few places, floating about and joining with others; then, when nearly the whole surface is coated, it will break up in some places and sink into the liquid beneath; another pellicle will form and join with the remains of the first, and as this thickens it will push up ridges and inequalities of the surface from openings and fissures in which little jets of steam and fluid will escape. These little ridges are chains of mountains; the little jets of steam, those volcanic eruptions which were at one period so frequent; the surface of the capsule is the surface of the earth, and the five minutes which the observer has contemplated it, a million years.

The principal agents in producing the constant changes going on within and upon our globe are the winds, the ocean, the rivers, and the forces at work within the earth. Land and water are to this day fighting for the mastery, as they did when the condensation of the vapors surrounding the earth formed the seas and oceans, leaving only the higher portions of the earth's mass exposed, and when the clearing up of the dense, dark clouds for the first time let in upon the earth's surface the glorious and vivifying rays of the sun, corresponding to the earliest record in the Bible of the acts of Creation: "And God said, let there be light: and there was light."

But, perhaps, some reader may not think that the land and water of our earth are thus engaged. A very few minutes' reflection, however, will suffice to confirm the assertion. Look at the lofty crags in the Alps, for instance. What has shattered those peaks, and sent the masses toppling down in stone avalanches to the lower slopes, and then into the valleys?—Water. Water has been in the crevices, and was frozen there; in freezing it expanded and loosened the crags, which, forced asunder, gave an opening to more snow and ice, and so this powerful leverage, aided by the wind and storm, is disintegrating our mountains.

It is the same by the seashore; the cliffs are wearing away, and the sea approaches; at other places the sea recedes from the land, as coral formation and embryo chalk cliffs are rising under the surface of the ocean. Lakes dry up, and the meadow or farm arises on the site, while other old spots are submerged.

The rocky wall over which the Niagara River precipitates itself, is constantly wearing away under the impact of 700,000 tons of water every minute; so that the falls are gradually receding toward Lake Erie, at a rate variously estimated at from 1 foot to 1¼ yards every year. They were once, and that, too, within the present geological period, at least four miles nearer to Lake Ontario than they now are.

It is computed that the Mississippi carries annually into the Gulf of Mexico 400,000,000 tons of earthy matter—enough to cover an area of ten square miles to the depth of twenty-five feet.

The winds transport loose sand, particularly on coasts exposed to their fury, and, driving it inland, heap it up in parallel ridges. Such sand-hills, or *downs*, as they are called, are very common near the ocean; on the coast of England they have buried houses and farms.

Rivers are constantly changing the earth's surface by wearing passages through the strata over which they flow, and by bearing incalculable quantities of earthy matter to the sea, to form new deposits at their mouths.

No rest, no change of idea, but ever changing in physical appearance, Nature goes on her wondrous way, working now as steadily, as harmoniously and as surely as she did before time was, and as she will continue to do when time shall be no more. And all the works of Nature, ever changing, yet ever the same, are recorded by the same Power that governs them. "All things," says Emerson, "are engaged in writing their history. The planet, the pebble, goes attended by its shadow. The rolling rock leaves its scratches on the mountain; the river, its channel in the soil; the animal, its bones in the stratum; the fern and leaf, their modest epitaph in the coal. The falling drop makes its sculpture in the sand or the stone. Not a foot steps into the snow or along the ground, but prints, in characters more or less lasting, a map of its march. Every act of the man inscribes itself in the memories of his fellows, and in his own manners and face. The air is full of sounds, the sky of tokens, the ground is all memoranda and signatures, and every object covered over with hints which speak to the intelligent."

Rocks.

We must entirely put away from our minds the idea that the earth we live on was created at once, or as it appeared to the first human beings. Our planet was prepared for man by degrees during millions of years. Therefore, supposing (as is supposed) that the earth came from the sun, we have all the material of the globe in a fused state. As the earth cooled, rocks were formed by pressure, and then water came, and now we can read "books in the running brooks, and sermons in stones," at our leisure.

A *rock*, in geology, is any natural formation of earthy or stony material, whether in the form of sand, gravel, clay, mold, or a compacted mass. In regard to their form and position, the rock masses of the earth's crust may be divided into three classes—stratified rocks, unstratified rocks, and veins.

Stratified rocks are those that lie in layers, or strata. They compose the greater part of the land surface of the earth, forming not only vast plains, but whole mountain systems. To this class belong slate, sandstone, limestone, marl, chalk, etc.

Unstratified rocks are irregular masses, formed, not by the deposit of sediment in beds or layers, but by the gradual cooling of melted matter. They embrace igneous and metamorphic rocks.

Igneous rocks owe their orign to the action of heat, as the stratified rocks do to that of water. Basalt may be mentioned as an example of the igneous rocks. In some regions it constitutes immense beds, and in others forms gigantic columns, as regular as if wrought by art.

Metamorphic rocks are such as were originally stratified, but afterward underwent a change of structure through the agency of heat or chemical action.

Veins are rock-matter filling the cracks of fissures of other rocks. They vary greatly in size and extent. They may be regular or irregular in form, isolated or united in a complex network.

The term *drift* is employed to designate the immense deposits of sand, gravel, clay and boulders, or loose rocks, which exist over a great part of the American continent. The origin of this material is referred to "*Glacial Period*," when, from some cause, a change of climate caused immense masses of ice, either in the form of icebergs or glaciers, to plow their way over the continent, bringing the material from the Archæan beds and depositing it over the existing formations, and at the same time scoring and grooving the underlying rocks.

The Geologic Ages.

There are *seven great geologic ages*, or divisions of time, known as the Azoic, the Silurian, the Devonian, the Carboniferous, the Reptilian, the Mammalian, and the Age of Man. Our knowledge of the plants and animals of the ages preceding the creation of man is derived from their remains dug out of the earth, and called *fossils*.

The Azoic Age is the era, as its name implies, when there was no life, either vegetable or animal, on the globe. The crystalline minerals and all the igneous rocks date back to this age, and hence they are destitute of fossils.

During the Silurian Age, the second in atiquity, there was no terrestrial life; but mollusks—animals with soft, fleshy bodies, without any internal skeleton, like the oyster and the snail—abounded in the waters. The oldest sandstone and limestone belong to this period. Its plant-fossils are sea-weeds.

The Devonian Age was the age of fishes, remarkable for their thick, bony scales. The sea also teemed with shells, corals and sea-weed; while the land, though yet limited in extent, began to be covered with vegetation. Insects, the earliest of terrestrial animals, now first appeared.

The Carboniferous Age, or age of coal, is fourth. From colossal tree-ferns, leaves and branches, deposited in successive centuries, were formed, by gradual decomposition under water, those vast coal-beds on which the industrial pursuits of the present day so largely depend. The animals of this age consisted mainly of insects of various kinds; and inferior tribes of reptiles.

The Reptilian Age was marked by the great number, variety and size of its reptiles, the appearance and habits of which are known from the remains, found buried in the rocks of this period. The rocks of this age are the freestones, extensively used for building, sandstone formations, intersected with ridges of trap of igneous origin, limestone and gypsum, laminated and plastic clays, and chalk-beds, containing layers of flint.

The Mammalian Age was the sixth. The reptiles now dwindled in size and diminished in number, being succeeded by quadrupeds, some of which were much larger than any modern species. The deinotherium, mastodon, megatherium and fossil elephant were among the gigantic animals of this era, while the plants resembled those of the present time, palms, oaks, maples, magnolias, etc., being found in the forests.

The Age of Man is the last of the seven geologic ages. The huge monsters that gave the preceding period its peculiar character became extinct, and were replaced by smaller animals—those we see around. Man was created, and invested with dominion over the earth. This is the "era of the finished world—the era, also, of man's progress and preparation for another and a higher life."

THE EARTH'S SURFACE.

The earth's surface of an area of about 197,000,000 square miles, of which only about one-fourth is land.

Lowlands are tracts, either level or diversified by hill and vale, not elevated more than 1,000 feet above sea-level. *Deserts* are extensive tracts destitute of water, and, consequently, of vegetation and animal life.

Silvas are forest plains. Plains that produce grass, but not trees, are known in North America as *prairies;* in South America as *llanos* and *pampas;* in Asia and Southeastern Europe as *steppes*.

The desert of Sahara, as far as known, consists partly of table-lands and partly of low plains. It is interspersed with *oases*, or fertile spots, which are generally lower than the surrounding country; some of these are of considerable extent and well populated.

A *mountain* is an elvation of land exceeding 2,000 feet in height. A *hill* is less than 2,000 feet in height.

A *mountain-chain* is a long, elevated ridge, or several mountains extending in a line.

Mountains are of great use to man. They attract the clouds, condense their moisture, and store up in reservoirs the water received from them, sending it forth again in streams, from thousands of springs, to fertilize the soil. They increase the surface of the earth, giving variety to its vegetable productions. They protect the adjacent countries from cold and piercing winds, and thus exert a favorable influence on their climate.

An *avalanche* is a large mass of snow, ice and earth, sliding or rolling down a mountain. A water-shed is the mountain-chain or ridge of land which separates one basin from another, and from which the rivers flow.

A *mountain pass* is an elevated road crossing a mountain-chain through a natural opening or depression.

Glaciers are immense masses of ice formed by the accumulated snows upon the mountain tops. They fill in vast valleys, and have an onward motion throughout like a liquid or semi-liquid body, Their course down the slopes is very slow, but, like rivers, they flow faster in the middle than at the bottom and sides. The lower extremities are constantly melting, forming torrents and mountain streams, while the upper parts are fed by the snows. Rocks of immense size are torn off and carried down by glaciers. They occur in the greatest numbers in the Alps. When a glacier reaches the ocean large fragments are broken off and float away as *icebergs*.

VOLCANIC PHENOMENA.

That the interior of the earth has a high temperature, independent of the influence of the sun's rays, seems to be proven by many phenomena. The majority of scientists maintain that the center of the earth is a mass of molten material, and that consequently the temperature increases the nearer this center is approached. This theory seems to accord with the facts in relation to hot springs, artesian wells, volcanoes, etc., although it is maintained by some that these phenomena may be caused entirely by local chemical changes going on within the earth's crust.

Hot Springs.

Thermal or hot springs are most common in mountainous regions, and especially where the earth's crust is most broken and disturbed. Springs of every kind are formed by the rain or melted snow sinking into the earth and issuing from it again at a lower level. The fact that the water is sometimes hot, shows that it must have come in contact with heated rock material within the crust of the earth.

They are found of every grade of temperature from that of slightly above the surrounding atmosphere, to the boiling point. They are found in all parts of the world, the most numerous, perhaps, in Europe.

Geysers

Are *intermittent*, *spouting*, *hot springs*, and have a temperature at the boiling point. They are found in Iceland, New Zealand, and in the "National Park" at the head waters of the Yellowstone River in the Rocky Mountains.

The most celebrated is the *Great Geyser* of Iceland. It consists of an immense well, or funnel, 10 feet wide at its mouth, and about 70 feet deep, surmounted at the surface with a basin 65 feet in diameter and 7 feet deep, formed by the deposit of mineral matter from the water. At intervals it sends up a column of water and steam to the height of 100 feet. More remarkable even than the geysers of Iceland are some that are found in the "National Park." One, the *Giantess*, throws water to the height of 200 feet. Grasshoppers and other insects, and pieces of wood which fall into the waters, soon become incrusted with quartz, which is held in solution by the water, thus permanently petrifying them.

Volcanoes.

A *volcano* is a mountain, or opening in the earth's crust, through which issue fire, smoke, ashes, lava, steam, etc. Volcanoes may be distinguished as extinct and active. Extinct volcanoes are such as are now at rest, but were subject to eruptions in former ages, as is shown by their form and structure, and the presence of craters. Active volcanoes are such as are either in a constant state of eruption, or have eruptions from time to time, with intervals of rest.

Volcanoes throw out an enormous amount of material. Whole islands and portions of continents have been formed by volcanic action. Iceland is an example of a volcanic island.

The *lava*, when it first issues from a volcano, is somewhat like melted iron running from a furnace, but soon cools on the surface and forms a black, porous crust. Sometimes the streams are so thick that the interior remains hot for twenty years.

A terrific eruption of Mt. Vesuvius, A.D. 79, destroyed the flourishing cities of Pompeii, Herculaneum and Stabiae, and covered them with ashes and cinders to the depth of fifteen feet.

About sixty eruptions of Mt. Etna are recorded. In 1669, a stream of lava from this mountain overflowed the ramparts of Catania, sixty feet in height, and destroyed a portion of the city. In 1832, several craters opened in the sides of the mountain, and a stream of lava eighteen miles long, one mile broad, and thirty feet deep, poured over the adjacent fields.

In 1835, the terrible eruption of Conseguina occurred. It lasted three days, during which the light of the sun was obscured over half of Central America, and more than 40,000 square miles are said to have been covered with dust, ashes and lava.

Fields of Fire.

In some localities an inflammable gas issues from openings in the ground. This gas frequently becomes ignited and burns for some time. There is a region of this kind on the western shore of the Caspian Sea. This gas is supposed to be from the decomposition of vegetable matter by internal heat.

Earthquakes.

The second class of volcanic phenomena are earthquakes. These consist of vibrations or tremblings of the earth's crust, and are caused by movements in the fluid interior; but how these movements are produced, is as yet unknown. It is estimated that since the Creation earthquakes have destroyed thirteen million human beings. Scientists assert that not less than twelve shocks of earthquake are experienced in the United States daily, although, of course, they are but slight, and individually unworthy of mention.

An earthquake is generally preceded by unmistakable signs. The electrical condition of the air seems to be changed perceptibly to both men and beasts — the former experiencing oppression and dizziness; the latter uttering cries of distress, running wildly about, or otherwise manifesting uneasiness. The atmosphere is unnaturally still and hazy, and the sun seen through it looks like a ball of fire.

The year 1868 was remarkable for the number and severity of its earthquakes. One of these occurred in the Sandwich Islands, destroying whole villages and many lives. One of the most terrible earthquakes on record occurred in South America, in August of that year. Its center of activity seems to have been at Arica, a seaport of Peru, which was completely destroyed, with two hundred of its inhabitants. The shocks extended throughout the Andes, from the United States of Colombia to Chili, and towns and cities were laid in ruins. It is estimated that more than fifty thousand persons lost their lives by this catastrophe.

The great earthquake of Lisbon occurred November 1, 1755. A rumbling sound beneath the surface was immediately followed by three shocks, so close together that they seemed but one, which threw down the principal part of the city; the sea

retired, leaving the bar dry, and instantly returned in a wave forty feet high, engulfing a great marble quay, to which multitudes had fled to escape the falling buildings. In the space of six minutes, thirty-five thousand persons perished.

The most remarkable earthquake that has occurred in the United States is that of New Madrid, on the Mississippi, in 1811–12. For several months there was an incessant quaking of the ground, which, for a distance of three hundred miles, rose and sank in undulations. The most of the town was submerged.

Readers will remember the earthquake which visited Java in 1882, and also that in Spain the latter part of December, 1884, the shocks continuing into the middle of January, 1885. According to the official record, the number of persons killed in Granada was 695, while 1,480 were injured.

The crust of the earth is in some places gradually and slowly rising; in other places it is sinking. The coast of North America, from Labrador to New Jersey, is slowly rising. The southern part of Greenland is sinking. The Scandinavian peninsula is sinking in the southern part and rising in the northern part. These changes are at the rate of a few feet only in a hundred years. The cause is probably the slow contraction from cooling of the earth's crust.

ISLANDS.

About one-seventeenth of the land surface of our planet is in the form of fragmentary bodies, called *islands*. They may be considered as of two classes: *Continental*, those lying in the near vicinity of the continents, and really forming a part of the continental structure, and *oceanic*, those lying at a distance from the continents, in the midst of the oceans, and differing in structure from the continents.

Oceanic islands are all small and usually occur in groups. Their rock structure is essentially different from that of the continents, and the vegetation and animal life generally peculiar. They may be divided into two classes — *volcanic*, or *high*, and the *coral*, or *low*.

The *volcanic islands* are the summits of active or extinct volcanoes projecting above the water. They are usually considerably elevated, with steep shores, and more or less circular in outline. Some have peaks of great height, as one of the Sandwich Islands, with the peak of Hawaii, fourteen thousand feet above the sea level. Many of them have appeared within the history of man.

Coral islands are among the most interesting phenomena of Physical Geography. They owe their existence to the work of colonies of small radiate animals called *polyps*. The structure of the polyp consists of a cylindrical or sack-like membrane, attached at the bottom to some solid body, and enclosing a second sack, which forms the stomach. At the top is an opening, or mouth, which is surrounded by thread-like organs called tentacles. When expanded, the polyp resembles a flower in form and often in the beauty of its color. The solid coral, which composes the reef, is secreted in the cavity between the outer and inner membranes, as the bones are secreted in the bodies of higher animals. Coral polyps multiply by eggs, to a certain extent, but chiefly by a process of budding similar to the branching of plants. Thus they grow into vast communities, in which generation succeeds generation, each individual leaving behind, as it dies, its contribution to the reef in the form of a small cell of carbonate of lime. The polyps cannot live out of water, and hence their work must cease at low water mark. Fragments of the coral structure are broken off and thrown upon the top of the mass by the waves, and thus in the course of time a *reef*, as it is called, is formed, projecting from the water. Upon this reef a vegetation finally springs up from the seeds which the winds and waves bring, and a soil is formed from the pulverized coral, drifted material and decayed vegetation. The reef-building polyps exist only in tropical regions, or where the water never gets below the temperature of 68° F.

WATER.

This all-important and ever-present liquid is a chemical combination of two gases, oxygen and hydrogen — eight parts of the former by weight being combined with one of the latter. When pure, it is destitute of color, taste and smell; but, as it readily absorbs gases and dissolves many solids, it is seldom found in this state.

The large body of water covering by far the greater part of the earth's surface is called the ocean. There is really but one ocean; but the continents partially divide it into five basins, which we distinguish by different names, as the Atlantic, Pacific, Indian, Arctic, and Antarctic Oceans.

The bottom of the ocean is supposed to be diversified with depressions and elevations — with low plains, plateaus and mountains — like the land; hence the depth differs in different parts. Some of the researches lately made by English explorers in regard to deep-sea beds have, however, led to the belief that there are no rough ridges, abrupt chasms nor bare rocks, and that the sea bottom, at great depths, is not affected by currents or streams — even by those of the magnitude of the Gulf Stream — its general appearance rather resembling that of the American prairies, and it is everywhere covered by a kind of mud. The greatest depth shown by soundings is eight and three-quarter miles. The mean depth of the whole body of the ocean is estimated at four miles.

The color of the ocean is a beautiful sky-blue where the depth is great, but in shallow water, yellowish tints, reflected from the bottom, mingle with the blue, and produce a grayish green.

Phosphorescence, one of the most beautiful of marine phenomena, is a brilliant light occasionally observed in the sea during dark nights, particularly in tropical regions. Sometimes the crests of the waves, the spray thrown up by the ship's bow, and the wake she leaves behind, look as if they were on fire. This phenomenon is produced by myriads of animalcules, which have the property of emitting light from their bodies, like fire-flies. A hundred of them have been found in a single drop of sea-water.

The Oceanic Movements.

The great body of the ocean is never at rest; not only is the surface agitated by the winds, but even at great depths the water moves from one region to another.

There are four oceanic movements, viz.: waves, tides, currents and whirlpools.

Waves are ridges of water, produced by the friction of winds on the surface. Tides are alternate risings and fallings of the waters of the ocean.

Tides are produced by the attraction of the moon and sun—principally that of the former—acting with different degrees of force on different parts of the earth. Were the moon the sole cause of the tides, they would always be of the same height; but the sun also exerts an attraction, which, according as it acts with or against that of the moon, increases or diminishes the height of the tide.

The *currents* are vast streams which traverse the ocean, and keep its waters in perpetual circulation. The principal of these are the Gulf Stream, the Equatorial, Japan, Antarctic and Arctic currents.

The Gulf Stream.

The most important of the oceanic currents is the Gulf Stream, so called from the Gulf of Mexico, out of which it flows into the Atlantic, through the Strait of Florida. It is from twenty-five to one hundred and fifty miles in width, and moves with a velocity of from one and one-half to five miles an hour, the water being much warmer than other parts of the ocean near it. Its color is of a deep indigo blue, strikingly different from the green of the surrounding ocean. A branch of this vast body of warm water, constantly flowing past the western coast of Europe, exerts a most genial influence on the climate. Even many miles in the interior the air is tempered by west winds, warmed by contact with this great stream. The Gulf Stream carries the heat of the Caribbean Sea across the Northern Atlantic to the shores of Scotland and Norway. This tropical river, flowing steadily through the cold water of the ocean, rescues England from the snows of Labrador. Should it, by any chance, break through the Isthmus of Panama, Great Britain would be condemned to eternal glaciers.

The Equatorial Currents.

An equatorial current crosses the Atlantic from the coast of Africa to the neighborhood of Cape St. Roque. It there divides into two branches, a northwesterly and a southwesterly, each of which follows the South American coast—the former making its way into the Caribbean Sea and the Gulf of Mexico.

In the Pacific two equatorial currents are found—one north and the other south of the equator. The former, turning to the northeast near the Loo Choo Islands, continues under the name of the Japan current. The south equatorial current of the Pacific consists of two branches, one of which, striking the Australian coast, divides into a northwesterly and a southwesterly branch, as does the Atlantic equatorial current on the coast of Brazil; the other, farther north, turns near the Caroline Islands, and reverses its course, crossing the Pacific again in a direction nearly due east to South America, under the name of the Equatorial counter-current.

The Japan Current,

In the Pacific, bears a remarkable resemblance to the Gulf Stream in the Atlantic. Impelled by the Pacific equatorial current, it sweeps from the China Sea along the Asiatic island chains, in a northeasterly direction, toward the Aleutian Islands and Alaska, the climate of which it improves, as the Gulf Stream does that of Northwestern Europe. Between the Japan current and the main land, a cold current sets in the opposite direction, as in the case of the Gulf Stream.

The Antarctic Current,

Which enters the Atlantic, runs in a northwesterly direction to the southern extremity of Africa, and thence along its western coast until it joins the Equatorial near the Gulf of Guinea. That which sets into the Pacific flows along the South American coast, under the name of the Peruvian or Humboldt current, and is merged in the Equatorial west of the Gulf of Guayaquil. The Antarctic current, belonging to the Indian Ocean, runs along the western coast of Australia, and unites with the Equatorial just north of the Tropic of Capricorn.

From the Arctic Ocean two cold currents set to the south, one on each side of Greenland. Uniting at the mouth of Davis Strait, they continue their southerly course as far as Newfoundland, where part of this broad Arctic river, as an under-current, flows beneath the Gulf Stream, and the rest, as a surface-current, keeps inside of this stream, close to the American shore as far south as Florida.

Whirlpools are circular currents, which occur in certain localities.

Inland Waters.

The inland waters of the earth are springs, rivers and lakes.

The rain or melted snow and hail which sinks into the earth, penetrates the crust until it reaches an impervious strata, when it runs along until it finds an outlet at the surface in the form of a *spring*, or gathers into underground reservoirs, some of which, by their peculiar formation, having an outlet in the form of a siphon, form *intermittent springs*.

The drainage from the surface and the water from springs form small streams which unite to form *rivers*. When the water from streams and from the surface collects in depressions on the earth's surface, it forms *lakes*.

Lakes may be divided into classes, as follows: (1) Those having inlets, but no visible outlets. (2) Those having outlets, but no apparent inlets. (3) Those having no apparent outlets or inlets. (4) Those having both inlets and outlets.

The Caspian Sea, Aral Sea and Great Salt Lake are examples of the first class. Such lakes are usually salt. The water is either all lost by evaporation or is absorbed by the earth. Lakes of the second class are usually found in mountainous regions, and are the source of some large rivers. The water evidently comes from springs and rises until it runs over the basin. Lake Albano, near Rome, is an example of the third class. Such lakes are usually situated in elevated regions, are supposed to be

the craters of extinct volcanoes, and are fed by springs. Lakes of the fourth class are by far the most common.

When water evaporates, all impurities are left behind; hence rain water is not salt like the ocean. The water of springs, rivers and lakes is, therefore, pure and fresh, unless it comes in contact with foreign matter that it is capable of dissolving.

THE AIR.

The earth is surrounded by an elastic fluid called air, which enters the minutest pores, and therefore exists in every substance.

Air, like everything else, is attracted by the earth, hence it has weight, although experiments show that it is 815 times lighter than water.

Air is essential to the transmission of sound, to combustion, and to life.

CLIMATE.

Climate is the state of the atmosphere in regard to temperature, winds, moisture and salubrity.

The climate of a place as regards temperature depends upon:

Latitude.—The general law is that the amount of heat is greatest at the equator, and diminishes toward the poles. There are three reasons for this: 1. The sun's rays fall perpendicularly upon the earth at the equator, and more and more obliquely as we go toward the poles. 2. The area covered by a given amount of heating power from the sun is smaller at the equator. 3. Where the sun's rays fall perpendicularly they pass through a less amount of atmosphere, and the absorption of heat is less.

Altitude.—The decrease in temperature is about three deg. F. for every 1,000 feet of elevation. As the air receives most of its heat by radiation and reflection from the earth, and as the higher we go the less dense the air, the less heat is absorbed either from the earth or from the direct rays of the sun.

Prevailing Winds.—Winds blowing from the tropical regions carry the heat with them, and conversely, winds from the polar regions lower the temperature. Whichever wind prevails throughout the year in a given place will consequently modify the temperature of that place.

Length of Day.—During the day the earth receives from the sun more heat than it radiates into space; while during the night it radiates more than it receives. Hence a succession of long days and short nights results in an accumulation of heat, raising the average temperature and producing summer; while long nights and short days result in a temperature below the average, producing winter. The heating power of the sun is greater in summer, because at that season it is shining more directly upon that part of the earth, and conversely in winter. In the tropical regions the inequality of day and night is very little, but increases toward the poles. The temperature in the tropics is therefore more uniform. The length of day makes up for the lessened intensity of the sun's rays; hence a place in high latitude may have at times higher temperature than a place within the tropics.

Ocean Currents.—The warm waters of the tropical regions being brought toward the polar regions bring the heat with them, radiating it into space, and it is absorbed by the atmosphere.

Mountain Ranges.—A mountain range will make a country near it warmer or colder, according as it shields it from a cold or warm wind.

The Distribution of Land and Water.—Land heats or cools rapidly, absorbing or emitting but little heat. Water heats or cools slowly, absorbing or emitting large quantities of heat. Hence the land is subject to great and sudden changes of temperature; the water to small and gradual changes. Places situated near the sea have, therefore, a more equable climate.

Character of Soil.—Dry, sandy soil heats and cools more rapidly than wet and marshy lands; hence the latter will have a more uniform temperature.

Slope of Land.—Land which slopes so that the sun's rays will strike it nearer vertically will receive more heat. The south side of a hill is warmer in winter than the north side.

In regard to *winds* the climate of a place depends upon:

Temperature.—As winds are but masses of air set in motion by the unequal heating, the winds of any given place depend primarily upon the temperature, though not necessarily upon the temperature of that place. As the air is heated in the tropical parts of the earth by the sun, it rises, and colder air flows in from the polar regions to take its place; hence the primary currents, which are modified in various ways by other causes.

Rotation of the Earth.—The winds are turned out of their course by the rotation of the earth in the same manner as the ocean currents.

Land and Water.—The land becomes warmer during the day than the sea, and, the air rising, a cooler air flows in from the sea. At night the land parts with its heat more rapidly than the water and becomes cooler; then the wind sets the other way. Hence we have the land and sea breezes.

Elevation of the Land.—Mountains, as has already been stated, shelter places from winds. Some of the great plains are subject to almost constant winds.

In regard to *moisture*, the climate of a place depends upon:

Prevailing Wind.—If a wind blows from large bodies of water in a warm region it will be laden with moisture which will be likely to be precipitated on reaching a colder country.

Mountains.—The contact of a moisture-laden wind with the cold sides of mountains will cause a precipitation of its moisture, and the regions beyond the mountains will not receive it.

Forests, by shading the earth, keep its surface cool, and this tends to condense the moisture.

Cultivation of the Soil, causing it to absorb moisture from the atmosphere, and by capillary attraction in dry weather bring up moisture from below to the surface.

Temperature.—Increased heat causes greater evaporation, and hence more moisture in the atmosphere. More rain falls within the tropics than in the temperate or polar regions.

Land and Water.—More rain falls on the coasts of a country than in the interior, because the winds are more moist. More rain falls in the northern hemisphere than in the southern because there is a greater diversity of land and water, the evaporation coming mainly from the ocean, and the condensation from the diversified land surface.

Isothermal lines are lines connecting places that have the same mean temperature.

There is a line or limit of elevation, above which the surface is covered with perpetual snow; this is called the *snow-line.*

WINDS AND WEATHER.

Wind is air in motion. Winds have a purifying effect upon the atmosphere; they dissipate unhealthy exhalations; they transport vapors from the sea to moisten and fertilize the land; they carry the seeds of plants far and wide, and thus extend the empire of vegetation; finally, they waft our ships, and are, in some countries, made available as a motive power for machinery.

The cause of winds is the difference of heat received from the sun in different places. The heated air expands, becomes rarefied, and rises. The cooler air immediately rushes in from the surrounding parts, to restore the disturbed equilibrium.

The *trade-winds* are so named because, by their regularity, they favor commerce. They are produced as follows: The equatorial regions being most intensely heated, a current of rarefied air is there constantly ascending, while colder currents from the north and south set in toward the equator to fill its place. When these reach the ascending current, having in turn become rarefied, they follow it in its upward course, and thus air is withdrawn from the higher latitudes, and accumulated in the equatorial regions.

Whirlwinds are bodies of air that have a rotatory or spiral motion, and are usually caused by the meeting of contrary winds.

When a whirlwind occurs on a sandy plain or desert, great quantities of fine sand are carried up to a great height in the atmosphere, and move with the revolving body of air, forming what are called sand-pillars.

The *Sirocco*, which in some places is a warm, damp wind, in Madeira is a hot wind, and likewise in Sicily, where it is equally warm and damp like steam.

The *Simoon* is a very hot wind, raising sand-storms in the deserts, and experience has shown it to be very prejudicial to life in consequence of the fine sand and the tremendous heat it carries with it. Then we have the *Hurricane*, from "Ouracan," of the Caribs; the *Typhoon*, or Tae-fun, of China, so called from the dreaded god Typhon of Egypt; and the *Tornado* and *Cyclone*—all violent winds, and circling round, causing, so to speak, whirlwinds, by which trees are uprooted and houses destroyed.

In hurricanes, tornadoes, etc., the rotatory motion of the air is from right to left in the northern hemisphere, and from left to right in the southern.

Water-spouts are whirled up by the winds in spiral columns of water, and when permitted to come near a ship at sea, or when they break upon land, which is seldom, are very destructive.

Dew and Hoar-Frost.

When air charged with moisture comes in contact with a solid surface colder than itself, aqueous vapor is precipitated on this surface as dew. The grass at night becomes cooled by radiation, and thus condenses upon its surface the vapor of the air. Dew will gather most freely upon those objects that are the best radiators, as they will the soonest become cool. Thus grass, leaves, etc., which need the most, get the most.

Dew will not form on windy nights, because the air is constantly changing, and does not become cool enough to deposit its moisture. A heavy dew is a sign of rain, because it shows that the moisture of the air is easily condensed.

If, during the precipitation of dew, the temperature falls to the freezing-point (32° F.), hoar-frost is formed. This consists of minute ice-crystals, and is nothing more than frozen dew. Frost will not form on cloudy nights, because the clouds act like a blanket, to prevent radiation, and keep the earth warm.

Fogs.

Fogs are formed when the temperature of the air falls below the dew-point (*i. e.*, the temperature at which dew is deposited). They are found mainly on low grounds, and in the vicinity of rivers, ponds, etc., where the abundance of moisture keeps the air constantly saturated.

Clouds.

Clouds are collections of visible vapor suspended in the atmosphere, at altitudes ranging from one to five miles. Vapor consists of particles of water so fine and light that they float in the air like dust.

Mountains are "cloud-capped," because the warm air rising from the valley is condensed upon their cold summits. Clouds are constantly falling by their weight; but, as they melt away in the warm air below, by condensation they increase above.

The *nimbus* cloud is a dark-colored cloud, from which rain falls.

The *stratus* cloud is composed of broad, widely extended cloud-belts, sometimes spread over the whole sky. It is the lowest cloud, and often rests on the earth. It is the night cloud.

The *cumulus* cloud is made up of large cloud-masses, looking like snow-capped mountains piled up along the horizon. It forms the summits of pillars of vapor, which, streaming up from the earth, are condensed in the upper air. It is the day cloud; and, when of small size and seen only near midday, is a sign of fair weather.

The *cirrus* cloud consists of light, fleecy clouds floating high in air. It is believed to be formed of spiculæ of ice or flakes of snow.

The *cirro-cumulus* is formed by small, distinct, rounded portions of the cirrus cloud, which separate from each other, leaving a clear sky between. It accompanies warm, dry weather. The *cirro-stratus* is produced when the cirrus cloud spreads out into long, slender strata. It forebodes storms. The *cumulo-stratus* presents the peculiar forms called "thunder-heads." It is caused by a blending of the cumulus with the stratus, and is a precursor of thunder-storms.

Rain—Snow—Hail.

When the minute vapor-particles of clouds combine and grow too heavy to float in the air, they are precipitated as *rain*—or, at a temperature below the freezing-point, as *snow* or *hail*.

Snow is frozen vapor, with its particles aggregated in flakes. *Hail* is frozen rain.

Snow is an important agent in the economy of nature. Being a non-conductor of heat, it protects the roots of the grasses and the winter grains from severe frosts. Collecting in great masses on lofty mountains and gradually thawing, it feeds streams, which carry fertility and wealth to extensive districts.

Lightning and Thunder.

Lightning is a discharge of atmospheric electricity, accompanied by a flash of light.

Heat-lightning is either the reflection of distant flashes on the clouds, or the frequent and therefore weak and silent discharge of electricity from the clouds through a moist atmosphere.

Lightning cleaves the air with inconceivable rapidity, and leaves a vacuum behind it, into which the surrounding air rushes with great force, and with a loud, crackling sound, which we call thunder.

Lightning and thunder take place at the same instant, but we see the former before we hear the latter. This is because light travels with much greater velocity than sound.

Thunder-storms are most frequent within the tropics during the rainy season.

The Aurora Borealis.

The *aurora borealis* is a luminous appearance, which at times imparts wonderful beauty to the polar skies at night, and is also of occasional occurrence in the temperate latitudes. It is supposed to be produced by the passage of electric currents through strata of highly rarefied air.

Mirage.

Mirage (sometimes called *Fata Morgana*) is the appearance in the air of the image of some distant object, seen either in connection with the object itself, above or below the latter, or suspended in the air, the object being invisible. It is a very curious but sufficiently common phenomena, and in the Asiatic and African plains it is frequently observed. When the weather is calm and the ground hot, the Egyptian landscape appears like a lake, and the houses look like islands in the midst of a widely-spreading expanse of water. This causes the *mirage*, which is the result of evaporation, while the different temperatures of the air strata cause an unequal reflection and refraction of light, which give rise to the mirage. Travelers are frequently deceived, but the camels will not quicken their usual pace until they scent water.

The Fata Morgana and the inverted images of ships seen at sea are not uncommon on European coasts. Between Sicily and Italy this effect is seen in the Sea of Reggio with fine effect. Palaces, towers, fertile plains, with cattle grazing on them, are seen, with many other terrestrial objects, upon the sea — the palaces of the Fairy Morgana. The inverted images of ships are frequently perceived, and many most extraordinary but perfectly authentic tales have been related concerning the reflection and refraction of persons and objects in the sky and on land, when no human beings nor any of the actual objects were within the range of vision.

THE ANIMAL KINGDOM.

Zoölogy is that science which treats of animals, their structure, habits and classification.

There are four principal divisions of animals, based on distinct types of structure, and including all the denizens of the earth, the water and the air. Following are the divisions of the animal kingdom, beginning with the lowest:

SUB-KINGDOMS OR DIVISIONS.	CLASSES OF SUBDIVISIONS.
I. PROTOZOA—First-living things, or lowest form of animal life.	1. Amœba, sponges, proteus, etc. They have no mouth, and no distinct members, but are capable of making many changes in their form.
II. RADIATA—Radiates, that is, such as are shaped like a star or flower, and have their organs arranged uniformly around a common center.	1. Coral animals, sea-anemones, etc. 2. Jelly-fishes, sea-nettles. 1. Star-fishes, sea-urchins.
III. MOLLUSCA—Mollusks, that is, soft-bodied, without joints, and without vertebræ, but usually protected by a shell.	1. Bryozoa, that is, moss animals; as sea-mats, white sea-weeds, etc. 2. Brachiopods, that is, with arm-feet, or spiral appendages; as the lingulæ, spirifers, etc. 3. Ascidians, that is, pouch-like; as salpæ, etc. 4. Acephals, that is, headless; as oysters, etc. 5. Cephalates, that is, with heads; as snails, etc. 6. Cephalopods, that is, with heads and feet, or, more strictly, tentacles.
IV. ARTICULATA — Articulates, that is, animals having the body and members jointed, but without an internal skeleton.	1. Worms, as earth-worms, leeches, etc. 2. Crustaceans, as crabs, lobsters, etc. 3. Centipedes, etc. 4. Spiders, etc. 5. Beetles, butterflies, etc.
V. VERTEBRATA — Vertebrates, that is, animals that have a backbone, and an articulated or jointed skeleton, and a great nervous cord, the spinal marrow, enclosed in a bony sheath.	1. Fishes. 2. Reptiles, that is, creeping things, as turtles, frogs, snakes, lizards, etc. 3. Birds, that is, "Every winged fowl." 4. Mammalia, that is, animals with teats.

The last class, Mammalia, is further subdivided into fourteen orders, of which the most distinctive, still ascending from the lower to the higher, are four, namely:

1. Cetacea, that is, of the whale tribe.
2. Quadrupeds, that is, four-footed animals generally.
3. Quadrumana, that is, four-handed; as the gorilla, chimpanzee, ape and monkey.
4. Bimana, that is, two-handed; of which the only representative is man.

ETHNOLOGY.

Ethnology is that science which treats of the division of man into races, with their origin, relations and characteristics. Naturalists divide mankind, according to certain physical characteristics, into varieties, or races. Authorities differ greatly in this classification. Cuvier made three races; Pritchard, seven; Agassiz, eight, and Pickering, eleven; but the classification most commonly accepted is that into five races, as made by Blumenbach, as follows: The Caucasian, European, or white race; the Mongolian, Asiatic, or yellow race; the Ethiopian, African, or black race; the American Indian, or red race; the Malay, or brown race. The first three are much more clearly marked, and are considered by Guyot as *primary* races; the others, being modifications of these three, he designates as *secondary* races. Because of the blending of types, it is difficult to make a classification, hence the difference among authorities. The points on which the classification is based are mainly the size and proportions of the body, the shape of head and the features, the hair and beard, and the color of the skin

The *Caucasian race* are characterized by tall stature, oval head and face, high forehead, regular features, abundance and softness of hair and beard, and usually fair skin, but in some it is tawny or swarthy, as in the Hindoos, Arabs and others. They stand at the head in intelligence and civilization. This race is represented by the principal inhabitants of Europe and their descendants in America, and by the inhabitants of India, Arabia and of Western Asia and Northern Africa.

The Germanic nations are descendants of the numerous tribes of the ancient German stock that destroyed the Roman empire and erected different states upon its ruins.

The Romanic nations occupy Southern Europe, and are so called because their languages are mostly derived from the Latin spoken by the ancient Romans. They are mixed nations, descended partly from the ancient Pelasgians and partly from other branches of Aryan stock.

LION AND LIONESS.

The Italians derive their origin from the Romans, German Longobards and Normans, with a slight intermixture of the Arabic stock.

The Spanish and Portuguese have sprung from a mixture of Celts, Romans, Germans and Arabs.

The *Mongolian race* are distinguished by short stature, round head, wide face, high cheek bones, obliquely set eyes, coarse straight hair, scarcely any beard, and yellowish color of the skin. They are distributed over the whole of Eastern Asia, except in India, and include the Esquimaux of the northern part of North America.

The *Ethiopian race* are characterized by medium stature, generally ungainly form, low and retreating forehead, head full back of the ears, flat, broad nose, projecting jaws, thick lips, short, curly hair, and skin generally black or dark. They occupy all of Africa, except the northern part, and many of their descendants are found in America.

The *American race* resemble the Mongolian, but the head is not so round, the face less wide and flat, the eyes horizontal, the hair black and straight, and beard scanty, and the skin a reddish or copper color. They occupy North and South America, except on the Arctic shores.

The *Malay race* resemble also the Mongolian, but have thicker lips, horizontal eyes, hair less straight, generally full beards, and color usually brown. They occupy the Malay peninsula and the islands of the Pacific and Indian Oceans.

The number of *languages* spoken on the earth is estimated at eight hundred and sixty, embracing about five thousand dialects. The language spoken by the greatest number is the Chinese; the one most widely spread is the English.

In regard to *religion*, mankind may be divided into two general classes: *Monotheistic*, those who worship one god, and *polytheistic*, those who worship more than one god, also called pagans, or heathens. Of the first class we have: (1) the *Christian*, which recognizes the Bible as the revealed word of God, and Jesus Christ as the Son of God; (2) the *Jewish*, which recognizes the Old Testament as the word of God, but does not acknowledge Christ; (3) the *Mohammedan*, or the religion of *Islam*, whose two articles of faith are, "There is no god but God, and Mohammed is the Prophet of God."

Of the second class there are: (1) *Brahminism*, or *Hindooism*, the religion of the people of India, a very ancient religion which has many good moral doctrines, but strange ideas of a future state; (2) *Buddhism*, an offshoot of Brahminism, now practiced by the people of China and Japan, founded by Sakya-Muni, who adopted the title of Buddha (the enlightened), a religion which has been more enthusiastic in making converts than any other, except Christianity, and has many good moral precepts, but is practically atheistic; (3) *Fetichism*, a very low form of superstition, which consists in the worship of material objects, either living or dead, as animals, or idols of wood or stone.

In regard to *general culture and intelligence*, mankind may be divided into: (1) *Savages*, those who are scarcely elevated above the brutes, live in tribes and subsist by hunting and fishing; (2) *Barbarians*, those who have possessions, as flocks and herds, and practice agriculture to some extent, yet have made no progress in arts and sciences; (3) *Half-civilized*, those who have made some progress in the arts, have towns and cities, but depend chiefly upon agriculture; (4) *Civilized*, those who have made considerable progress in science and art, engage in commerce and have a written language; (5) *Enlightened*, those who stand at the head of the scale, have a division of labor, systems of education, and have made the greatest progress in science, art, and in morality.

The principal forms of *government* are: (1) The *monarchical*, that form where one person exercises chief power, to which he succeeds by inheritance, and holds for life. (2) *Republican*, where the power is vested in men who are chosen by the people for a limited period. An *absolute monarchy* (despotism) is one where the ruler has unlimited or absolute power, his will being the sole law. A limited or constitutional monarchy is one where the ruler's power is limited by a constitution, or laws made by the representatives of the people. In a monarchical government the ruler receives various titles in different countries, as *emperor*, *king* or *queen*, *czar*, *sultan*, *shah* and *mikado*. In a republican government the chief officer is called a *president*.

ANIMAL AND VEGETABLE LIFE.

The animals of a country taken together are called its *fauna*, while its flowers and vegetation are denominated *flora*.

The frigid zones produce very scanty vegetation, mosses and lichens, and some stunted specimens of the higher forms, as the willow, birch and pine. The animal world is much more varied as to species. Here are found the reindeer, the musk ox and the white bear, and many smaller fur-bearing animals on the land; while, in the sea, or on its shores, are found whales, walruses, seals and water-fowls of many species.

In the torrid zone is found the most dense and varied vegetation, flowers of the most brilliant hue and of the largest size, the most delicious fruits, the most powerful aromatics, the most valuable woods; in fact, the most of those productions which add to the luxuries of life. The animal world is represented by the greatest number of species, among which are those of the largest size, the most powerful and active, and the most intelligent. It is the home of the elephant, the giraffe, the lion, the tiger, the monkey, the ostrich, the condor, parrots, and of reptiles of the largest size, as the crocodile and boa constrictor, as well as those of the most poisonous character.

In the temperate zones are found the vegetation most useful to man, as the oak, the pine, the maple and other useful timber trees; the indispensable grains, as wheat, maize, barley, rye; the useful fruits, as the apple, peach, pear, etc., and the fabric plants, as flax and cotton. The animal kingdom is represented by the bear, the bison, the elk and deer, the wolf; and the domestic animals so useful to man, as the horse, the ox, sheep and goats; and many species of fowl, as pigeons, ducks, geese, turkeys, etc.

MINERALS AND METALS.

The prosperity and wealth of a country depend largely upon its mineral resources. Nature has bestowed her wealth in lavish abundance, asking only the labor of man to make it useful. As

a rule the useful and valuable minerals are found in rocky or mountainous countries. These countries not being adapted to agriculture, the people find employment in mining and manufacturing the raw material which is stowed away in their hills, depending for subsistence upon commerce with their agricultural neighbors of the plains. On the other hand, the inhabitants of the plains must depend upon their neighbors of the hills for material which adds to their comfort and convenience. Wherever that most useful of metals, iron, is found, near by is always found coal, which is necessary in reducing the iron to useful forms. Timber also grows abundantly on the mountains. This, too, is necessary to the manufacturer. The streams of hilly countries have greater fall, and are thus adapted for water power, which also adds to the advantages.

Many minerals occur near the surface of the earth, in alluvial soil or the sandy beds of rivers; but the greater part lie deep in the ground, and are obtained with more or less labor by mining.

The most important metals are gold, silver, platinum, mercury, iron, lead, copper, tin, nickel, zinc and antimony.

The richest silver mines in the world are those of Mexico. Iron is found in the greatest abundance in different parts of the United States and Europe. The great lead mines of the United States lie on each side of the Mississippi River, in Northwestern Illinois, Southwestern Wisconsin, and Iowa, and in Missouri, south of the Missouri River. The richest and purest copper mines in the world lie on the shores of Lake Superior, in Northern Michigan, where blocks of native copper weighing 80 tons have been found. Zinc occurs in the Appalachian region, particularly New Jersey and Pennsylvania; also in Illinois, Missouri, Wisconsin and Tennessee.

Some Strange Metals.

Some of the metals, familiar enough to the chemist, though rarely seen outside his laboratory, have so little in common with the metals of everyday life as to scarcely seem to belong to the same class of substances. We commonly think of a metal as being heavy, yet sodium and potassium will float on water, and lithium is the lightest of all known solids. The fact is, that the word "metal" is one of the hardest in the language to define. The metals all have a peculiar luster, to be sure, which, from its association, has come to be called metallic; but many minerals, as galena and black-lead, which most certainly are not metals, have the same appearance, and so on, through the list of properties. The chemical relations of the metals give good reasons for placing these substances by themselves, though even here the lines are not clearly marked.

One of the most distinctive properties of the metals is their power to form, when combined with acids, a class of bodies called salts—on account of their resemblance to common salt—which contains about 40 per cent of the metal sodium. This metal is a bluish white, waxy solid, and has such a great tendency to rust, or unite with the oxygen in the air, that it must be kept in some oil, like petroleum, which contains no oxygen.

If a bit of sodium be thrown upon a piece of ice, the metal takes fire, and any attempts to put it out by pouring water on it would only be adding fuel to the flame. The sodium-match is an application of this peculiar property of the metal. It is merely a bit of wood tipped with sodium, and which can, of course, be lighted on the stormiest day by the mere contact of a raindrop. The matches are, however, decidedly dangerous, and their manufacture is generally prohibited.

Potassium, which is obtained from potash, is another metal very similar to sodium, and will take fire upon ice or water even more readily than this last-named metal. A small piece of potassium thrown into a jug of water apparently takes fire at once, and swims about with great rapidity, burning all the time with a brilliant violet flame

One may be forgiven if his ideas on combustion are somewhat upset by the first sight of this phenomenon, but there is really nothing very strange about it. Water is a compound of hydrogen and oxygen, and these metals, sodium and potassium, have so strong an attraction for oxygen that they will take it wherever they can find it, even from water. This, of course, sets the oxygen free, which is set on fire by the heat given off when the potassium and oxygen unite, and burns with a violet color because of the vapor of the metal. The same is true in the case of sodium; the flame is due to the burning hydrogen rather than the metal.

Sodium, potassium, and lithium, with several other metals, form a group known as the alkali metals. There is another group, to which iron belongs, which contains an interesting member called aluminum—sometimes aluminium—from its occurrence in common alum.

Aluminum is a beautiful metal, much like silver in appearance, and possessing many valuable properties. It is very sonorous, easily worked, does not tarnish in the air, and is only about one-fourth as heavy as silver. It conducts electricity eight times better than iron. Added to this, it occurs in greater quantity than any other metal in the world. Every clay-bank, every granite-bed, is a bed of aluminum, but as yet no cheap and ready means of obtaining the metal has been found in spite of all attempts. Napoleon offered a large reward to any one discovering such a process. As late, however, as 1878, the metal was still a curiosity; and up to 1889 the total output of the world from all sources, French, English, German and American, had been less than 116 tons. The total production of the United States in 1889 was 47,468 pounds, valued at $97,335. The stage of actual production having been reached, the all-important feature of the industry now is the effort by new processes to reduce the cost of making the metal; some of the present unfamiliar and elaborate metallurgical processes being reproductions on a large scale of experiments which are not ordinarily used even in chemical laboratories. This interesting and valuable metal lies hidden everywhere about us, and a princely fortune awaits the man who can bring it to the light.

NATURAL PHILOSOPHY

PHYSICS AND CHEMISTRY.
HYDROSTATICS AND HYDRAULICS.
OPTICS AND ACOUSTICS.
MAGNETISM AND ELECTRICITY.

THE FORCES OF NATURE, AND THE LAWS WHICH GOVERN THEM.
THE ELEMENTS OF NATURAL SCIENCE.

NATURE is revealed to us by *objects* and by *phenomena*. An *object* is a thing which occupies space and which is susceptible to feeling and to sight. The heavenly bodies may also be classed as objects, although we cannot touch them. *Phenomena* include those results which are perceptible by only one sense, as thunder. Light and sound may also be classed as phenomena. A stone is a natural object. We take it up, open our fingers, and it falls. The *motion* of that object is a phenomenon. We know it falls because we see it fall, and it possesses what we term *weight;* but we cannot tell *why* it possesses weight. A cause of a phenomenon being independent of human will is called a *force*, and the stone falls by the force of *gravitation*, or that natural law which compels every material object to approach every other material object. A single force may produce a great number of phenomena.

Nature being revealed to us by objects, and by means of phenomena, we have two branches of science extending from such roots, namely, NATURAL HISTORY, the Science of Objects; and NATURAL PHILOSOPHY, the Science of Phenomena.

Both of these branches have been subdivided thus:

- Natural History.
  - Zoölogy, referring to Animals. } Biology.
  - Botany, referring to Plants. }
  - Mineralogy, } referring to Minerals, etc.
  - Geology, }
- Natural Philosophy.
  - Physics. Phenomena without essential change of the objects.
  - Chemistry. Phenomena with change of the objects.
  - Physiology. Phenomena of animated objects.

The two great divisions comprehend, in their extended senses, all that is known respecting the material world.

We have spoken of *objects*. Objects occupy *space*. What is space? Space is magnitude which can be conceived as extending in three directions—*length*, *breadth* and *depth*. MATTER occupies portions of space, which is infinite. Matter, when finite, is termed a body or object. A *molecule* is the smallest portion of a body which we can conceive of as retaining its identity. An *atom* is a division of a molecule.

Suppose we take a quantity of water and conceive it to be divided until we reach a limit. The last particle which we could call water would be a molecule. Now let a current of electricity be passed through a quantity of water, and it is separated into two gases, essentially different from each other, and different from water. A given quantity of water will produce a certain quantity of gas, the proportion in volume of the two kinds being as 1 to 2. If one pint, say, of water produces one volume of one gas, and two of the other, one-half pint would produce one-half the amount of one gas and one-half the amount of the other, and so on down until we have made the ultimate division, which, for convenience, we call a *molecule*. Then we can truly say that the molecule is composed of *two* parts of one gas and *one* part of the other, and for convenience we call these parts of the molecules, *atoms*.

Physics deals only with masses and molecules. Chemistry deals with atoms. When we tear a piece of paper in pieces, or grind it to a pulp, we separate molecules and have effected a *physical change* only. When we burn the paper in the fire we separate atoms and have effected a *chemical change*. In the first case we have effected a change of form, but the matter is identically the same. In the second case, the gases and ashes produced by the burning are totally different, and the paper has lost its identity.

The sounding of a bell and the falling of a stone are *physical phenomena*, for the object which causes the sound or the fall undergoes no change. Heat is set free when coal burns, and this disengagement of heat is a physical phenomenon; but the change during combustion which coal undergoes is a *chemical phenomenon*.

The General Properties of Matter

Are *magnitude*, *impenetrability*, *inertia*, *divisibility*, *porosity*, *elasticity*, *compressibility*, *expansibility* and *indestructibility*.

Magnitude is the property of occupying space. *Size* is the amount of space a body fills. Every body has three dimensions —length, breadth and thickness; and, in order to measure these, some standard of measurement is required.

Impenetrability is the property of so occupying space as to exclude all other bodies; for no two bodies can occupy the same space at the same time. We sometimes speak of one substance penetrating another. Thus, a needle penetrates cloth, a nail penetrates wood, etc.; but on a moment's reflection it will be plainly seen that they merely push aside the fibers of the cloth or wood, and so press them closer together.

Inertia is the property of passiveness. Matter has no power of putting itself in motion when at rest. A body will never change its place unless moved, and if once started will move forever unless stopped. It is difficult to start a wagon because we have to overcome its inertia, which tends to keep it at rest. When the wagon is in motion it requires as great an exertion to stop it, since then we have again to overcome its inertia, which tends to keep it moving.

Inertia causes the danger of jumping from cars when in motion. The body has the speed of the train, while the motion of the feet is stopped by contact with the ground. One should jump as nearly as he can in the direction in which the train is moving, and with his muscles strained, so as to break into a run the instant his feet touch the ground. Then with all his strength he can gradually overcome the inertia of his body, and after a few feet can turn as he pleases.

Divisibility is that property of a body which allows it to be separated into parts. It would be impossible to find a particle so small that it still could not be made smaller. Practically speaking, there is no limit to the divisibility of matter; but philosophers hold that there is in theory. When we attempt to show how far matter can be divided, the brain refuses to grasp the infinity. A pin's head is a small object, but it is gigantic compared to some animals, of which millions would occupy a space no larger than the head of a pin. These tiny animals must have organs and veins, and those veins must be full of blood globules. Prof. Tyndall says a drop of blood contains three millions of red globules. But there is something even more astonishing than this. It is stated that there are more animals in the milt of a single codfish than there are men in the world; and that *one grain of sand is larger than four millions of these animals*, each of which must be possessed of life germs of an equal amount, which would grow up as it grew to maturity. This carries us back again, and

> "Imagination's utmost stretch
> In wonder dies away."

Porosity is the property of having pores. By this is meant not only such pores as are familiar to all, and to which we refer when, in common language, we speak of a porous body, as bread, wood, unglazed pottery, a sponge, etc., but a finer kind, as invisible to the eye as the atoms themselves. These pores are caused by the fact that the molecules of which a body is composed are not in actual contact, but are separated by extremely minute spaces.

Elasticity is classed both among the general and the specific properties of matter. It is thought that all bodies have elasticity, yet some have it in such a degree that it serves to distinguish them from other bodies.

Compressibility is that property of matter by virtue of which it may be made to occupy less space. It is a result of porosity, the molecules being pressed closer together.

Expansibility is the opposite of compressibility.

Indestructibility is the property which renders matter incapable of being destroyed. No particle of matter can be annihilated, except by God, its creator. We may change its form, but we cannot deprive it of existence.

The Specific Properties of Matter

Are those which are found only in particular kinds of matter. The most important are *ductility*, *malleability*, *tenacity*, *elasticity*, *hardness* and *brittleness*.

A *ductile body* is one which can be drawn into wire. Some of the most ductile are gold, silver, and platinum.

A *malleable body* is one which can be hammered or rolled into sheets. Gold is the most malleable of all metals, and can be beaten into sheets $\frac{1}{282000}$ of an inch in thickness. Copper is so malleable that it is said that a workmen, with his hammer, can beat out a kettle from a solid block of the metal.

A *tenacious body* is one which cannot be easily pulled apart. Iron is the most tenacious of the metals.

There are three kinds of *elasticity*—elasticity of compression, elasticity of expansion, and elasticity of torsion.

Solids—Liquids—Gases.

Matter is present in Nature in three conditions. We find it as a *solid*, a *liquid*, and a *gas*. To test the actual existence of matter in one or other of these forms our senses help us. We can touch a solid, or taste it and see it. But touch is the test.

A *solid* is a body whose molecules cohere so that their relative positions cannot be changed without the application of considerable force. A solid will retain any shape given it.

A *liquid* is a body whose molecules cohere so slightly that their relative positions may be changed on the application of slight force. A liquid will assume the form of the vessel containing it, and the free surface will always be horizontal, each molecule seeking its lowest level by the force of gravity.

A *gas* is a body whose molecules separate almost indefinitely from each other. Essentially there is no difference between a gas and a vapor. The term gas is generally applied to those bodies which are ordinarily in a gaseous state, and the term vapor to that which is formed by heating a liquid or solid. Steam is the vapor of water, but it is a gas as much as oxygen or hydrogen.

The Forces of Nature.

Force is a cause—the cause of motion or of rest. It requires force to set an object in motion, and this object would never stop unless some other force or forces prevented its movement

beyond a certain point. Force, therefore, is the cause of a change of "state" in matter. The forces of Nature are three in number—*gravity*, *cohesion*, and *affinity*, or chemical attraction.

Gravity.

Gravity, or *gravitation*, is the mutual attraction between different portions of matter acting at all distances—the force of attraction being, of course, in proportion to the respective mass of the bodies. The greatest body, so far as our purposes are concerned, is the earth, and the attraction of the earth is gravity, or what we call weight. If we jump from a chair we shall come to the floor, and if there were nothing between us and the actual ground, sufficient to sustain the force of the attracting power of the earth, we should fall to the earth's surface. In a teacup the spoon will attract air-bubbles, and large air-bubbles will attract small ones, till we find a small mass of bubbles formed in the center of the cup of tea. Divide this bubble, and the component parts will rush to the sides of the cup.

Two balls of equal magnitude will attract each other with equal force, and will meet, if not opposed, at a point half-way between the two. But they do not meet, because the attraction of the earth is greater than the attraction they relatively and collectively exercise toward each other. If the size of the balls be different, the attraction of the greater will be more evident.

FALLING BODIES.

Gravity is the cause of the phenomena of *falling bodies*, because every object on the surface of the earth is very much smaller than the earth itself, and, therefore, all bodies fall toward the center of the earth. On the earth a body, if let fall, will pass through a space of sixteen feet in the first second; and as the attraction of the earth still continues and is exercised on a body already in rapid motion, this rate of progress must be proportionately increased. The space a falling body passes through has been calculated, and found to *increase in proportion to the square of the time it takes to fall*. For instance, suppose you drop a stone from the top of a cliff to the beach, and it occupies two seconds in falling. If you multiply 2 by 2 and the result by 16, you will find how high the cliff is—64 feet. The depth of a well can be ascertained in the same way, leaving out the effect of air resistance.

But if we go up into the air, the force of gravity will be diminished. The attraction will be less, because we are more distant from the center of the earth. This decrease is scarcely, if at all, perceptible, even on very high mountains, because their size is not great in comparison with the mass of the earth's surface. The rule for this is *that gravity decreases in proportion to the square of the distance*. So that if at a certain distance from the earth's surface the force of attraction be 1, if the distance be *doubled* the attraction will be only *one-quarter* as much as before—not one-half.

Gravity has exactly the same influence upon *all* bodies, and the force of the attraction is in proportion to the mass. All bodies of equal mass will fall in the same time in a given distance. Two coins, or a coin and a feather, *in vacuo*, will fall together. But in the air the feather will remain far behind the coin, because nearly all the atoms of the former are resisted by the air, while in the coin only some particles are exposed to the resistance, the *density* of the latter preventing the air from reaching more than a few atoms, comparatively speaking.

Drops of water falling from the clouds do not strike with a force proportional to the laws of falling bodies. This is because they are so small that the resistance of the air nearly destroys their velocity. If it were not for this wise provision, a shower of raindrops would be as fatal as one of minie bullets.

The weight of a body varies on different portions of the earth's surface. It will be least at the equator: (1) because, on account of the bulging form of our globe, a body is there pushed out from the mass of the earth, and so removed from the center of attraction; (2) because the centrifugal force is there the strongest. It will be greatest at the poles: (1) because, on account of the flattening of the earth, a body is there brought nearer its mass and the center of attraction; (2) because there is no centrifugal force at those points. At the center of the earth the weight of a body is nothing, because the attraction is there equal in every direction.

THE CENTER OF GRAVITY.

The *center of gravity* is that point on which, if supported, a body will balance itself. In our daily actions are found many physiological applications of the center of gravity. When we wish to rise from the chair, we bend forward, in order to bring the center of gravity over our feet, our muscles not having sufficient strength to raise our bodies without this aid. And when we walk, we lean forward, so as to bring the center of gravity as far in front as possible.

SPECIFIC GRAVITY.

Specific gravity is the weight of a substance compared with the weight of the same bulk of another substance. It is really a method of finding the density of a body. Water is taken as the standard for solids and liquids, and air for gases.

THE PENDULUM.

The *pendulum* consists of a weight so suspended as to swing freely. Its movements to and fro are termed vibrations or oscillations. The path through which it passes is called the arc, and the extent to which it goes in either direction is styled its amplitude.

As "heat expands and cold contracts," a pendulum increases in length in summer and shortens in winter. Therefore, a clock loses time in summer and gains in winter.

CENTRIFUGAL AND CENTRIPETAL FORCE.

Centrifugal force, which means "flying from the center," is the force which causes an object to describe a circle with uniform velocity, and fly away from the center. The force that counteracts it is called the *centripetal force*.

To represent its action, an ordinary glass tumbler may be used. The tumbler should be placed on a round piece of cardboard, held firmly in place by cords. Some water is then poured into the glass, and it can be swung to and fro and round, without the water being spilt, even when the glass is upside down.

Cohesion.

Cohesion is the attraction of particles of bodies to each other at very small distances apart. Cohesion has received various names in order to express its various degrees. For instance, we say a body is tough or brittle, or soft or hard, according to the degrees of cohesion the particles exercise. We know if we break a glass we destroy the cohesion; the particles cannot be reunited. Most liquid particles can be united, but not all. Oil will not mix with water.

The force of cohesion depends upon heat. Heat expands everything, and the cohesion diminishes as temperature increases.

There are some objects or substances upon the earth the particles of which adhere much more closely than others, and can only be separated with very great difficulty. These are termed *solids*. There are other substances whose particles can easily be divided, or their position altered. These are called *fluids*. A third class seem to have little or no cohesion at all. These are termed *gases*.

ADHESION.

Adhesion is also a form of attraction, and is cohesion existing on the surfaces of two bodies. When a fluid adheres to a solid we say the solid is wet. We turn this natural adhesion to our own purposes in many ways—we whitewash our walls, and paint our houses; we paste our papers together, etc.

On the other hand, many fluids will not adhere. Oil and water have already been instanced. Mercury will not stick to a glass tube, nor will the oiled glass tube retain any water. We can show the attraction and repulsion in the following manner: Let one glass tube be dipped into water and another into mercury; you will see that the water will ascend slightly at the side, owing to the attraction of the glass, while the mercury will be higher in the center, for it possesses no attraction for the glass. If small, or what are termed capillary (or hair) tubes, be used, the water will rise up in the one tube, while in the other the mercury will remain lower than the mercury outside the tube.

The law of adhesion is what necessitates the spout on a pitcher. The water would run down the side of the pitcher by the force of adhesion, but the spout throws it into the hands of gravitation before adhesion can catch it.

Affinity, or Chemical Attraction.

Affinity, or *chemical attraction*, is the force by which two different bodies unite to form a new and different body from either. This force will be fully considered in CHEMISTRY.

It is needless for us to dwell upon the uses of these forces of Nature. Gravity and cohesion being left out of our world, we can imagine the result. The earth and sun and planets would wander aimlessly about; we should float away into space, and everything would fall to pieces, while our bodies would dissolve into their component parts.

Motion.

Motion is a change of place. Absolute motion is a change without reference to any other object. Relative motion is a change with reference to some other object.

Rest is either absolute or relative. *Velocity* is the rate at which a body moves. *Force*, as has been said, is that which tends to produce or destroy motion.

The principal *resistances to motion* are friction, resistance of the air, and gravity.

Friction is the resistance caused by the surface over which a body moves. If the surface of a body could be made perfectly smooth, there would be no friction; but in spite of the most exact and complete polish, the microscope reveals minute projections and cavities.

Momentum is the quantity of motion in a body.

Two laws of motion: 1. A body once set in motion tends to move forever in a straight line. 2. A force acting upon a body, in motion or at rest, produces the same effect, whether it acts alone or with other forces.

Circular motion is a variety of compound motion produced by two forces, called the centrifugal and the centripetal. The former tends to drive a body from the center; the latter tends to draw a body toward the center.

Reflected motion is produced by the reaction of any surface against which an elastic body is thrown.

Curved motion.—Whenever two or more instantaneous forces act upon a body, the resultant is a straight line. When one is instantaneous and the other continuous, it is a curved line. And when a body is thrown into the air, unless it be in a vertical line, it is acted upon by the instantaneous force of projection and the continuous force of gravity, and so passes through a line which curves toward the earth.

Machines

Enable us to apply and direct the forces of nature. The *lever* and the *inclined plane*, and their modifications, the *screw*, the *wedge*, the *wheel and axle* and the *pulley*, constitute the elementary forms of machinery.

Power or energy, multiplied by the distance through which it moves, equals the weight, load or resistance multiplied by the distance. The fundamental law is, that what is gained in power is lost in time or distance. Thus, two pounds of power moving through ten feet equals twenty pounds moving through one foot.

A *lever* is an inflexible bar capable of turning on a fixed point. The force used is called the *power*, the object to be moved, the *weight*, and the fixed point or pivot, the *fulcrum*. There are three kinds of levers, as follows: 1. Power at one end, weight at the other, fulcrum between them. 2. Power at one end, fulcrum at the other, and weight between them. 3. Fulcrum at one end, weight at the other, and power between them.

The *compound lever* consists of several levers connected together in such a way that the short arm of one acts upon the long arm of the next, and so on.

The *wheel and axle* is a modification of the lever in which the center of the axis of the wheel is the fulcrum, the distance from the rim of the wheel to the axis, or the length of the crank, the long arm, and the distance from the circumference of the axis to its center, its short arm.

The *pulley* is a modification of the lever in which the distances

from the axis to the circumference represent equal arms of the lever. No advantage is gained in a fixed pulley except change of direction. By means of a number of movable pulleys the power distance is increased, the cord having to pass through a greater distance to gain greater power.

The *inclined plane* is a smooth, hard surface inclined so as to make an angle with direction of the force to be overcome. Comparing it with the lever, the length corresponds to the long arm and the height to the short arm.

The *wedge* is simply a movable inclined plane, its power depending upon friction as well as upon its form.

The *screw* is an inclined plane wound around a cylinder.

Perpetual Motion.

Nothing can be more utterly impracticable than to make a machine capable of perpetual motion. No machine can produce power; it can only direct that which is applied to it. We know that in all machinery there is friction; hence, this must ultimately exhaust the power and bring the motion to rest. These principles show the uselessness of all such attempts.

HYDROSTATICS AND HYDRAULICS.

Hydrostatics treats of liquids at rest. Its principles apply to all liquids, but water, on account of its abundance, is taken as the type of the class, and all experiments are based upon it.

Liquids transmit pressure in all directions. *Pascal's law* is as follows: Pressure exerted anywhere upon a mass of liquid is transmitted, undiminished, in all directions, and acts with the same force upon equal surfaces, and in a direction at right angles to those surfaces. A necessary inference from this law is that surfaces of vessels sustain a pressure proportional to their area.

A practical application of Pascal's law is the *hydrostatic press*, more generally called the *hydraulic press*. This is a very powerful machine, by means of which a pressure of several hundred tons may be obtained.

Artesian wells are so named because they have been used for a long time in the province of Artois, in France; they were, however, employed by the Chinese, from early ages, for the purpose of procuring gas and salt water. These are on the principle above stated, that liquids press equally in all directions—that water "always seeks its level." By boring through strata of rocks, or earth impervious to water, and striking a basin of water which has descended from a greater height, through a porous strata, a well is formed which throws water to almost the height of the fountain head, being retarded only by friction and resistance of the air.

The surface of standing water is said to be level; this is true for small sheets of water, but for larger bodies an allowance must be made for the circular figure of the earth.

The *spirit level* is an instrument used by builders for leveling; it consists of a slightly curved glass tube, so nearly full of alcohol that it holds only a bubble of air. When the level is horizontal, the bubble remains at the center of the tube.

Modern engineers carry water across a river by means of pipes laid under the bed of the river, knowing that the water will rise on the opposite side to its level. The ancients appear to have understood this principle, but were unable to construct pipes capable of resisting the pressure.

Hydraulics treats of liquids in motion. In this, as in hydrostatics, water is taken as the type. In theory, its principles are those of falling bodies, but they are so modified by various causes that in practice they cannot be relied upon, except as verified by experiment. The discrepancy arises from changes of temperature, which vary the fluidity of the liquid, from friction, the shape of the orifice, etc.

A fall of only three inches per mile is sufficient to give motion to water, and produce a velocity of as many miles per hour. The Ganges descends but 800 feet in 1,800 miles; its waters require a month to move down this long inclined plane. A fall of three feet per mile will make a mountain torrent.

Barker's Mill consists of an upright cylinder with horizontal arms, and with apertures in the opposite sides, the cylinder being so arranged as to turn easily. When water is poured into the cylinder, the pressure being equal in all directions, it would remain at rest, did it not flow out at the orifices, thus relieving the pressure on the one side, causing the arm to move in the opposite direction and the cylinder to revolve. The *Turbine water-wheel* is a practical application of this principle.

PNEUMATICS

Treats of the general properties and the pressure of gases.

Gases have weight, compressibility, expansibility and elasticity, and the principles of transmission of pressure, specific gravity and buoyancy of liquids apply to them as well. The pressure of the air has been several times referred to. The force of air can very soon be shown as acting with considerable pressure on an egg in a glass. By blowing in a small wine glass, containing a hard-boiled egg, it is possible to cause the egg to jump out of the glass, and with practice and strength of lungs it is not impossible to make it pass from one glass to another. The force of heated air ascending can be ascertained by cutting a card into a spiral and holding it above a lamp or a stove. The spiral, if lightly poised, will revolve rapidly.

The *barometer* is an instrument for measuring the pressure of air, and consists essentially of an apparatus, first used by Torricelli, who took a glass tube about a yard in length, closed at one end, and filled it with mercury. Placing his thumb over the closed end, he immersed it in a vessel of mercury. Removing his thumb, the mercury sank until it stood at the height of 30 inches. The space above the mercury was as nearly a complete vacuum as has ever been attained. By this experiment he proved that the pressure of the atmosphere is equal to the weight of a column of liquid which it will sustain.

The barometer is used to indicate the weather, and to measure the height of mountains.

Three opposing forces act on the air, viz.: gravity, which binds it to the earth, and the centrifugal and the repellant (heat) forces, which tend to hurl it off into space. Under the action of the latter forces, the atmosphere, like a great bent spring, is ready to bound away at the first opportunity; but the attraction of the earth holds it firmly in its place.

The rise and fall of the barometric column shows that the air is lighter in foul and heavier in fair weather. In fair weather, the moisture of the air is an invisible vapor, mingled with it, and adding to its pressure, while in foul weather the vapor is separated in the form of clouds.

The *common pump* is an application of air pressure. The piston, or sucker, being raised, the water is forced up the tube by the pressure of the air on the surface of the water in the well, there being no resistance in the tube, for the piston lifts out the air. As the piston descends, the valve in it opens upward and allows the water to pass through above the valve, which, closing as it rises again, the water is lifted out and more is forced into the tube below. Owing to the necessary imperfection of the parts, water cannot be raised by atmospheric pressure more than about 27 feet.

The *air-pump* is a machine for removing the air from within a vessel. It consists of a cylinder supplied with a valve opening inward and one opening outward, and a piston fitting accurately. When the piston is raised, the air rushes into the cylinder through the first valve to fill the vacuum. As the cylinder descends, the air closes the first valve and opens the second, and is driven out, every stroke of the piston thus removing a portion of air. The escape valve may be in the side of the cylinder or in the piston itself.

The *siphon* consists of a tube, bent in the shape of a letter U, with unequal arms. Fill the siphon with water, closing both ends with the fingers. Insert the short arm in a vessel of water, with the long arm on the outside, with its end lower than the end of the short arm. The column of water in the long arm will run out by its own weight, and the tendency would be to produce a vacuum in the bend of the tube, but the water is forced up by the pressure of air through the short arm, and thus the stream is kept up so long as the outside arm is lower at its orifice than the orifice of the inside arm. The flow may be started by exhausting the air from the long arm by suction, and then it will not be necessary to fill the siphon with water.

ACOUSTICS.

Acoustics treats of the doctrine of sound. The term *sound* is used in two senses—the subjective, that which has reference to our mind; and the objective, that which refers only to the objects around us.

In the subjective sense, sound is the sensation produced upon the organ of hearing by vibrations in matter. In this use of the word, there can be no sound where there is no ear to catch the vibrations.

In the objective sense, sound is those vibrations of matter capable of producing a sensation upon the organ of hearing. In this use of the word, there can be a sound in the absence of the ear. An object falls and the vibrations are produced, though there may be no organ of hearing to receive an impression from them.

The velocity of sound depends on the elasticity and density of the medium through which it passes. The higher the elasticity, the more promptly and rapidly the motion will be transmitted, since the elastic force acts like a bent spring between the molecules. The greater the density, the more molecules to be set in motion, and hence the slower the transmission.

Sound travels through the air (at the freezing point) at the rate of 1,090 feet per second. A rise in temperature diminishes the density of the air, and thus sound travels faster in warm and slower in cold air. Through water sound travels at the rate of 4,700 feet per second. Water is denser than air, and for that reason sound should travel in it much slower; but its elasticity, which is measured by the force required to compress it, is so much greater that the rate is quadrupled. Sound travels through solids faster than through air; and the velocity in iron is nearly ten times greater. Under ordinary circumstances, all sounds travel with the same velocity.

When a sound-wave strikes against the surface of another medium, a portion goes on while the rest is reflected. The law which governs reflected sound is that of reflected motion—*the angle of incidence is equal to that of reflection.*

The air at night is more homogeneous than by day; consequently, sounds are heard more clearly and farther than in the daytime.

If two sounds meet in exactly opposite phases, and the two forces are equal, they will balance each other, and silence will ensue. Thus, *a sound added to a sound will produce silence.* In the same way, *two motions may produce rest; two lights may cause darkness, and two heats may produce cold.*

The difference between noise and music is only that between irregular and regular vibrations. Whatever may be the cause which sets the air in motion, if the vibrations be uniform and rapid enough, the sound is musical. If the ticks of a watch could be made with sufficient rapidity, they would lose their individuality, and blend into a musical tone.

Wind instruments produce musical sounds by means of inclosed columns of air. Sound-waves run backward and forward through the tube, and act on the surrounding air like the vibrations of a cord.

The *Telephone* is an instrument which has, in a few years, come into almost general use, and which is beginning to rival the electric telegraph as a means of rapid communication. By means of it articulate speech or other sounds are reproduced at great distances. In the acoustic, or string telephone, it is only necessary to have a membrane which can be set in vibration by the impulses of the air made by the voice on an instrument, and a string or wire attached to it to carry the vibrations to a similar membrane at the other end. This second membrane gives back to the air the same kind of vibration received at the other end. In the electric telephone the vibrations of the membrane cause changes in the electric current, produced by a battery, these changes being capable of reproducing the same kind of vibrations in the membrane at the opposite end.

The *Microphone* is an instrument which, in its main features, consists of a carbon "pencil," so suspended that one end rests upon a carbon "die." The instrument, being connected with a telephone by the circuit wires, will reproduce faint sounds very distinctly. The upright carbon is thrown into vibrations by the impulse of the sound, which alternately lengthens and shortens it. This, by impairing or strengthening the connection of the

circuit, alternately lessens and strengthens the force of the current. Corresponding to these electric changes, the membrane of the telephone vibrates and gives out sound. It is so sensitive that the walking of a fly on the sounding-board may be distinctly heard at the telephone, and the ticking of a watch sounds like blows of a hammer.

The *Phonograph* is an instrument which registers the different vibrations produced by sound, and reproduces them in correspondence with this registration. It consists of a mouth-piece and vibrating membrane, the same as the telephone, with a needle attached to the center of the membrane, the vibrations of which cause the needle to make impressions on a strip of tin foil, rolled on a grooved revolving cylinder. By so adjusting the machine that the needle may retrace its path on the tin foil, the membrane is set in vibration again and the sounds are given back exactly as they were received. Articulate speech, as well as all other noises, is reproduced with wonderful distinctness.

With the *Photophone*, sounds may be heard at a distance by means of light. Changes are produced in the electric current by the light falling on a plate of "selenium." With this exception the principle is the same as in the ordinary telephone.

The *Audiphone* is an instrument to convey sound to the ear, to supplement it when partial or temporary deafness has occurred. The instrument has the appearance of a large, black fan, is made of vulcanized rubber, and consists of a long, flexible disc, supported by a handle. To the upper edge of the "fan" are attached cords, which pass through a clip on the handle. If the person who wishes to hear by means of the audiphone will hold the fan against the upper teeth—the convex side of the fan outward—he or she will hear distinctly, for the vibrations of sound are collected and strike upon the teeth and bones, and act upon the auditory nerves from within, precisely as the vibrations act from without through the auricle.

The *Topophone*, an apparatus for discovering the position of a sound, is based upon the well-known theory of sound-waves. It is claimed for this apparatus that it stands in the same relation to the sailor as his old and trusty friends the compass and sextant, as it will tell him whence a sound arises, and this in a fog is no mean advantage. The whole theory of the topophone, however, depends for its usefulness upon the same note being sounded by all horns and whistles. The note C treble, caused by about 260 vibrations per second, has been found most applicable, and if all whistles and fog-horns can by law be compelled to adjust themselves to this note, the topophone will prove a real and lasting benefit.

OPTICS

Is the science which treats of light and vision. *Light* is a vibratory motion, like sound and heat, transmitted through a medium called *ether*. This medium is a very elastic substance surrounding us, and constituting a kind of universal atmosphere, diffused throughout all space. It is so subtle that it fills the pores of all bodies, eludes all chemical tests, passes in through the glass receiver and remains even in the vacuum of an air-pump.

A *luminous* body is one that emits or sends forth light. A *non-luminous* body is one that reflects light, and is visible only in the presence of a luminous body. A *medium* is any substance through which light passes. A *transparent* body is one that offers so little obstruction to the passage of light that we can see objects through it. A *translucent* body is one that lets some light pass, but not enough to render objects visible through it. An opaque body is one that does not transmit light.

The three great laws governing light are: 1. Light passes off from a luminous body equally in every direction. 2. Light travels through a medium of uniform density in straight lines. 3. The intensity of light decreases as the square of the distance increases.

The velocity of light is about 185,000 miles per second. This is so great that, for all distances on the earth, it is practically instantaneous.

When a beam of light from a luminous body falls upon the surface of an opaque body a portion is *reflected* and a portion *absorbed*. When light passes from one medium to another of different density it is *refracted*, that is, bent out of its regular course.

Diffraction of light is caused by a beam of light passing along the edge of some opaque body. As the waves of ether strike against it, they put in motion another set of waves on the opposite side which interfere with the first system.

The *rainbow* is formed by the refraction and reflection of the sunbeam in drops of falling water. Halos, coronas, sundogs, circles about the moon, the gorgeous tinting at sunrise and sunset, are all produced by the refraction and reflection of the sun's rays when passing through the clouds in the upper regions of the atmosphere. The phenomenon familiarly known as the "sun's drawing water" consists merely of the long shadows of broken clouds.

The *mirage* is fully explained under the nead of *Physical Geography*.

If a sunbeam be passed through a prism the light is decomposed and appears as a band of seven colors, viz.: violet, indigo, blue, green, yellow, orange, red. These are called the colors of the solar spectrum.

A *lens* is a transparent body, generally of glass, having one or two curved surfaces. A *convex lens* converges the rays of light, or brings them to a focus at a point, varying in distance, according to the degree of convexity. A concave lens causes the rays of light to diverge. If the eye be placed at the point where the rays from an object are brought to a focus by a convex lens, the object will appear magnified, while the same object seen through a concave lens will appear diminished. A "burning glass" is a convex lens, converging the rays of the sun.

Rays which pass through a lens near the edge are brought to a focus sooner than those near the center; therefore, when an image is clear around the edge, it will be indistinct at the center, and *vice versa*. This wandering of the rays from the focus is termed *spherical aberration*.

Chromatic aberration is caused by the different refrangibility of the several colors which compose white light. The violet, being bent most, tends to come to a focus sooner than the red,

which is bent least. This causes the play of colors seen around the image produced by an ordinary glass. It is remedied by using a second lens of different dispersive power, which counteracts the effects of the first.

Microscopes are of two kinds—simple and compound. The former consists of a double convex lens; the latter contains at least two lenses.

Telescopes are of two kinds—reflecting and refracting. The former contains a large, metallic mirror, which reflects the rays of light to a focus; the latter, like the microscope, contains an object-lens which forms an image.

The *opera-glass* contains an object-glass and an eye-piece. The latter is a double concave lens. This increases the visual angle by diverging the rays of light, which would otherwise come to a focus beyond the eye-piece.

The *camera* used by photographers contains a double convex lens, which throws an inverted image of the object upon the ground glass screen.

The three kinds of mirrors are plane, concave and convex. The first has a flat surface; the second, one like the inside, and the third, one like the outside of a watch crystal. The general principle of mirrors is that *the image is always seen in the direction of the reflected ray as it enters the eye.*

HEAT

Is now known to be a series of vibrations, or vibratory motions, as sound vibrations, which we cannot hear nor see, but the effects of which are known to us as light and heat. In other words, heat is now believed to be the effect of the rapid motion of all the molecules of a body. If this motion be increased the body is said to be heated; if decreased, it is cooled. Cold is a merely relative term, indicating the absence of heat in a greater or less degree.

The sources of heat are the sun, moon and stars, mechanical and chemical action. The greater part of the heat of our globe comes from the sun, and only a very minute quantity from the other heavenly bodies. Great heat may be developed by mechanical action, as friction and concussion. Count Rumford caused water to boil by the friction of metals. A blacksmith can make a piece of iron red hot by hammering. The flint strikes fire from the steel, particles of the metal being torn off and heated to redness. Chemical action is seen in the combustion of fuel, the union of oxygen with carbon and hydrogen.

All bodies expand under the effects of heat, for by its addition the molecules are urged into swifter motion, and therefore pushed further apart, increasing the size of the body. Hence the law, "*Heat expands; cold contracts.*"

If heat be applied to a liquid, the temperature rises until the boiling point is reached, when it stops. The expansion, however, continues until the motion is so violent as to overcome the cohesive force and to throw off particles of the liquid. When we heat water, the bubbles which pass off first contain merely the air dissolved in the liquid; next bubbles of steam form on the bottom and sides of the vessel, and, rising a little distance, are crushed in by the cold water and condensed. In breaking they produce that peculiar sound known as "simmering," and ascend higher and higher as the temperature of the water rises, until at last they break at the surface, and the steam passes off into the air.

Any substance which increases the cohesive power of water elevates the boiling point, and for this reason salt water boils at a higher temperature than fresh water.

Evaporation is a slow formation of vapor, which takes place at all ordinary temperatures. It is hastened by an increase of surface and a gentle heat. This principle is made useful in the arts for separating a solid from the liquid which holds it in solution.

Vacuum pans are largely employed in condensing milk, in the manufacture of sugar, etc.; and are so arranged that the air above the liquid in the vessel may be exhausted, and then the evaporation takes place very rapidly, and at so low a temperature that all danger of burning is avoided.

Absorption and *reflection* are intimately connected with *radiation*. A good absorber is also a good radiator, but a good reflector can be neither. Snow is a good reflector but a poor absorber or radiator. Light colors absorb less and reflect more than dark colors. White is the best reflector, and black the best absorber and radiator.

On the Desert of Sahara, where "the soil is fire and the wind is flame," the dry air allows the heat to escape through it so readily that ice is sometimes formed at night. The dryness of the air at great elevations accounts, in part, for the coldness which is there felt so keenly.

The *thermometer* is an instrument to measure the temperature by means of the expansion of mercury. The principal scales used are: Fahrenheit's, in which the space between the two fixed points, boiling and freezing, is divided into 180 degrees; the Centigrade, in which this space is divided into 100 degrees; Reaumur's, in which it is divided into 80 degrees. Mercury freezes only at 39° Fahr. below zero, and consequently it is most generally used in thermometers. Alcohol is used only for very low temperatures.

Water changes from the liquid to the gaseous state, or boils, at the level of the sea, at a temperature of 212° F. As we ascend above this level the pressure of the atmosphere is less, and it boils at a lower degree.

The *steam engine* is a machine for using the elastic force of steam as a motive power. There are two classes of engines—the high-pressure and the low-pressure. In the former the steam, after being employed to do its work, is forced out into the air; in the latter it is condensed in a separate chamber by a spray of cold water. As the steam is condensed in the low-pressure engine a vacuum is formed behind the piston, while the piston of the high-pressure engine acts against the pressure of the air. The *governor* is an apparatus for regulating the supply of steam. When a machine is going too fast, the balls fly out by centrifugal force and shut off a portion of the steam; when too slowly, they fall back, and, opening the valve, let on the steam again. The *fly-wheel*, by its inertia, serves to render the movement of the machinery uniform.

MAGNETISM AND ELECTRICITY.

Magnetism is that branch of science which treats of the properties of the magnet. Certain specimens of iron ore have the property of attracting iron and some of its ores, and are called *natural magnets* or *loadstone*. When freely suspended they will point to the poles. An *artificial magnet* is a magnetized piece of steel, either straight or bent in the form of a horseshoe.

The production of magnetism by induction is a curious phenomenon. If a permanent magnet is brought near a handful of iron nails it will attract them to it, and as soon as a nail becomes attached to the magnet it becomes a magnet itself and attracts another nail, which in turn becomes a magnet and attracts another, and so on, the magnetic power of each new nail attracted becoming constantly less than that of the preceding one. It is not even necessary that the nail should absolutely touch the magnet in order to assume this magnetic power, for it will be transmitted through short spaces from one to the other. This power which a body acquires by being brought near a magnet is called *magnetic induction*. An important fact in this connection is that when a coil of iron wire is made to surround a permanent magnet it becomes magnetic itself by induction, and is capable of inducing magnetism in another bar of iron surrounded by it. This principle is made practical use of in the construction of the telephone and magnetic telegraph.

The greatest electric power of a magnet is at its ends, which are called *poles*. The end pointing to the north, when suspended, is the north or positive pole, the other being the south or negative. Like poles repel, and unlike poles attract each other.

The *compass* is a magnetic needle used by mariners, surveyors, etc. It is very delicately poised over a card, on which the "points of the compass" are marked. The needle does not often point directly north and south. The "*line of no variation*," as it is called, runs in an irregular course through the United States from Cape Lookout, across Lake Erie to Hudson's Bay. East of this the variation is toward the west, and west of it it is toward the east. The earth itself is a great magnet, and this explains why the needle points north and south.

A *dipping needle* is one which is free to turn in a vertical plane. At the equator it is horizontal, but as it is carried toward the north it dips, or inclines toward the center of the earth. At a place near Hudson's Bay it stands vertical. This is called the north magnetic pole. It does not coincide with the geographical pole.

Electricity is that science which unfolds the phenomena and laws of the electric fluid. Electricity may be generated by means of friction, percussion, heat, chemical action, cleavage, and by magnets. The effects of electricity in its various forms are manifested as attraction, repulsion, light, heat, violent commotions and chemical decomposition.

The first method of producing electricity, discovered in the earlier ages, was by rubbing amber, and so the term electricity was derived from the Greek word *elektron*, signifying amber. It was afterward found that certain other substances, when rubbed, assumed electrical properties, and would attract or repel other materials. This electricity produced by rubbing or friction can be held for a considerable length of time, and hence it has received the name of *stationary or statical electricity*. This is the only form of electricity that we can store up and keep for a time. What is known now as the storage battery does not really store up electricity, but only energy, which can be transformed into electricity at will.

Dynamical electricity, or electricity in motion, circulates only in a conductor or along a wire, and cannot be held. It was first discovered by Galvani in experimenting on frogs' legs, and hence it is often called *galvanic* electricity. It is now ordinarily produced by means of galvanic batteries and dynamo machines.

The third form of electricity is called *magnetic electricity*, or *magnetism*.

According to the generally accepted theory, there are two so-called electrical fluids, and these two are commingled in equal proportions in all bodies; and hence all the processes for getting electricity must result in pulling these two electrical fluids apart, and in taking a portion of one away from a body. These two fluids are called, one positive and the other negative electricity. It is found that when two bodies are electrified with the same kind of electricity they repel each other; but when the two bodies are charged with opposite kinds of electricity, or when one body is charged with either kind while the other is left in its normal condition, then the two bodies attract each other.

When a piece of sealing-wax is rubbed it manifests electrical properties for some time, but certain other substances, like metals, for instance, after being rubbed in the same manner, show no electrical properties, and this is because the electricity easily gets away from them. Thus we find that while certain substances remain electrified for some time, others do not, and hence these bodies are named *conductors* and *non-conductors*. These terms are not absolute, but only comparative. The metals, carbon, gypsum and acids are called good conductors, while amber, glass, sulphur and silk are poor conductors. If we want to insulate electricity and keep it from running off into surrounding objects, we surround the object containing it with a poor conductor. Thus, the glass insulators on telegraph poles prevent the electricity from leaving the wires and running off into the ground, and the non-conducting materials placed around the wires of the Atlantic cable so protect it that a small charge of electricity will carry a message from here to Europe.

Great difficulty is experienced in experimenting with statical electricity, because it so easily gets away. All substances are conductors to a greater or less degree, including the dust in the air and the moisture in the atmosphere. Perfect insulation and a warm, dry air are, therefore, favorable conditions for holding statical electricity. The reason it was not used earlier for practical purposes was because it was so difficult to manage. The electricity which is produced on glass by friction is called vitreous or positive, while that produced in the same manner on shellac or sealing-wax is called resinous or negative electricity.

All bodies are, as has been said, charged with an equal amount of the two electrical fluids called positive and negative, but when a body is electrified these two fluids are separated so that one

remains in excess of the other. There is always a passage of the electrical fluid in two directions, along a conductor, but when the direction of the current is spoken of, it is the direction of the positive current that is always meant. Statical electricity can also be produced by pressure, as when certain crystals are firmly pressed together; by cleavage, as when two layers of mica are split apart; and by heat, as well as by friction. It may also be produced by torsion. It is found that the charge of electricity, if collected in a spherical body, is on the outside, and not within the body; and if it is not a spherical body, the electricity collects chiefly at the part most nearly pointed.

Electrical Machines.

Machines for producing statical electricity are usually based on the friction method. The old-fashioned machine consisted of a circular glass plate, which was rotated between two cushions, and the electricity thus produced was taken off and carried to a metallic cylinder, called the prime conductor, by means of metal points. Silk and glass as insulators prevented the electricity from running off into neighboring objects. More recently machines have been constructed on the principle of induction, as illustrated in the electrophorus.

The Leyden Jar.

The condensation of electricity is illustrated in the *Leyden jar*. This is a sort of bottle, lined up to a short distance from its top, both inside and outside, by tin-foil, and in the stopper is a brass knob, which is connected with the tin-foil on the inside of the jar by a chain. When the knob is charged with positive electricity from a machine, it collects on the tin-foil inside the jar, while a corresponding amount of negative electricity collects on the outside of the jar. By this means a large amount of electricity may be collected and held by the jar until discharged, by making connection between the tin-foil on the inside and that on the outside of the jar. The electricity is held, not on the tin-foil, but on the surface of the glass. This is proved by means of a jar that can be taken to pieces after being charged. Although the two pieces of metal which lined the inside and outside are now brought in contact, yet when the whole is put together again, the charge is found to remain, and it is discharged by connecting the knob with the metal lining of the outside. All that these metal linings accomplish here is to make a large conducting surface over the whole of the glass upon which the electricity collects.

The discharge of electricity from such a jar, or a battery of several of them connected, produces a variety of results. The spark will pass through a thin plate of glass or a card, and make a hole in them by disrupting them; or, in passing through points of metal, it heats them to a high temperature and vaporizes them, so that we get luminous effects from them.

Lightning

Is only the discharge of a Leyden jar on the grand scale upon which Nature performs her operations. Two clouds charged with opposite electricities, and separated by the non-conducting air, approach each other. When the tension becomes sufficient to overcome the resistance, the two forces rush together with a blinding flash and terrific peal. The lightning moves along the line where there is the least resistance, and so describes a zig-zag course. If we can trace the entire length, we call it chain lightning; if we only see the flash through intervening clouds, it is sheet-lightning; and if it is the reflection of distant discharges, we term it heat-lightning. The report of thunder is caused by the clashing of the atoms of displaced air. The rolling of the thunder is produced by the reflection of the sound from distant clouds. Sometimes the clouds and the earth become charged with opposite electricities, separated by the non-conducting air.

Lightning-rods are based on the principle that electricity always seeks the best conductor.

Providence has provided a harmless conductor in every leaf, spire of grass, and twig. A common blade of grass, pointed by Nature's exquisite workmanship, is three times more effectual than the finest cambric needle, and a single pointed twig than the metallic point of the best constructed rod.

The duration of the lightning flash has been estimated at one-millionth of a second. Some idea of its instantaneousness can be formed from the fact that the spokes of a wheel, revolved so rapidly as to become invisible by daylight, can be distinctly seen by a spark from a Leyden jar. Wheatstone considered the velocity of lightning through a copper wire to be 288,000 miles per second.

Lightning sometimes passes upward from the earth, both quietly and by sudden discharge.

Dynamical Electricity.

Now, a few words in regard to dynamical electricity. Galvani discovered, in experimenting on frogs, that when two pieces of metal, like copper and zinc, were placed in contact with the frog's leg and their ends connected, a movement of the leg would take place. Volta developed the *voltaic pile*, which at first consisted of alternate layers of zinc, wet paper, and copper, piled one on top of the other in varying numbers. It was found that when the top layer was connected with the bottom one, by means of wires, a current of electricity was set up. It became understood then, that the electricity was produced by the chemical action of the water in the paper on the zinc, and so more solvent fluids came to be used instead of water, and cloth was substituted for the paper.

The Galvanic Battery

Is simply a combination by which we produce this chemical action, and zinc is the metal acted upon. If a piece of copper and a piece of zinc be placed in water, containing a little sulphuric acid, and the ends of the copper and zinc be brought together, or connected by wires, a current of electricity will be established between them. A spark may be seen in the dark if the two wires are brought near together, but not in actual contact. This electricity is produced by the chemical action of the acid on the metal, and is called *voltaic* or *galvanic* electricity. A glass vessel containing the metals and acid is called a *cell*, and several cells connected together constitute the battery. The metal plate in which the chemical action is greatest is called the positive plate, and the other the negative plate. The free ends of the wires are called *electrodes*. The one attached to the positive plate is the negative electrode, and *vice versa*.

RAILWAY VIADUCT IN THE ANDES OF PERU

ELECTRICITY.

THE earliest recorded fact in electricity dates back to about 600 B. C.; when the Greek, Thales, discovered that a bit of amber rubbed against cloth acquired the curious property of attracting light objects. This was the first time that electricity had attracted the attention of any man, and even then Thales' discovery created but little or no notice. For centuries after the progress in electricity was very slow; and it was not until the sixteenth century that any real knowledge was acquired on the subject. At that time it was shown that many substances such as alum, glass, rock-crystal, sulphur, salt, and the precious stones — diamond, ruby, opal, sapphire, etc., possessed a like property. The name ELECTRIFICATION from *ἤλεκτρον*, the Greek name for amber, was given to the peculiar property of these substances.

The following article presents the subject in an intelligible manner to the most unspecialized mind.

The four headings into which it is divided are as follows:

I. ELECTROSTATICS.
II. CURRENT ELECTRICITY.
III. ELECTROMAGNETISM.
IV. ELECTROMAGNETIC INDUCTION.

I. ELECTROSTATICS.

§ 1. DEFINITION. In the study of the phenomena of radiant light and heat we are compelled to assume the existence of a medium pervading all space, and which is called the ether. Its structure is assumed to be continuous, as compared with ordinary matter; its density cannot be measured directly, but can be shown to be so small as not to interfere with the motion of bodies through it. Its function, in the case of the above phenomena, is solely that of a medium capable of being thrown into a state of vibration by vibrating molecules, of transmitting these vibrations throughout its substance, in the form of transverse waves, and of causing vibration of the molecules upon which these waves happen to fall, that is to say, the transmission of molecular energy across space by means of waves.

To satisfactorily explain electrical phenomena, it is necessary to assume the existence of a substance similar to the ether in its properties, but associated with matter in an entirely different manner. To this substance is given the name of electricity.

It is not unlikely, but highly probable, as Faraday suggests, that the ether should have other uses than simply the conveyance of radiation. Many of the leading physicists believe the ether and electricity to be the same thing. If they are not identical, there is certainly an intimate relation between them, which is shown by Maxwell in the development of his electro-magnetic theory of light. However, whether electricity and the ether be the same or not, we may safely assume, for the present, that electricity is neither energy nor matter, in the common sense, but a peculiar and distinct form of matter; that it is indestructible; that it can be moved from one place to another, energy being expended in moving it. It can be associated, or connected, with ordinary matter in a manner which is not clearly understood, and changes in its normal relationship to matter give rise to electrical phenomena.

The reason why electrical phenomena remained so long obscure can only be explained by the fact that they do not occur naturally as often as the phenomena of heat and light, and that there is no electrical sense corresponding to the sense of sight and touch. The laws concerned in electrical phenomena are now quite well understood, and evidence confirming the above assumptions in regard to the nature of electricity is rapidly being produced.

§ 2. ELECTRIFICATION. If a stick of sealing-wax is rubbed with a well-dried piece of flannel, it is found to possess a new property; namely, that of attracting light particles of paper, pith, dust, and like substances. It is found, also, that after the particles come in contact with the sealing-wax, they are then repelled. This may be shown more strikingly by suspending a gilded pith-ball by a fine silk thread long enough to permit the ball to move freely. The pith-ball is first attracted, and then repelled after contact with the wax; moreover, if we present the flannel to another pith-ball similarly suspended, exactly the same phenomena is observed. *Both* the wax and flannel, by being brought in contact, have acquired this new property, and are said to be *electrified*, or *charged with electricity*.

An enormous number of substances are now known to exhibit this phenomenon, but from about 600 B.C. to A. D. 1600, amber and jet were thought to be the only substances capable of being electrified. Thus the oldest electrical phenomenon known to science is an exceedingly interesting and important one, as it involves the fundamental principles of electrostatics, and may be regarded as the typical phenomenon to which, in one form or another, it will frequently be necessary to refer. We may picture to ourselves what

takes place when the wax and flannel are brought in contact, by supposing that electricity passes from one to the other, thus leaving each substance changed as to its normal amount of electricity; one would have too little, and the other too much: the deficit in the one case would exactly equal the excess in the other. Furthermore, the bodies, being now in different conditions, ought to exhibit different properties; but thus far they have behaved exactly alike when brought near the suspended pith-ball.

Electrification is not to be confused with electricity. Electrification always involves a change in the normal amount or condition of the electricity a body contains; the change requires the expenditure of energy for its production, and energy is given out when the electricity reverts to its normal condition. In the same sense that heat is not matter, but the energy which matter contains because of the motion of its molecules, so electrification is not electricity, but the energy electricity possesses by virtue of its displacement.

§ 3. Two Kinds of Electrification. If two suspended pith-balls, A and B, are touched by the electrified sealing-wax, they are found not only to be repelled by the wax, but repel each other. The two pith-balls must be in like condition, for they have been similarly treated. If another pair, C and D, are brought in contact with the flannel with which the wax was rubbed, they, also, are repelled by the flannel, and repel each other; but if the flannel be brought near the first pair, they are attracted by it, and the second pair is found to be attracted by the wax. Furthermore, either of the balls, A and B, is attracted by C and D; hence the wax and flannel are found to have different properties, as before predicted. To return to the illustration used, the one which has too much repels a body in the same condition, and attracts one in the opposite state; also, the one with too little repels a body in the same condition, and attracts the other. No matter what substances are brought in contact, if electrification be produced it is found to be one of these two kinds. The terms *positive* and *negative*, as used in connection with electrified bodies, are conventional terms to denote which of the two states a body is in. If glass is rubbed with silk, the glass, and all other bodies which behave like it when electrified, is said to be in a state of *positive electrification*, while the silk and other bodies similarly electrified are in a state of *negative electrification*. It must be borne in mind that the terms *positive* and *negative* refer to *electrification*, and not to *electricity*.

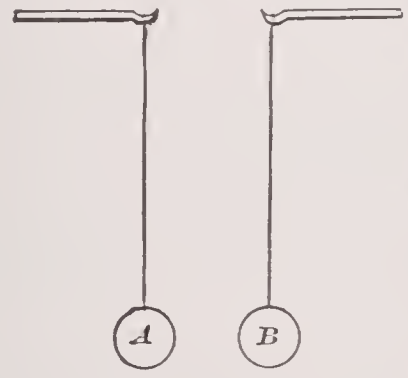


Fig. 1.

§ 4. Other Sources of Electrification. Friction is not the only way electrification is produced: chemical action, percussion, physiological action, and other disturbances in the condition of matter, also bring about disturbances in the electric condition of the body. It is quite possible that these cases may all be ultimately reduced to that of contact.

Electrification is also produced by induction—a process to be explained later, and which we shall see is really a redistribution of electrification which has been produced in some other way.

§ 5. Both Kinds of Electrification Always Produced. Perhaps the most important fact or principle in electrostatics is, that whenever electrification is produced, *both* kinds appear simultaneously—one on the substance rubbed and the other on the rubber; furthermore, they appear in *exactly equal amounts*, which may be shown in a number of ways.

§ 6. Insulators and Conductors. If, in § 3, the balls, A and B, after being in contact with the electrified wax, are touched with a rod of glass or hard rubber, no change in the effect is noticed; when the balls are brought near each other, they still repel. But if A and B are touched with a metal wire held in the hand, they no longer repel. Thus the balls lose their charge when touched with the metal, but do not in the case of the glass or hard rubber. It is customary, then, to divide bodies into two classes, as follows: Those which, when placed in contact with a charged body, cause a loss or redistribution of the electrification, and those which do not. The former are called *conductors*, and the latter *insulators*. To the first class belong the metals, solutions of salts and acids; metals heading the list as the best conductors. In the second class are found dry air, silk, glass, hard rubber, paraffine, sulphur, fats, oils, and resin.

§ 7. Electric and Dielectric. When a conducting body is entirely surrounded by an insulator, it is spoken of as an insulated conductor, and the insulating material is usually referred to as the dielectric. The term *electric* was formerly used to denote a conducting material, but the term is now obsolete.

§ 8. Electric Field. Let A and B (Fig. 2) be two surfaces which become electrified when brought in contact. The charges developed, being of opposite kind, attract each other; therefore work must be done in order to separate the surfaces, and the medium between the surfaces is left in a peculiar state of stress. A charge of electrification placed anywhere in the region between the surfaces experiences a force urging it toward one surface or the other, depending upon its kind. This region (or field of force) is called the *electric field of force*, or simply *electric field*.

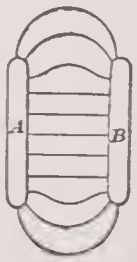


Fig. 2.

§ 9. Representation of the Electric Field by Lines and Tubes of Force. It is convenient to represent the electric field by lines of force. These begin at the positively charged surface, and end on the surface negatively charged; they never

cross, and their direction at every point is that of the electric force at that point. The stress in the medium represented by those lines acts as a tension along the lines, and is the force which draws the two surfaces together. There is also, in the medium, a pressure at right angles to the lines; hence the lines tend to *shorten* and *separate*.

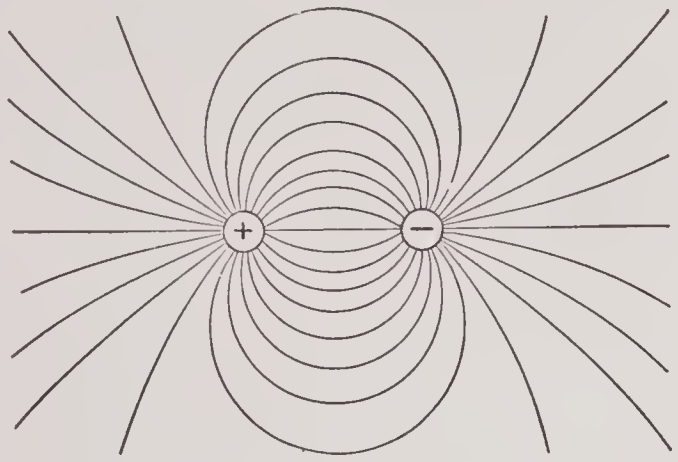


Fig. 3.

Fig. 3 shows the field between two equally and oppositely charged spheres, mapped out by lines of force.

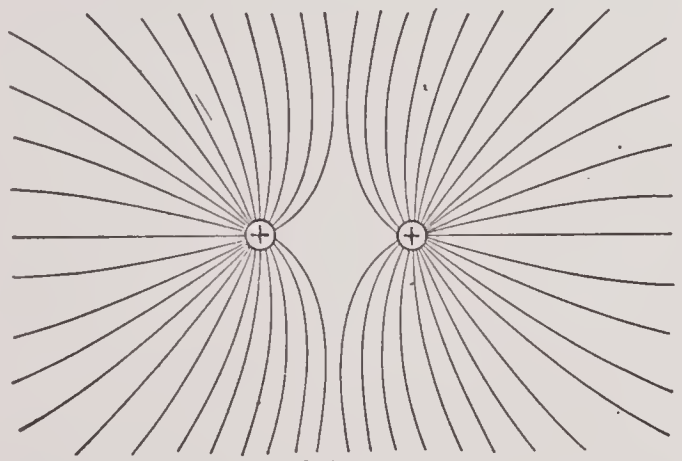


Fig. 4.

Fig. 4 represents the field between two equal positive charges; in this case the lines of force do not pass from one to the other, but travel off to an infinite distance.

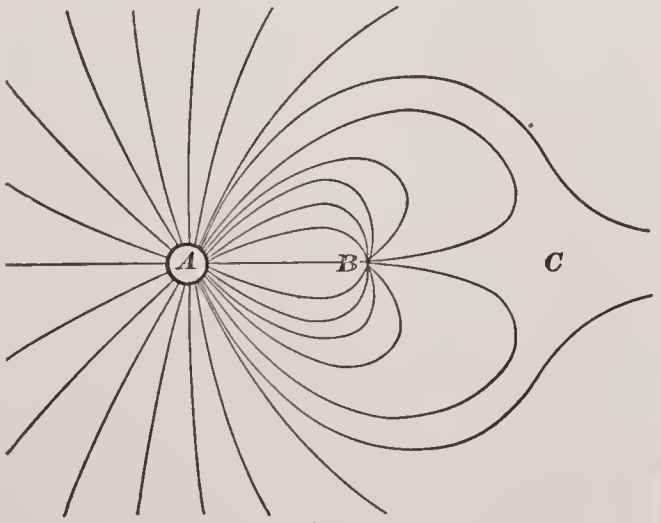


Fig. 5.

Fig. 5 shows the lines of force when a positive charge equal to 4 at A, and negative charge of—1 at B, are used. A being numerically stronger than B, lines starting from A will not fall on B, but pass off to infinite distance.

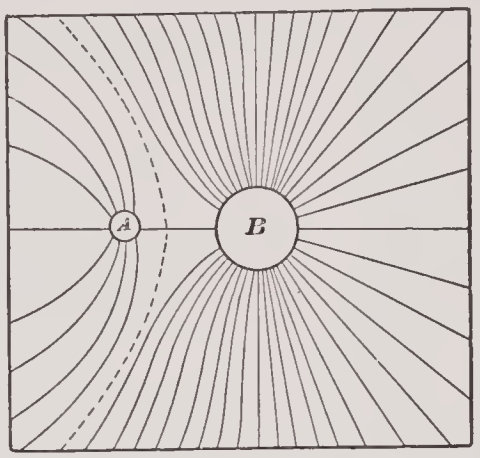


Fig. 6.

Fig. 6 shows the field of force due to a charge 1 at A, and a like charge 4 at B.

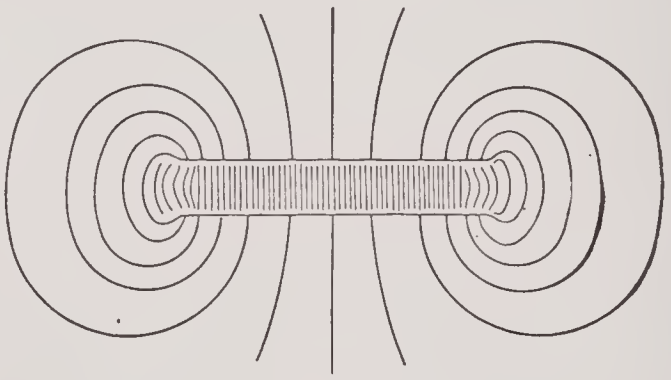


Fig. 7.

Fig. 7 shows the field of force between two parallel planes. At the edges its lines of force curve out. Some pass from the back of one plane to the back of the other.

§ 9a. Tubes of Force. Imagine a small plane surface placed in an electric field perpendicular to the lines of force at that point.

We may consider all the lines of force which pass through the boundary of the small plane as forming a tube of force which starts from the surface of the positive charge and ends at the negative.

Since the sides of the tube are lines of force, the cross-section of a tube of force at any point must be proportional to the electric intensity at that point.

We may imagine each tube as inclosing one unit of positive electrification at the origin and a unit of negative electrification at the end. These tubes are in a state of tension along the lines of force and a state of pressure at right angles to the line.

Faraday introduced this method of representing the force in the electric field, and solved, by means of it, many of the problems in electrification without the aid of mathematical analyses.

§ 10. Conductors and Non-Conductors Further Defined. It is evident from the way in

which the electric field is produced (§ 8) that the lines of electric force cannot exist in a conductor; therefore a conductor may be further defined as a substance which cannot sustain electrostatic stress, and which permits the flow of electricity through it when such stress is applied. On the other hand, when electrostatic stress is applied to a dielectric, something of the nature of a displacement of electricity takes place all along the line, causing, as it were, an equal amount to appear on the opposite surface. This displacement is proportional to the stress applied, and disappears when the stress is removed.

§ 11. A CHARGE, OR CHARGED CONDUCTOR. It is well to keep in mind all that is included in the term *charged conductor;* namely, one of two equal and opposite charges separated by a *dielectric* in a *state of stress*, or as it is called, an *electric field.* There is no such thing as a single charge; its equal and opposite is somewhere on the earth or surrounding conductors. The intensity of the field at any point varies with the distance between the conductors, their shape, and the dielectric which separates them. When we speak of a single isolated charge, it is understood that the opposite is at a great distance from it. In the case of the two spheres (§ 9, Fig. 3), if one of them be removed to a great distance, the field of force about the other can be represented by Fig. 8; the lines of force are radial and equally distributed about the surface.

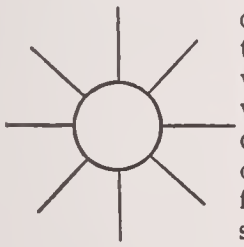


Fig. 8.

§ 12. ELECTRIFICATION BY INDUCTION, OR INFLUENCE. It is found that when an insulated conductor is introduced into the field about a charged conductor it becomes electrified with equal quantities of positive and negative electrification; further, if it then be connected with earth, the charge, which is like that on the original charged body, disappears, while that which is opposite in sign, remains. The conductor is then said to be charged by *induction*; but as the term *induction* has other uses, the term *influence* is sometimes preferred.

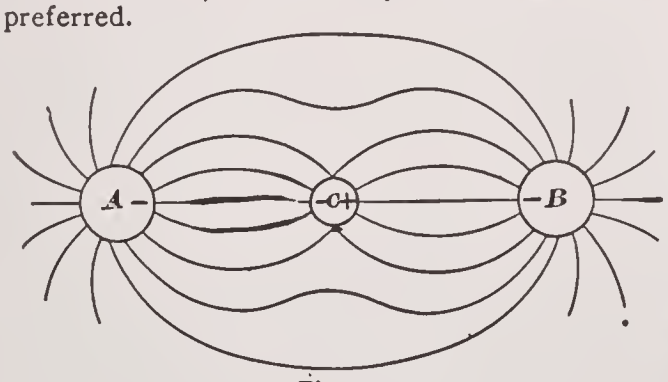


Fig. 9.

Let A be the positively charged conductor (Fig. 9.), and let B represent the equal and opposite charge, which, we have seen, always exists somewhere. When the conductor C is introduced into the field, some of the lines of force are divided, since they cannot exist in a conductor. We have lines ending on the side of C nearest A, and an equal number beginning on the side opposite to A, hence the side opposite A is charged positively, and the side near A is charged negatively, and, moreover, the charges are equal. Now, if the body C moves toward A until it touches A, the lines between A and C no longer exist, and some of the lines which were before on A are now on C, or, as we say, the body C has been charged by conduction; i. e., has taken from A a part of its charge. But if the body C is taken, instead, toward B, the equal and opposite charge, and touches it, C shares with B the lines which are on it, or, what amounts to the same thing, we may connect C with B by means of a conducting wire; the surface of C then becomes electrically a part of the surface of B, and, being the part nearest A, will receive most of the lines of force. If, now, the connection between B and C is broken, we have the charge which was originally on B divided between B and C, the part on C depending upon its nearness to A when the contact was broken; hence we see that a charge given by induction is a charge by conduction, as in the first case, except that a part of the equal and opposite charge is given up to the conductor, C.

§ 12a THE ELECTROPHORUS. The electrophorus is an instrument for the production of electrification by induction, or influence. It consists essentially of a resinous cake, A, a conducting lid, B, with its insulating handle, C (Fig. 9a). The cake is electrified on its upper surface by beating it with a cat's skin (or other convenient substance), which electrifies it negatively, as above, at (1), (Fig. 9a). The charge on the cat's skin finds it way to the earth, or neighboring conductor. The lid, when placed near the cake, is electrically between the charge on the cake and the equal and opposite charge; hence it intercepts most of the lines, and is charged both positively and negatively, as shown at (2). The lid is now connected with the earth by touching it with the finger; hence the surface of the lid becomes a part of the earth's surface, and the equal and opposite charge is now nearly all on the lid; if

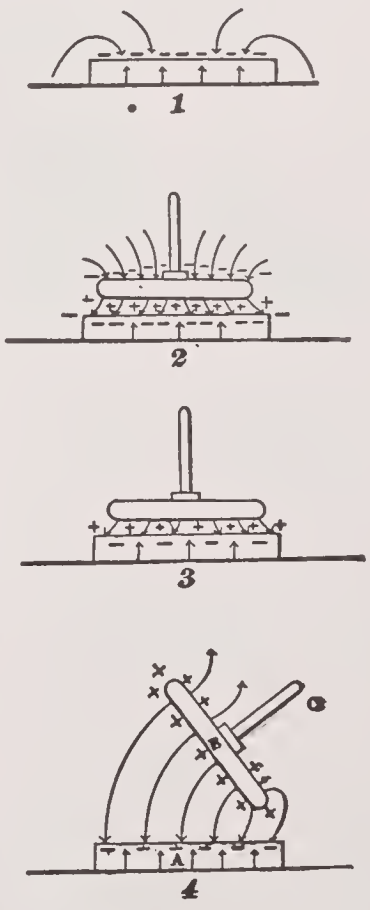


Fig. 9a.

the connection between the lid and the earth is broken, the lid may be removed and its charge used to do work in charging other conductors, etc. In actual use the lid is placed on the surface, but as the cake is a non-conductor, and the lid touches it only at a few points, it is electrically "near" the cake.

It is evident that the process can be repeated as often as we choose, but the electrification is produced only by the expenditure of energy.

Influence or static machines, as they are called, are but mechanical devices for performing automatically the processes described in connection with the electrophorus, thus producing a constant supply of electrification at the expense of the mechanical work necessary to operate the machine against electrical attraction.

§ 12b. The Wimshurst Influence-Machine. Fig. 9b shows the Wimshurst machine; it is perhaps the simplest and most effective machine of this class, and an explanation of its action will

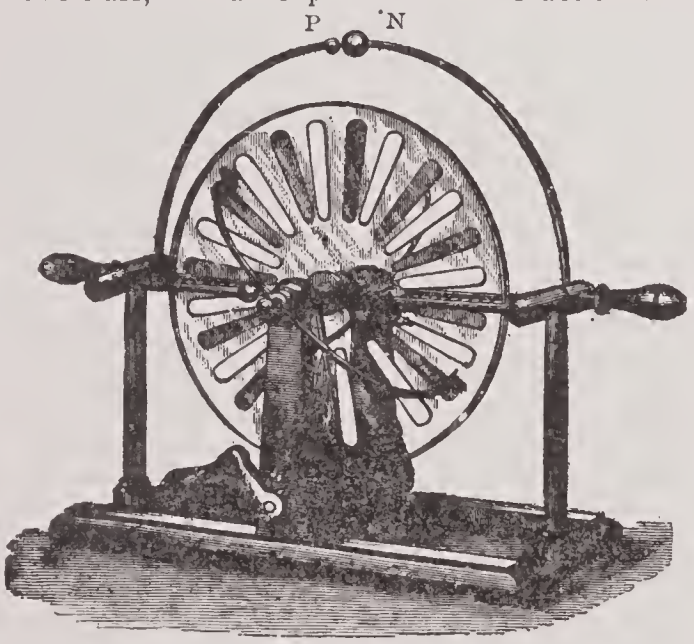


Fig. 9b.

suffice for all. The two glass plates rotate in opposite directions, and have attached to their outer surfaces segments of tin foil, as shown in the figure. The action of the machine can best

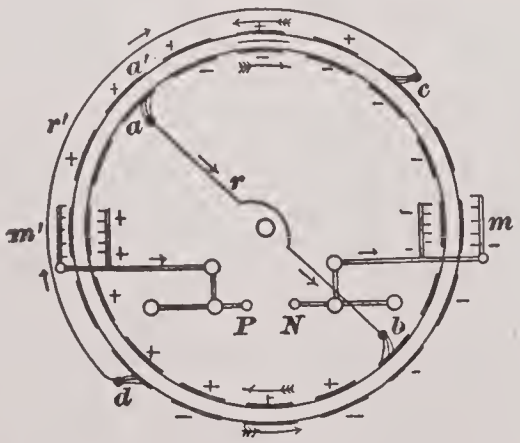


Fig. 9c.

be understood by reference to Fig. 9c, where the disks are shown as cylinders, in order that both may be seen at once. Suppose a segment, a', on the back plate, to have a slight positive charge; as the first segment a passes a', a is acted on by induction, and receives a slight negative charge, the equal positive charge appearing on b, which is connected with a, at the moment, by the brushes and connector r.

These charges are carried forward until they are opposite c and d, which at this moment are connected by the brushes and connector, r', of the rear plate; c and d will then receive, by induction, positive and negative charges, and these, passing onward, act on the front segments, under a and b. The charges on all the sections will thus be built up by a reciprocal action, the front sections on the upper half carrying negative charges from left to right, and the back sections carrying positive charges from right to left. The sections on the lower part of the plate, are passing through a similar, but inverse, set of operations; hence the negative charges are carried by both plates to the collector, m, which is connected with the terminal N, and positive charges are carried to m' in connection with the other terminal, P. P and N become highly charged, the air between them ceases to resist the stress, and a discharge takes place across the gap. The terminals may be connected with any body which it is desired to charge; as, for example, a Leyden jar. The small initial charge necessary to start the action is probably acquired by the friction of the plates and air. It is evident that if P and N be supplied with electrification from another source, the machine would work backward as a motor.

§ 13. Unit-Charge. Unit-charge of electricity is defined as that charge such that two bodies having this charge repel each other with unit force (one dyne) when separated by unit distance. The dielectric is taken as air, and the dimensions of the bodies are assumed to be small, as compared with unit distance.

§ 14. The Electric Discharge. We have seen that every electric charge is essentially of two equal and opposite charges separated by a dielectric which is in a state of stress. We have assumed that the cause of this state of the bodies and dielectric is, first, the unequal distribution of the electricity which the bodies naturally contain; and second, their separation. Let A and B (Fig. 10) represent the two equal and oppositely charged conductors; then, if A and B are brought in contact, the electrification disappears, and the bodies are said to be discharged. Instead of bringing them in contact, we connect them with a conducting wire, and the same effect is observed. The bodies A and B and the dielectric return to their normal condition, provided A and B are not the two substances which, when in contact, produced the unequal distribution; for in that case the return to the normal condition would be opposed by the very thing which caused the unequal distribution. In

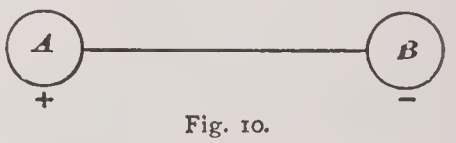


Fig. 10.

case the stress in the dielectric becomes too great, it gives way, and acts for the moment as a conductor, thus allowing the two charges to reunite. This form of the discharge is usually accompanied by a sharp report and a spark, due to the heat generated in the dielectric along the path of the discharge. It is usually spoken of as the electric spark, or, better, a disruptive discharge, in order to distinguish it from the ordinary discharge through a conductor.

§ 15. Surface Density. If the electrification on the surface of a charged conductor is uniformly distributed over the surface, the amount of electrification per unit area is called the surface density. If the distribution is not uniform, then the surface density at any point is the amount that would be on unit area if it had a uniform distribution equal to that at the point.

§ 16. Intensity of the Electric Field. If a small body charged with unit positive electricity is placed at any point in an electric field, the force which it experiences is the measure of the electric intensity at the point.

§ 17. Force between Charged Bodies. Coulomb demonstrated, experimentally, by means of the torsion balance, that the force between two charged bodies, which are small as compared with the distance between them, is proportional to the product of the charges, and inversely proportional to the distance between them; hence it follows from the definition of unit charge that the force between two small charged bodies in air is $\frac{q\,q'}{r^2}$, q and q′ being the charges on the bodies, and r the distance between them. If q and q′ are both positive, or both negative, the expression is positive, but if they are unlike in sign, it is negative; hence the positive sign denotes repulsion, and the negative attraction.

§ 18. Total Normal Induction Over a Surface. If an imaginary surface be placed anywhere in an electric field, we may suppose it to be completely divided up into elementary surfaces so small that the electric intensity at any point in an element may be regarded as constant.

If the intensity at a point in each element be resolved along the outward-drawn normal to the surface at the point, and each element be multiplied by its normal intensity, the sum of all these products is defined as the *total normal induction* over the surface.

§ 19. Gauss's Theorem. A few of the more important cases of electrical intensity will be considered and solved by the aid of Gauss's theorem, which may be stated as follows: *The total normal induction over any closed surface drawn in the electric field is equal to 4π times the total charge of electricity inside the surface.*

To demonstrate the theorem when the field is due to a single charged body, let O (Fig. 11) be the body, the dimensions of which are small as compared with the distance to the surface, and q the charge on the body. Let A, B, C, D be one of the elementary surfaces. Through O, with unit radius, describe a sphere, and denote, by a, the portion of this surface included between the lines drawn from O to A, B, C and D. Draw another sphere through A, with O A as a radius, and let a' be the portion of this surface included between the same

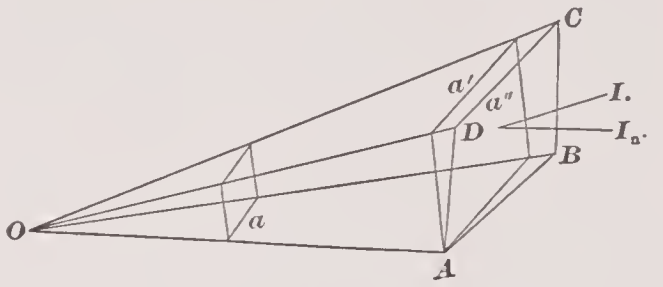


Fig. 11.

lines. Then a and a', being portions of spheres having the same center, and subtending the same solid angle, are to each other as the squares of their radii; hence $a : a' :: 1^2 : \overline{OA}^2$, or $a = \frac{a'}{\overline{OA}^2}$; the intensity at any point on a'' is $\frac{q}{\overline{OA}^2}$, the induction over the element a'' is $a''\frac{q}{\overline{OA}^2}$. Let α be the angle between the planes a' and a'', which is equal to that between the normals I and I_n, then the induction normal to a' is $a''\frac{q}{\overline{OA}^2}\cos\alpha = a'\frac{q}{\overline{OA}^2} = q\alpha$, since $a''\cos\alpha = a'$ and $\alpha = \frac{a'}{\overline{OA}^2}$; that is to say, the portion of the normal induction due to the element a'' is equal to q multiplied by the area on the unit sphere subtended by the same solid angle; and the normal induction over the whole surface is equal to q, multiplied by the area subtended by the surface on the sphere of unit radius and center at O. The normal inductions on any finite portion of the surface will be the sum of the inductions on the elements into which the portion of the surface is supposed to be divided, which is q times the area cut from the sphere of unit radius and center at O, by a cone having the boundary of the surface as its base and the vertex at O. *Case 1.* Let O be inside a closed surface. The normal induction over the surface is q multiplied by the whole surface of the sphere having unit radius and center at O. The area of the unit sphere being 4π, the total induction over the whole surface, due to the charge q inside of it, becomes $4\pi q$. *Case 2.* Let O be outside the closed surface. An elementary cone, with vertex at O,

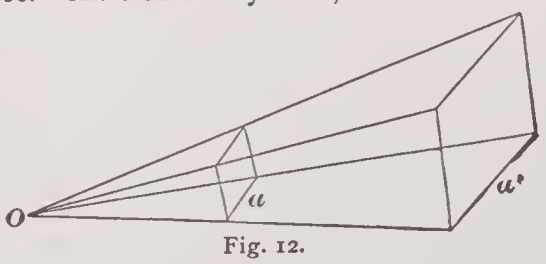


Fig. 12.

cuts from the closed surface the two areas a and a' (Fig. 12). The normal induction over a' is equal to that over a, since each is equal to

q times the area cut from unit sphere by the same cone. The component of the induction on a' is in a direction away from the surface, while that on a is toward the surface; hence they will have opposite signs; and since the whole surface can be divided up into pairs of elementary surfaces, the surfaces of each pair neutralizing each other, the total normal induction for the closed surface will be 0.

If the electric field be due to any other distribution of electrification, we may regard it as due to several small charges, q_1, q_2, q_3, . . . etc. If N is the normal induction due to all the charges, q_1, q_2, q_3, etc., and N_1, N_2, N_3, . . . etc., the induction on an element of the surface by q, q_1, q_2, etc., then $N = N_1 + N_2 + N_3 + \ldots$ etc.; if a is the area of an element of the surface, $\Sigma N a = \Sigma N_1 a + \Sigma N_2 a + \Sigma N_3 a$, . . . etc.; that is, the total normal induction over the surface due to the field is equal to the sum of the normal inductions due to the several small charges to which the field is supposed to be due. But since the normal induction over a closed surface due to a charge inside it is 4π times the charge, and 0, if the charge is outside the surface it follows that the sum of the inductions over the surface due to the several charges is 4π times that part of the total charge which is inside the closed surface over which the normal induction is taken.

§ 20. Cases of Electric Intensity. The following cases, solved by Gauss's theorem, are very important:

(*a*) *Electric intensity at a point outside a uniformly charged sphere.* Let P (Fig. 13) be the point and O the center of the sphere. Through P draw a sphere with the center at O. Since the sphere is uniformly electrified, the direction of the force at P will be along O P; and it will have the same value at any point on the sphere with radius OP. Call this value f. Since at all points on this surface the normal force is f, the total normal induction over the spherical surface is f multiplied by the surface of the sphere, which is $f(4\pi \times \overline{OP}^2)$; but by Gauss's theorem this is equal to 4π times the total charge inside the surface. Let q be the total charge; then $f \times 4\pi\overline{OP}^2 = 4\pi q$ and $f = \frac{q}{\overline{OP}^2}$. Hence the charge may be considered as concentrated at the center of the sphere O, so far as the intensity at P is concerned. Had we known that the charge on O exerts the same force at P as if it were concentrated at the point O, the expression for the intensity at P could have been written out directly from the law of inverse squares.

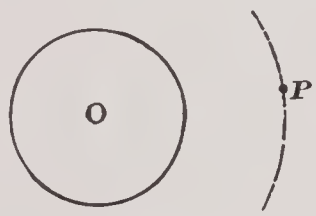


Fig. 13.

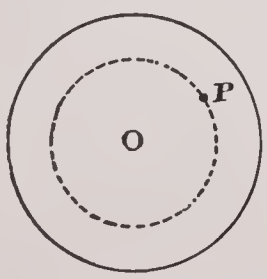


Fig. 14.

(*b*) *Electric intensity at a point inside a uniformly charged spherical shell.* Let P (Fig. 14) be the point inside the shell, and f the electric intensity at the point. Through P draw a spherical surface with center at O. Since the charge is symmetrical about this surface, f, the normal intensity will be the same at all points on the surface, and the total normal induction will be $f(4\pi \times \overline{OP}^2)$, which, by Gauss's theorem, is 4π times the charge inside the spherical surface passing through P. There is no charge inside the surface; hence $f(4\pi \times \overline{OP}^2) = 0$; therefore $f = 0$. There is then no electric intensity at a point inside the uniformly electrified shell.

(*c*) *Electric intensity at a point outside of an infinitely long circular cylinder uniformly charged.* Through P (Fig. 15) describe a cylinder having the same axis as the charged cylinder. Cut a right section from each cylinder by two planes at unit distance apart. Since the electrified cylinder is infinitely long and symmetrical about its axis, the intensity at any point outside the charged cylinder will be along the radius through the point, and will be the same for all points at the same distance from the charged surface.

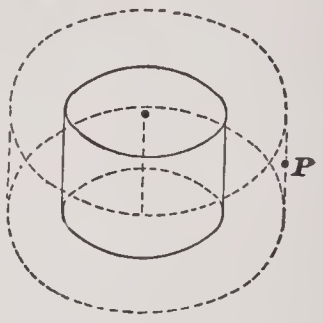


Fig. 15.

The intensity at any point on the plane ends of the cylinder through P will be in the plane of the ends; hence the normal induction on these two ends will be 0, and the total normal induction will be that on the curved portion of the section only. Let f be the intensity at the point P, then the total normal induction is $f(2\pi r)$, r being the distance of P from the axis, and the length of the section unity. Let q be the charge per unit length on the electrified cylinder; then by Gauss's theorem the total normal induction over the unit section is $4\pi q$; therefore $f(2\pi r) = 4\pi q$, and $f = \frac{2q}{r}$; hence it is seen that the electric intensity varies inversely as the distance from the axis of the cylinder. It can also be shown that the electric intensity at any point inside the charged cylinder is 0.

(*a*) *Electric intensity at a point due to an infinite plane uniformly electrified.*

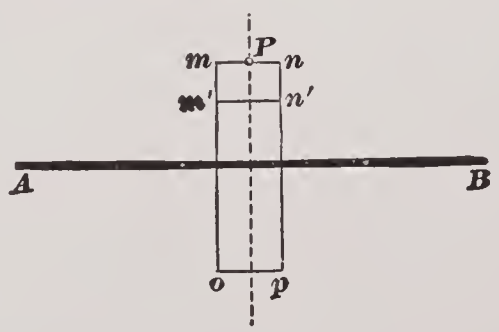


Fig. 16.

Let A B (Fig. 16) be a portion of the plane, and P the point. It is evident that the intensity will

be normal to the plane, and the same for all points equally distant from the plane. Through the point P draw a line perpendicular to the surface, and take this as the axis of a right cylinder, *m*, *n*, *o*, *p*, extending equal distances above and below the plane, the point P lying in the upper base of the cylinder. The electric intensity is everywhere parallel to the axis of the cylinder; hence there is no normal component over the curved surface. The total normal intensity is therefore due to the plane ends of the cylinder. Let f be the intensity at any point in the field, and *a* the area of either base of the cylinder; the total normal induction over the upper and lower bases is $2af$, as the normal intensity is along the outward-drawn normal to each end. Let q be the quantity of electrification per unit area of the plane; then from Gauss's theorem the total normal induction over the cylinder is $4\pi qa = 2fa$; therefore, $f = 2\pi q$. Consider a section cut from the ylinder by a plane, parallel to one of the bases, as at $m'n'$. Let f′ be the electric intensity at any point on this section; then the total normal induction over the portion of the cylinder cut off by the plane $m'n'$ is $fa - f'a'$; but since there is no charge inside this portion of the cylinder, $fa - f'a' = 0$, or $f = f'$; an interesting result, since it follows that the intensity at any point is independent of its distance from the plane.

§ 21. Electric Intensity at the Surface of a Charged Conductor. Let f be the electric intensity at a point, P (Fig. 17), very near to the surface of the charged conductor, O. Consider a small area about P, and through the boundary of the area draw a small right cylinder with its elements perpendicular to the charged surface, and its bases, *a* and *b*, parallel to the tangent plane at P. Since the surface of the conductor is an equipotential surface (see § 26), the electric intensity is normal to the surface. The total normal induction over the surface of the cylinder is $f \times b$, where f is the intensity at the point P and *b*, the area of the base. Since the intensity is parallel to the elements of the cylinder, and the base *a* is inside the charged conductor, the base *b* is the only portion of the surface of the cylinder which contributes anything to the normal induction. The amount of electrification inside the small cylinder is δb, where δ is the surface density.

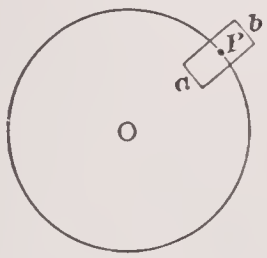


Fig. 17.

By Gauss's theorem, $f b = 4\pi\delta b$ or $f = 4\pi\delta$; hence the electric intensity at a point near the surface of a charged conductor is equal to 4π times the surface density at the point, and is at right angles to the surface. This is known as Coulomb's law.

The expression $4\pi\delta$ requires modification in case the conductor is surrounded by any other dielectric than air.

§ 22. Force on Unit Area of a Charged Conductor. Let P (Fig. 18) be a point on the surface. P_1 and P_2 are points very near the surface, and *a b* the small area surrounding P. Let f be the normal electric intensity just outside the surface at P, which may be considered as made up of two parts; f_1 that part due to the electrification on the small area around P; and f_2 the part due to the rest of the electrification; then $f = f_1 + f_2$. Since P_1 and P_2 are close together, the electric intensities at these points, due to the electrification on the parts of the surface other than the small area, may be considered equal; that is to say, the intensities at both points, not due to the electrification on the small area, may be taken as f_2, and is along the outward-drawn normal for each point. The electric intensity at P_1 and P_2, due to the small area, will be the same in magnitude, but opposite in direction, the points being situated on opposite sides of the small area. The total intensity at P_2 is $f_2 - f_1$, which is equal to 0, since the point is inside an equipotential surface inclosing no charge. Since

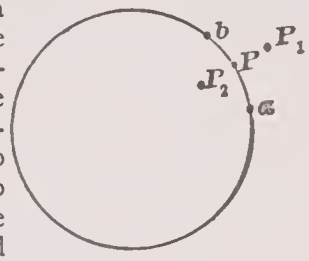


Fig. 18.

$$f_2 - f_1 = 0$$
$$f_1 = f_2$$
and as $$f = f_1 + f_2$$
$$f_1 = f_2 = \tfrac{1}{2}f$$

Let a be the area of the small surface around P, and δ the surface density of the electrification; then $a\delta$ is the charge on the small surface. The normal intensity at the point P, due to the rest of the electrification, is f_2; hence the normal force on the surface is $f_2 a\delta = \frac{1}{2}fa\delta$. If F is the mechanical force acting normally on unit area, Fa is the mechanical force on the small section. Then

$$Fa = \tfrac{1}{2}fa\delta$$
and $$F = \tfrac{1}{2}f\delta$$
By Coulomb's law (§ 21), $$f = 4\pi\delta$$
and $$\delta = \frac{f}{4\pi}$$
then $$F = \frac{f^2}{8\pi} = 2\pi\delta^2$$

when the dielectric surrounding the charged body is air.

If the electric intensity at the surface of a charged conductor exceeds a certain limit, electrification on each small area is repelled by the rest of the charge with such force that the air ceases to insulate.

§ 23. Electrical Potential. In §§ 16, 18, 19, 20, 21 and 22, we have been considering the force exerted upon unit positive charge when placed at a point in the electric field. There is, however, another equally important quantity involved, namely, the energy required to place the unit charge at the point, or, what is the same thing, the work, that could be done by the unit charge were the electric force allowed to move the unit charge from the point.

Let O (Fig. 19) be a sphere upon which there is

a charge +Q. Since the electric field about the sphere extends to an infinite distance (§ 11), the potential at the point P may be defined as *the*

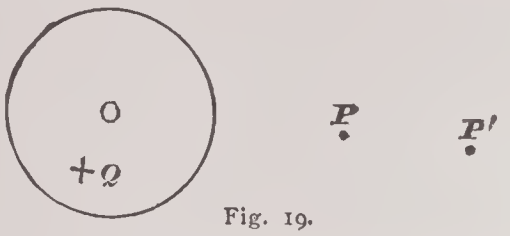


Fig. 19.

work required to bring unit positive charge from an infinite distance to the point, which, of course, is equal to all the work the positive unit could do if the force of repulsion were allowed to move it as far as it could; that is to say, where the electric intensity is zero, or at an infinite distance from O.

In electrostatics it is to be understood that when the term *potential* is used it is an abbreviation of the term *potential energy*. Also, since we have both attraction and repulsion, the work required to bring the unit-charge to the point may be either positive or negative. It is customary to take the sign of the potential the same as the charge to which the potential is due; if —Q is the charge upon the sphere O, the potential at the point P is negative.

§ 24. Point of Zero Potential. At a place infinitely distant from all electrified bodies the electric intensity becomes zero, and hence the potential is zero at that place. A charge given to the earth is practically removed to an infinite distance, since the charge, while distributed on the surface of the earth, may be considered as concentrated at its center so far as attraction is concerned; hence the surface of the earth is usually spoken of as at zero potential.

§ 25. Difference of Potential between Two Points. The difference of potential between two points is the work done in carrying the unit positive charge from one point to the other. The amount of work done in taking the unit charge from one point to the other is independent of the path traversed, which may be shown as follows: Let P and P′ (Fig. 20) be the two points, and suppose that it requires more work to carry the unit charge from P′ to P along the path a' than along the path a.

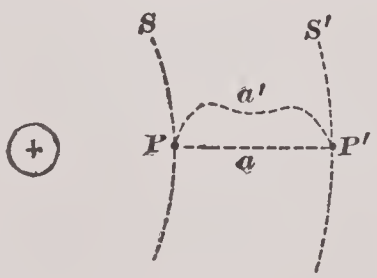


Fig. 20.

By the principle of the conservation of energy, the work the charge is capable of doing in passing from P to P′ over either path is equal to the work done upon the charge when it is taken from P′ to P by the same path. If the supposition is correct, the charge could be taken to P by way of the path a and returned by the path a'; hence a greater amount of energy would be derived from the charge than was used to take the charge from P′ to P; a result which is impossible, as the system is left exactly the same as at the start.

§ 26. Equipotential Surfaces. A surface drawn in the electric field, such that the potential at every point in the surface is the same, is called an equipotential surface. It is evident that at every point on an equipotential surface the direction of the electric intensity is perpendicular to the surface; for if not, then it may be resolved into two components, one of which is tangent to the surface, and the unit charge would require the expenditure of energy to move it along the surface, which is contrary to the definition of an equipotential surface.

The surface of a conductor placed in an electric field must be an equipotential surface; if not, then, as before, the tangential component of the electric intensity at any point would cause a flow of electricity along the surface of the conductor.

The electric intensity at a point inside of an equipotential surface which does not inclose a charge must be zero; for if the potential inside of the surface varies, then there will be other equipotential surfaces inside the given surface. Consider one very near the given surface, and let P be a point on the inner surface, and P′ the point where the normal to the inner surface at P cuts the given surface. If the potential at P is greater than that at P′, the intensity is everywhere outward along the normal to the outer surface,—a fact which implies a positive charge inside the surface, since by Gauss's theorem the normal induction over a closed surface is proportional to the charge inside the surface. If the potential at the inner surface is less than at the given surface, it can be shown, as before, that this implies a negative charge inside the surface,—either case of which is contrary to the hypothesis.

It follows from the above that no charge can reside on the inner surface of a hollow conductor. This very important fact may be proven by direct experiment in several different ways, one of which is by means of a hollow conductor with a small opening, as shown in Fig. 21. A small insulated conductor is inserted through this opening and brought in contact with the interior surface, but upon withdrawal shows no electrification.

Fig. 21.

Faraday built for himself a room 12 feet each way, and completely covered it with tinfoil, and insulated it from other conductors. This large hollow conductor he charged with his most powerful machine, but no effect was observed upon the most delicate instrument when taken into the interior.

Whenever it is desired to screen an object from electrical action it is surrounded by a conducting surface.

§ 27. Potential Due to a Charged Sphere. Let q be the charge on the sphere having its center at O (Fig. 22). If the charge on O is positive, the unit positive charge, when repelled by the field

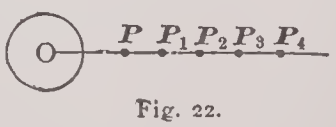


Fig. 22.

from a point, P, to an infinite distance, requires the expenditure of energy by the field equal in amount to that required to bring the positive unit from an infinite distance to the point, which, by definition, is the potential at the point P. Let O P be the line through O and P extended to an infinite distance. $P_1, P_2, P_3, \ldots$ etc., are points on $\overline{O\ P}$ very close together.

The intensity at P is $\frac{q}{\overline{OP}^2}$ and that at P_1 is $\frac{q}{\overline{OP_1}^2}$.

Since the distance between P and P_1 is small, the intensity at all points between P and P_1 may be taken as the geometrical mean between the values at P and P_1 or $\frac{q}{OP \times OP_1}$. The work done when the unit charge passes from P to P_1 is the product of the mean force into the space, which is

$$\frac{q}{OP \times OP_1} \times PP_1$$

$$= \frac{q}{OP \times OP_1}(OP_1 - OP)$$

$$\frac{q}{OP} - \frac{q}{OP_1}.$$

The work done in passing from P to P_1 and P_2 to P_3 is

$$\frac{q}{OP_1} - \frac{q}{OP_2}$$

and $$\frac{q}{OP_2} - \frac{q}{OP_3}$$

The sum of these is $\frac{q}{OP} - \frac{q}{OP_3}$; which is, by definition, the difference of potential between the two points P and P_3, which are at a finite distance apart. If the second point be taken at an infinite distance from P, $\frac{q}{OP_3}$ becomes equal to o; hence the potential at the point P is $\frac{q}{OP}$.

§ 28. Potential of a Charged Conductor. Since the surface of a charged conductor is an equipotential surface, the potential at any point in the surface is usually spoken of as the *potential of the conductor*. In the case of a sphere uniformly charged, since the charge may be considered as concentrated at its center, the potential at the surface becomes $\frac{Q}{R}$, where Q is the total quantity of electrification on the sphere and R its radius. Or we may consider the charge Q as made up of a number of very small charges, q, evenly distributed over the surface of the sphere; then the potential at the center due to each of these elementary charges, q, is $\frac{q}{R}$. The total potential at the center will then be $\frac{1}{R}\Sigma q = \frac{Q}{R}$, where Σ denotes that the quantities, q, are all to be added. Since the potential is constant for all points inside the sphere, the value at the center must be also that at the surface.

§ 29. Energy Expended in Charging a Conductor. If a charge, Q, is brought from a great distance, or from the earth, which is at zero potential, to a conductor having a potential V, the work done is QV, but in charging a conductor the potential is zero at the beginning of the process and V at the end. The mean potential is $\frac{1}{2}$V, and the work done is therefore $W = \frac{1}{2}QV$.

§ 30. Capacity of a Conductor. The capacity of a conductor is numerically equal to the charge which must be given to it in order to raise its potential from zero to unity.

Whenever the term *capacity of a conductor* is used, it is understood to be at a great distance from other conductors, as its capacity is affected by the presence of conductors in the neighborhood.

§ 31. Capacity of a Sphere. Let R be the radius of a sphere, Q its charge, and V its potential. The potential V at the surface of the sphere has been shown to be (§ 28) $V = \frac{q}{R}$; hence if V is equal to unity, R = q = C, by definition, or the capacity of a sphere is numerically equal to its radius.

A conductor that requires one unit of electrification to raise its potential from zero to one would be said to have unit-capacity. A sphere of unit radius would evidently possess unit capacity. A sphere of n centimeters radius would require n units of electrification in order to raise its potential by unity. It is very difficult to calculate the capacity of conductors, other than the most simple forms.

§ 32. Capacity of Two Concentric Spheres. Let S and S′ (Fig. 23) be two concentric spheres with radii R and R′. The outer sphere, S′, is connected to earth, while the inner one, S, is maintained at a constant potential.

Let q be the charge on the inner sphere, and —q the equal and opposite charge on the inner surface of the outer sphere; that is to say, the two equal and opposite charges of which every charge is composed are now brought close together, and the field between them confined to the space between the two spheres. Since the field is confined to the space between the two spheres, the only work that can be done by moving unit-charge about in the field is that done in carrying unit-charge from the inner sphere, S, to the outer one, S′, and this work must be due to the charge q on the inner sphere, since the electric intensity at any point inside the outer sphere due to the charge —q is o. Furthermore, the charge on the inner sphere may be considered as concentrated at its center; therefore the work done is the difference in potential between the two points, distant R and R′ from the center, O, which is equal to $\frac{q}{R} - \frac{q}{R'} = V$; then $q = \frac{RR'}{R' - R} \cdot V$.

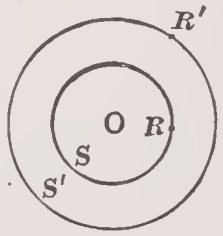


Fig. 23.

If V is made unity, $\frac{RR'}{R' - R}$ is, by definition, the ca-

pacity of the two spheres. When R is nearly equal to R′ it will be noticed that the quantity. $\frac{RR'}{R'-R}$ becomes very large; hence such an arrangement is usually called a condenser.

If we suppose the outer sphere to consist of two hollow hemispheres, and that they are separated and removed to an infinite distance with their negative charge, the charge on S must remain $q = \frac{RR'}{R'-R}V$. Dividing the equation by R, we have $\frac{q}{R} = \frac{R'}{R'-R}V$. Now, $\frac{q}{R}$ is the value of the potential of the inner sphere when alone; i.e., when the opposite charge is at an infinite distance. Hence the removal of the opposite charge to an infinite distance has raised the potential from V to $\frac{R'}{R'-R}V$, which is large if (R′ — R) is small. This affords a beautiful illustration of the fact that potential, after all, is due to electrical separation, and that the charged condenser may be taken as a type of all charges; namely, two equal and opposite charges separated by a dielectric in a state of stress.

Small differences of potential may be magnified in this way: For example, the potential difference between the terminals of a battery-cell is small, but if the two terminals be connected with two plates which are close together, the plates become charged and have the same difference of potential as the cell; but if the connection be broken, and one of the plates removed, the potential of the other becomes greatly increased. Volta made use of this principle to increase the potential difference due to a cell, in order that he might observe it by instruments which were only suited for higher potentials.

§ 33. Case of Two Parallel Plates. Let the plates be very large, as compared with the distance between them. In this case the field of force between the plates is uniform, and the electric intensity is at right angles to the plate (§ 21). Let f be the intensity of the field between the plates. Then the work done when unit-charge passes from one plate to the other is ft, where t is the distance between the plates; hence V = ft. Let δ be the surface density on one plate and $-\delta$ that on the other. Then by Coulomb's law, $f = 4\pi\delta$; therefore $V = 4\pi\delta t$ and $\delta = \frac{V}{4\pi t}$. If V is equal to unity, δ, the quantity of electrification on unit-area, becomes numerically equal to the capacity per unit-area. For an area, A, the capacity is $\frac{A}{4\pi t}$.

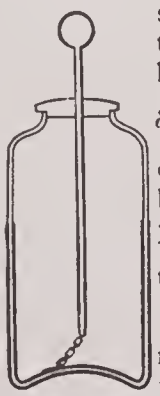


Fig. 24.

§ 34. Condensers. The most common form of condenser is the Leyden jar, shown in Fig. 24. It consists of a glass jar coated inside and out to one half or two thirds its height with a conductor, usually tinfoil. It is charged by connecting the inner coating to any source of electrification by means of the knob and chain which are in electrical connection with the inner coating. The outer coating is connected with the earth by being held in the hand while charging, or with a metal conductor.

If A is the area of the tinfoil, t the thickness of the glass, the capacity of the condenser (air as a dielectric) would be approximately that of two parallel plates (§ 33) having the same area, or $\frac{A}{4\pi t}$; but as glass is used, the formula must be changed to $K\frac{A}{4\pi t}$, in which K is a factor depending on the nature of the dielectric. (See § 36.) Condensers to be used as standards of capacity and for purposes of measurement are made from a large number of sheets of tinfoil built up with mica or paraffined paper between each sheet. The alternate sheets are connected together at each end, thus forming practically two large sheets of tinfoil separated from each other by a thin layer of dielectric.

§ 35. Condensers in Parallel and Series. If several condensers, as, for example, Leyden jars, have their inside coatings connected by one wire and the outside coatings by another, they are said to be connected up in parallel. (See Fig. 25.) The result is one condenser with plates equal in size to the sum of the plate-areas of the several jars. Hence the capacity of the new arrangement is the sum of the several capacities.

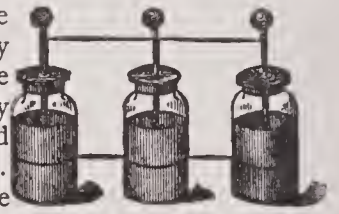


Fig. 25.

If the several condensers be connected, as shown in Fig. 26, they are said to be connected in series, or cascade. The condensers are insulated, and the outside of one connected with the inside of the next, etc. Since the condensers are equal and insulated, the charge on the outside of the first is equal and opposite in sign to that on the inside of the next, and so on; the charges on the jars are equal. Let the capacities of the condensers be C_1, C_2, C_3, etc., Q is the charge on any jar, and let the potentials be V_1, V_2, V_3, etc.; then $V_1 = \frac{Q}{C_1}$, $V_2 = \frac{Q}{C_2}$, $V_3 = \frac{Q}{C_3}$. The difference of potential between the inside of the first and the outside of the last jar is

Fig. 26.

$$V = V_1 + V_2 + V_3 \cdots\cdots$$
$$= Q\left(\frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \cdots\right)$$
$$Q = \frac{V}{\frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \cdots\cdots}$$

Let C be the capacity of the compound condenser; then Q = CV; hence $\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \cdots$ Therefore the capacity of the compound con-

denser is less than that of any of its constituents.

§ 36. Specific Inductive Capacity. Since the medium between the two charges of a condenser is in a state of stress, it is quite natural to suppose that the capacity of the condenser depends upon the nature of the medium between the plates. Faraday was the first to show that the medium held such an important part in all cases of electric charge; he took two condensers exactly alike as to their conducting surfaces, but so arranged that he could change the dielectric medium in one of them. When air was the dielectric, the two condensers had the same capacity; for when he charged one of them and connected it in parallel with the others, they were found to have the same charge; that is, the original charge was divided equally between them. But when sulphur was substituted for the air in one of the condensers, and both were connected as before, he found that the charge in the one with the sulphur was three or four times that in the one having air as the dielectric. This property of the dielectric is called its *specific inductive capacity*, or the *dielectric constant;* and the value of the specific inductive capacity of any dielectric is the ratio of the capacity of a condenser when this substance is used as the dielectric to the capacity of the same condenser when air is used.

It was the discovery of this property of the dielectric that led Faraday to the belief that the action of one electrified body on another is due, not to action at a distance, but to the dielectric between them. The importance of this discovery cannot be overestimated, as it furnished us with the only reasonable explanation to many, if not all, electrical phenomena.

Fig. 27 shows the effect of introducing a sphere of paraffine into an electric field in which air is

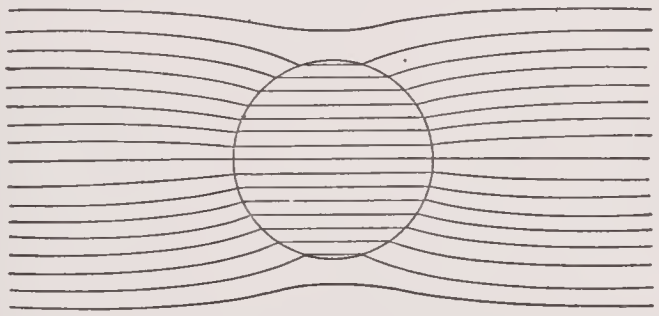


Fig. 27.

the medium. The paraffine, having a greater specific inductive capacity, causes the lines of force to concentrate through it. A *conducting* substance has infinitely great specific inductive capacity.

The table given below contains the value of the specific inductive capacities of the substances commonly used as dielectrics, air being taken as unity:

Solid paraffine	2.29	Flint glass	6.72
Paraffine oil	1.92	Dense flint glass	7.37
Ebonite	3.15	Turpentine	2.23
Sulphur	3.97	Distilled water	76.00
Mica	6.64	Alcohol	26.00

It has been found that if the field is rapidly changing, the specific inductive capacity is smaller. Take, for example, the case of a condenser, the charge of which is made to rapidly vary in potential from V to —V; the specific inductive capacity of the dielectric is less than when the change takes place slowly.

A few values of the specific inductive capacity for rapidly alternating fields are given below:

Ebonite	2.284	Shellac	2.747
Paraffine, solid	1.994	Glass (plate)	5.86

The specific inductive capacity of gases varies with the pressure, the difference between its value, for any gas, and unity being directly proportional to the pressure, except for very low pressure.

The values given below are taken at atmospheric pressure; that of air at the same pressure is taken as unity:

Hydrogen	.99967	Carbonic oxide	1.0001
Carbonic acid	1.00035	Olefiant gas	1.00072

§ 37. Effect of the Dielectric on the Intensity of the Field. Take the case of two parallel plate-condensers, A and B (Fig. 28), alike in all respects except

Fig. 28.

the dielectric, which is air for the condenser, A, and a substance of specific inductive capacity, K, is between the plates of B. Let the charge per unit-area in the two condensers be the same; then, since the capacity of B is K times that of A, the potential difference between the plates of B is only $\frac{1}{K}$ of that of A. But in both condensers the field of force between the plates is uniform, and is the rate at which the potential varies per unit-length. Since the distance between the plates is the same for each, the electric intensity between the plates of A is to that between the plates of B as the difference of potential between the plates of A is to that of B; that is to say, the electric intensity in A is K times that in B.

The electric intensity between two parallel plates in air is (§ 33) $f = 4\pi\delta$. Hence for a medium whose specific inductive capacity is K, we have $f = \frac{4\pi\delta}{K}$, which is Coulomb's equation generalized to apply in the case of any dielectric.

II. Current Electricity.

§ 38. Electric Currents. If in § 14 the two bodies could be charged as fast as the discharge takes place through the conducting-wire, there would be in the wire a steady flow of electricity. The wire and dielectric is essentially a charged conductor, with this exception. In the case of a charged conductor the potential is the same at all points of the surface, while the potential at the surface of the wire bearing the current gradually falls from V to —V. Furthermore, in order to keep up the conditions that we have supposed, it would be necessary to continually supply A with electricity from somewhere, which

would cause a deficit at the place from which it is taken and an accumulation at some other place. It is evident that this could not go on indefinitely, for the accumulated quantity would eventually overcome all obstacles and find its way to the place of deficit. Hence it follows that, in order to maintain a continuous current of electricity, it is necessary to provide, first, a continuous difference of potential, and second, a closed conducting-circuit. The first condition we may obtain by any of the several ways of producing electrification; as, for example, contact, induction, chemical action or electromagnetic induction, and the second by making the circuit continuous and of a conducting material. As there are no perfect conductors, any substance we may use will oppose, to a more or less extent, the flow of electricity along it, or, what is the same thing, will require the expenditure of energy in order to maintain a current, and the electrical energy which disappears appears as heat.

To sum up, we have the following quantities ever present in the case of continuous electric current, connected with each other by simple laws, which are of the utmost importance:

1. The continuous difference of potential or electromotive force.

2. The resistance of the closed conducting circuit, or that of any one of its parts.

3. The strength of the current which is produced.

4. The energy expended in the circuit, or any of its parts.

5. The field of force about the wire.

§ 39. Continuous Potential Difference. Take the case of a simple voltaic cell, as shown in Fig. 29, consisting of two conducting-plates immersed in an acid which acts upon one or both of them. Suppose that the wire, R, is not present, the plates A and B become charged either by contact with the acid or by the conversion of chemical energy into electrical energy, or both. Each plate in contact with the acid is charged to a definite potential, depending upon the material of the plate and the liquid. Zinc, copper, and a solution of copper sulphate is used. In this case the zinc is charged to a higher potential than the copper. If, now, the plates be connected by the wire, R, we have but to consider two plates, as the charged bodies A and B of Fig. 10; the liquid corresponds to the connecting wire in the same figure, and the wire, R, is the return-path, the whole making up a complete circuit, which may be taken as a typical circuit. The liquid is necessarily a conductor, and conducts in a manner peculiar to liquids; it is called an *electrolyte*. (See Electrolysis.)

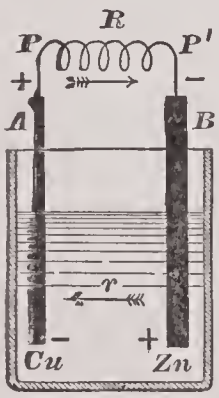


Fig. 29.

§ 40. Electromotive Force. The work done by the electric forces when unit-charge is propelled from P to P is called the electromotive force between the points, and briefly written E.M.F. The work done when the unit-charge is carried completely around the circuit is called the electromotive force of the cell, and is equal to the difference of potential between the plates before the wire, R, was added.

§ 41. Strength of Current. If the difference of potential of the plates (Fig. 29) is kept constant, the current through the wire, R, is constant, provided the resistance of the wire does not change. Furthermore, the quantity of electricity that passes through any cross-section of the circuit in the same time, as P for example, must be constant; if not, there would be an accumulation of electricity at some point in the circuit. The quantity that passes any section in unit time is called the intensity of the current.

§ 42. Relation between E.M.F., Intensity of Current and Resistance. Let E be the electromotive force between the points P and P′ (Fig. 29), I the strength of current and R the resistance of the conductor between P and P′. The relation between these three quantities is given by the expression $I = \frac{E}{R}$, which is known as Ohm's law.

§ 43. Energy Expended by the Current in Overcoming Resistance. As before, let E be the electromotive force between P and P′ (Fig. 29), I the intensity of current, and R the resistance of the wire between these points. By definition, E is the work done on unit-charge in carrying it from P to P′; and as I is the number of units passing between the points in unit-time, EI is the total work done between these points. From Ohm's law, $E = RI$; hence the work per second is $EI = RI^2$. This energy, which disappears as electrical energy, appears as heat, which, in most cases, is a loss; but whenever it is desired to produce light or heat by means of the current, this forms the useful part of the energy.

The product, $EI = I^2R$, is a number of work-units; hence if the heat generated is measured, we obtain a value of the mechanical equivalent of heat; for, by the principle of conservation of energy, the amount of energy that appears in the form of heat must be equal to that which disappeared as electrical energy.

§ 44. Conductivity. If R is the resistance of a conducting wire, then $\frac{1}{R}$ is defined as its conductivity.

It is often necessary to refer to the resistance and conductivity of a *substance*, rather than a definite portion of it. The resistance of a *substance* is termed its *specific resistance*, and is defined as the resistance of a conductor of the material having unit-length and unit cross-section; i.e., a unit cube. The conductivity is the reciprocal of the specific resistance.

The following table gives the specific resistance and relative conductivity of the more common substances; also the resistance of a wire or column of the substance one meter long and one square millimeter in cross-section.

TABLE OF SPECIFIC RESISTANCES.

Substance.	Specific Resistance *(microhms of 1 c.m.cube)	Resistance (ohms) of meter-length, 1 sq. mm. Section.	†Relative Conductivity.
Metals at 0° C.			
Copper (annealed)	1.570	.0157	100.
Copper (hard)	1.603	.0160	98.1
Silver (annealed)	1.492	.0149	105.
Silver (hard)	1.620	.0162	98.
Gold	2.077	.0208	76.
Aluminium (annealed)	2.889	.0289	54.
Platinum	8.982	.0898	17.
Iron (pnre)	9.638	.0964	16.
Iron (telegraph wire)	15.	.15	10.
Lead	19.63	.1963	8.3
Mercury	94.34	.9434	1.6
Selenium	6×10^{10}		1 / 4000000000
Carbon (graphite)	2,400 to 42,000		
Carbon (arc light)	About 4,000		1 / 2500
Alloys.			
German silver (Cu60, Zn26, Ni14)	20.76	.2076	7.6
Platinum silver (Pt67, Ag33.)	2.4	.024	6.5
Platinoid (Cu59, Zn25.5, Ni14, W55)	32.5	.325	4.8
Manganin (Cu84, Ni12, Mn3.5)	47.5	.475	3.3
Liquids at 18° C.			
Pure water	26.5×10^{8}		Less than one millionth part.
Dilute H_2SO_4, 5%	486×10^{4}		
Dilute H_2SO_4, 30%	137×10^{4}		
Dilute H_2SO_4, 80%	918×10^{4}		
Dilute $ZnSO_4$, 24%	214×10^{5}		
Dilute HNO_3, 30%	129×10^{4}		
Insulators.			
Glass at 20° C.	91×10^{18}		Less than one billionth.
Glass at 200° C.	22.7×10^{12}		
Gutta percha, 24° C.	4.5×10^{20}		

*A microhm = one millionth of an ohm.
†Copper is taken as 100.

§ 45. Resistance of Conductors in Series. AB, BC and CD are three or more conducting-

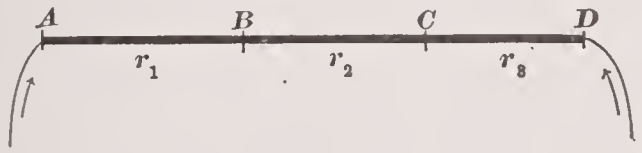


Fig. 30.

wires (Fig. 30) connected end to end, or in series, and forming a part of an electric circuit. Let r_1, r_2 and r_3 be the three resistances, and V_A, V_B, V_C and V_D be the potentials at the points A, B, C and D; then, since the current i is everywhere the same, we have, by Ohm's law,

$$V_A - V_B = r_1 i$$
$$V_B - V_C = r_2 i$$
$$V_C - V_D = r_3 i$$

Adding the three equations, we get

$$V_A - V_D = (r_1 + r_2 + r_3) i.$$

Let R be the resistance between A and D; then, by Ohm's law, $V_A - V_D = Ri$, or $R = r_1 + r_2 + r_3$. Hence the resistance of two or more conductors, placed in series, is the sum of the several resistances.

§ 46. Resistance of Conductors Placed in Parallel. Let r_1, r_2 and r_3 (Fig. 31) be the resistance of the three conductors connecting A and B. Let R be the resistance of a single conductor, which, if introduced between A and B, instead of r_1, r_2 and r_3, would offer the same resistance as the three wires when placed side by side, or in parallel.

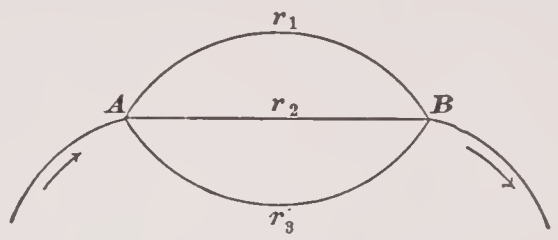


Fig. 31.

Since the current flowing would be the same for the single wire, or the three in parallel, the conductivity of the single wire must be the same as the single conductor which can replace them; hence $\frac{1}{R} = \frac{1}{r_1} + \frac{1}{r_2} + \frac{1}{r_3}$.

§ 47. Field of Force about a Conductor in Which a Current Is Flowing. Let A and B (Fig.

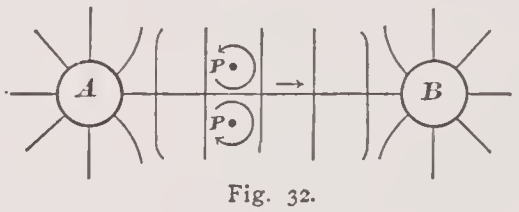


Fig. 32.

32) be two positively charged conductors connected by a wire. The surface of the conductors and the wire forms an equipotential surface, the electric intensity at all points on the surface being normal to the surface, as shown in Fig. 32. Suppose that a part of the electrification on B should be instantly removed or neutralized, the potential of B is lowered and the surface of the system is not an equipotential surface. The electricity on A moves toward B until equilibrium is again established and the surface is once more an equipotential surface. During the movement of electricity we can picture the lines of force as moving along the wire, but remaining perpendicular to its surface. This onward movement of the stress represented by the movement of lines of force gives to the field of force about the wire entirely new properties. Consider a small amount of electricity in the dielectric at P. We can readily picture the small quantity of electricity as being thrown into a state of rotation by the onward movement of the lines of force; the electricity at all points equally distant from P, and in a plane perpendicular to the wire, would be in the same condition; this would give rise to circular filaments of whirls about the wire, each one of which might be represented by an ordinary smoke-ring; this condition of the field would last as long as electricity flows from A to B, or as long as it carries a current. Whether this be true or not, the field about a wire bearing a current possesses the property of acting upon magnets, and therefore it is called an *electromagnetic field* of force. This field of force is exactly the same as that about a magnet. If a sheet of paper be pierced with a hole in the center, and a conductor passed through the hole, as in Fig. 33, the field of force about the wire, when it carries a current, may be mapped out by fine wire-iron fil-

ings sprinkled on the paper. When the paper is gently tapped, the filings, which may be considered as small magnets, arrange themselves in circles, concentric with the wire. A magnet-pole placed at P (Fig. 33) would be moved around the circle through P in a direction depending on the kind of pole and the direction of the current.

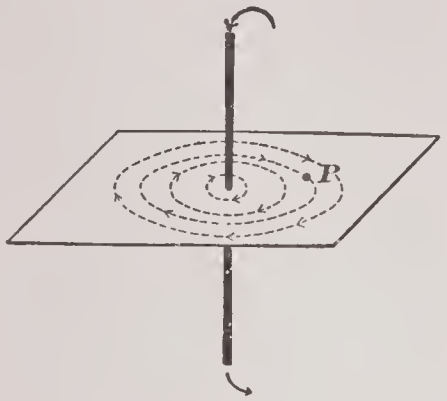


Fig. 33.

§ 47a. Directions and Intensity of the Electromagnetic Field. The direction of the force at any point in an electro-magnetic field is defined as the direction in which a north-seeking magnet-pole tends to move when placed at that point. The direction of the force can readily be found when the direction of the current is known, by remembering the following simple analogy: Suppose an ordinary watch to be pierced by a hole through its center, and perpendicular to its face; imagine the wire to pass through this hole so that the current will enter the face of the watch, and leave at the back. The direction in which the north-seeking pole would move around the wire is the same as that in which the hands of the watch move.

The intensity of the electro-magnetic field at any point is defined as the force in dynes exerted upon unit positive pole when placed at the point. Unit pole is a small magnet-pole of such a strength that it will repel a like pole with unit force (one dyne) when placed at unit distance (1 c.m.) from it.

§ 48. Representation of the Electromagnetic Field by Lines of Force. Fig. 34 shows

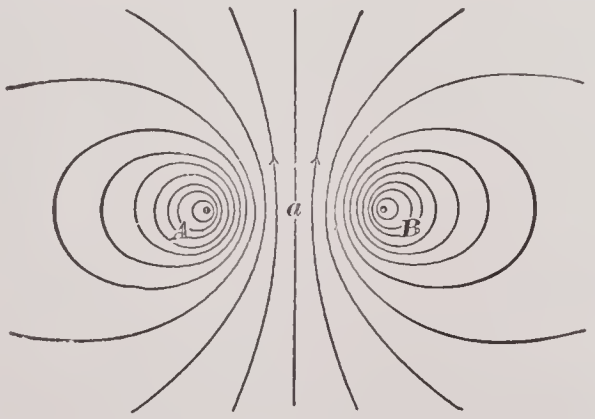


Fig. 34.

the lines of force in the field about a circular ring bearing a current. The plane of the paper is perpendicular to the plane of the ring, and passes through its center; the current passes down at A and up at B.

§ 49. Intensity of the Field at the Center of a Circle. The intensity of the magnetic field at any point is directly proportional to the strength of the current producing the field, and the length of the conductor, if very short as compared with the distance of the point from the conductor, and inversely proportional to the square of the distance of the element of current from the point.

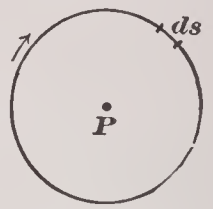


Fig. 35.

In Fig. 35 let I be the intensity of current flowing in the circle, and P a point at the center; ds is a small length of the conductor, and d its distance from the point. Then the intensity of the magnetic field at P is $f = \frac{KIds}{d^2}$ where K is a constant depending upon the unit current used. If P is at the center of the circle, the intensity at this point will be

$$f = \frac{KI\Sigma ds}{r^2}$$

$$\Sigma ds = 2\pi r$$

$$\text{hence} \qquad f = \frac{KI \cdot 2\pi r}{r^2} = \frac{KI \cdot 2\pi}{r}$$

If the current be defined as in the next article, K is unity, and $f = \frac{2\pi I}{r}$.

§ 50. Unit Current. The magnetic field about a conductor in which a current is flowing enables us to select a definite current to use as a unit or standard current.

If the conductor, Fig. 35, is a circle of unit-radius, and the current flowing is such that each unit length of the conductor exerts unit force on unit magnet-pole placed at the center, the current is said to be of unit strength. If the force at the center due to unit length of the conductor is unity, that due to the whole circumference is 2π. If the current is not unity, but I, and the radius, any radius, r, the electromagnetic intensity at the center is $f = \frac{2\pi r I}{r^2}$ or $\frac{2\pi I}{r}$. Hence K in the preceding article is unity, if the above unit of current is chosen.

§ 51. Galvanometers. The action of the electromagnetic field upon a magnet, or the mutual action between two such fields, serve as a basis for current measurement.

Let *ab* (Fig. 36) be a circle bearing a current I; SN is a small magnet suspended at the center of the circle, and short as compared with the diameter of the circle. Imagine the plane of the circle as vertical and placed to coincide with the vertical plane through the magnet when there is no current through the circle, or coil as it is usually called.

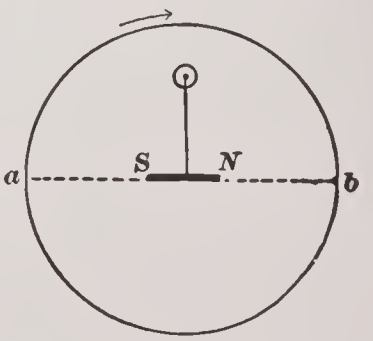


Fig. 36.

The magnet is suspended from the point O by a light fiber which is without torsion as nearly as possible, and hangs nearly north and south when

there is no force acting on it, other than that due to the earth's magnetism. If a current is sent through the wire from south to north along the upper side of the coil, the north pole of the needle will be urged to the west and the south pole to the east.

Let NS (Fig. 37) be the position of the needle before deflection and N′S′ that after. The intensity of the magnetic field at any point due to the earth's magnetism is expressed in the same manner as the field due to a current; i.e., by the force exerted upon unit-pole placed at the point. Furthermore, it is only that component of the earth's field lying in the horizontal plane which can act to bring the needle back to its initial position when deflected. If the pole-strength of the needle is not unity, but m, then the force acting on each pole of the needle is Hm when H is the horizontal component of the magnetic field at the point before the current flows in the coil. The force f, due to the current, is practically perpendicular to the plane of the coil in the small region occupied by the magnet, and has for its value $f = \frac{2\pi m I}{r}$, where m is the pole-strength of the needle, I the current, and r the radius of the coil. Consider, first, the force Hm. It is evident that only that component of it perpendicular to the needle can rotate it about the point of suspension. The value of this component is Hm cos α. Similarly, only the component of the force f, which is perpendicular to the needle is to be taken into account; this component is $\frac{2\pi m I}{r}\cos\beta$; now, when the needle is acted upon by both forces, it will come to rest at the point where these components are equal; at this point we have $\frac{2\pi m I}{r}\cos\beta = Hm\cos\alpha$, but the angle α is equal to θ, the deflection, and β is the complement of θ; hence $\cos\alpha = \sin\theta$ and $\cos\beta = \cos\theta$; hence we may write, $\frac{2\pi m I}{r}\cos\theta = Hm\sin\theta$, or $I = H\frac{r}{2\pi}\tan\theta$. If the coil have n turns close together, and n is not large, then the value of the current is $I = H\frac{r}{2\pi n}\tan\theta$. It will be noticed that H is a force which can be measured, and is practically constant during any one measurement and the quantity $\frac{r}{2\pi n}$ is made up of constants; hence the current is proportional to the tangent of the angle of deflection, and the instrument is called a tangent galvanometer. Such an instrument is useful only to determine the absolute value of the current; i.e., measure it directly with the unit we have defined. The chief objection to its use is the variability of H For practical purposes other forms are used, the principal types of which are,—

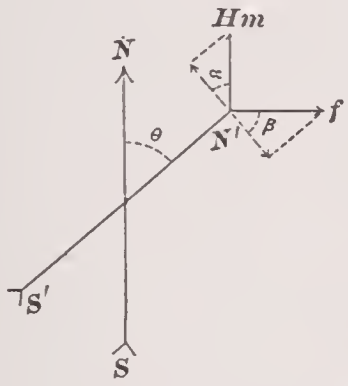


Fig. 37.

1. Galvanometers similar to the tangent galvanometer, in that they have a fixed coil and movable magnet.

2. Those in which the magnet is fixed in position, and the coil moves.

3. Electrodynamometers, instruments in which both fields are produced by the current, one of the coils being suspended or movable.

§ 52. Suspended-Needle Galvanometers. Fig. 38 shows the construction of an ordinary

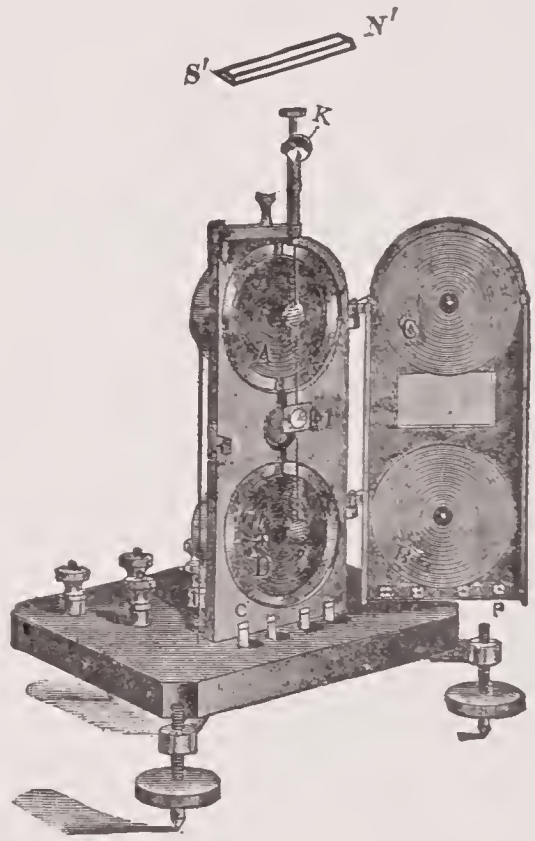


Fig. 38.

mirror or reflecting galvanometer. There are two small magnets, N and S, connected by a light aluminium rod, to the center of which is attached the mirror, M. The magnets, connecting-rod and mirror constitute the system, or suspension as it is sometimes called. Each of the magnets is built up of several small bits of magnetized steel wire, one fourth to three eighths of an inch long. The poles of the two magnets are reversed, as shown in the figure, and the upper magnet is the stronger; hence the force tending to set the system north and south is the difference between the strength of the two needles. If the needles were of the same strength, the system would remain in any position. Such a system is called an *astatic system*. N′S′ is a magnet placed on the case of the instrument, and above the system. (The case is not shown.) This magnet can be moved up and down, and rotated about a vertical axis. In the position shown, N′S′ creates a magnetic field at the upper needle which is opposite to that of the earth at the same point; hence if N′S′ is lowered to a certain point, it neutralizes the earth's field, and the system becomes as nearly

astatic as we choose to make it. In this condition the galvanometer is extremely sensitive, since the force opposing the rotation of the system is very small. It is evident that if the magnet N′S′ is reversed, the galvanometer becomes less sensitive, as then the earth's field is increased. N′S′ is called the control-magnet; if the system consisted of but one magnet, it would be controlled in the same manner. A, B, C and D are four coils connected in such a way, that when a current is sent through them each one deflects the system in the same direction. In the figure, C and D are thrown open to show the suspension. The system is suspended from K by a fine silk or quartz fiber with little torsion, and the deflections are read by a spot of light reflected from the mirror, M, to a scale, or with a telescope and scale.

§ 53. Suspended-Coil Galvanometers. Since the action of a current upon a magnet is mutual, it is immaterial which is fixed and which is movable, except from practical considerations.

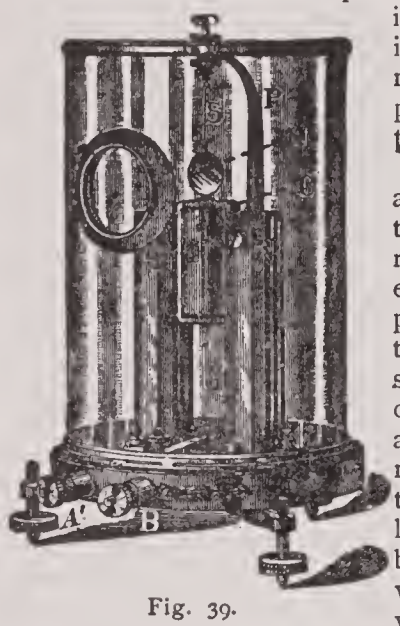


Fig. 39.

Fig. 39 represents a common form of this type. The current to be measured enters the binding, post A, passes under the base of the instrument to the foot of the post P, up P and down the fine metal wire, S, through the coil, C, and the lower wire, S′, to the binding-post, B. The wires, S and S′, are very fine, and their elasticity of torsion provides the force against which the coil acts when it rotates. N and S are the poles of a large magnet, between which the coil C is suspended. I is a soft iron core supported from behind. This is often omitted, and the coil made more narrow. The effect of the soft iron core is to strengthen the magnetic field in which the wires of the coil move. The deflection is read by means of the mirror, in connection with a lamp or telescope, and scale.

Instruments built upon this principle are known as D'Arsonval galvanometers; the advantage of this type over others is, that, having a strong magnetic field of its own, it can be used in any position, and is only slightly affected by the presence of magnetic material in its neighborhood. The suspending-wire must be strong enough to support the coil and large enough to carry the current, and though we make the wire as small as possible, it still has considerable torsion, as compared with the fine silk or quartz fibers used in the suspended-magnet instrument.

The well-known Weston ammeters and voltmeters are instruments of this type; the coil is supported on an axis which turns in jeweled bearings, and the current is led in and out of the coil by two coiled springs on the axis, like the hairspring of a watch. The springs also furnish the force against which the coil acts.

§ 54. Action of Currents upon Each Other. Let A (Fig. 40) represent a conductor and its magnetic field due to a current flowing in it. A line of magnetic force behaves as if it were a stretched spiral spring rotating about the axis of the spiral, and having its ends joined to form a closed curve about the conductor. A small portion of a line is represented in this manner, at B. Suppose the conductor, A, to be divided longitudinally into two parallel portions, and these separated as shown at C and D. Some of the lines nearest the conductor would part as C and D are separated, and form closed curves around the separate conductors. The other lines would remain as closed curves, somewhat elongated, but enveloping both conductors, and exerting a force tending to draw the wires together again. Since the current in the two portions is flowing in the same direction, it follows that *currents flowing in parallel conductors and in the same direction attract each other.* If the currents in parallel conductors flow in opposite directions, the lines, rotating, as it were, in opposite directions, cannot coalesce to form closed curves around both conductors, but are crowded between them, as at E and F, thus forcing the wires apart. Hence *parallel currents flowing in opposite directions repel each other.*

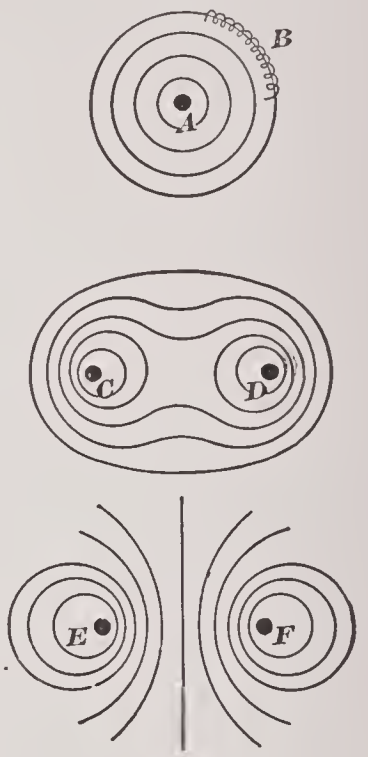


Fig. 40.

It can be shown that the force between parallel currents is directly proportional to the product of the current strength, to the length of the portions taken, and inversely proportional to the distance between them.

Instruments for measuring current-intensity which depend upon the mutual attraction or repulsion by currents are called electrodynamometers. Several forms have been devised, but those in common use consist either of a coil suspended in the field of another, or a coil so arranged that the force of attraction can be balanced directly against the force of gravity.

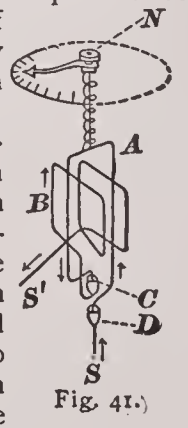


Fig. 41.

Fig. 41 illustrates those of the first class. The

current enters at S, passes throughthe coil, A, to the mercury-cup, C, thence through the coil, B, and out at S′.

When a current passes, the movable coil tends to rotate about a vertical axis, and set itself in the plane of the fixed coil, B. The head, N, is then turned until the coil is brought back to its initial position.

The force of torsion exerted by the spring is proportional to the angle moved through. Since the same current flows in each coil, doubling the current would make the attraction four times as great, etc. Hence the square of the current is proportional to the number of divisions moved through by the index in order to bring the coil back to zero. If I is the current and D the number of divisions, and A a constant depending on the winding of the coil and the helix, then $I^2 = A^2D$.

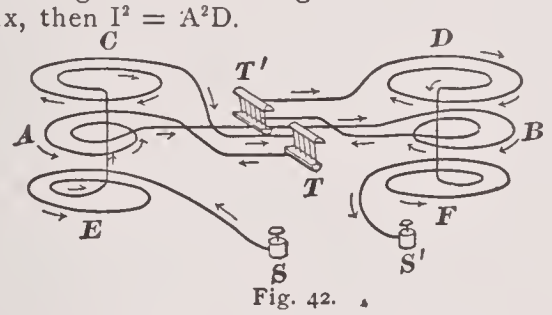


Fig. 42.

Fig. 42 represents the windings of an instrument in which the force between the currents acts against the force of gravity. The current enters at S, passes through the coil A, up to B, and through B in the reverse direction, and so on through the system, as indicated by the arrows. T and T′ are flexible conducting-suspensions; hence the coils A and B form a balance-beam supported at T and T′. When a current is sent through the system, the coils C, D, E and F all tend to turn the balance-beam in the same direction; this force is opposed by weights added to one end of the beam, or by a sliding counterpoise. The value of the current is found from the amount of weight required to restore equilibrium.

This form of the instrument is due to Lord Kelvin, and they are known as the *Kelvin current balances.*

III. Electromagnetism.

§ 55. Electromagnetic Intensity. We have seen that the intensity of the magnetic field

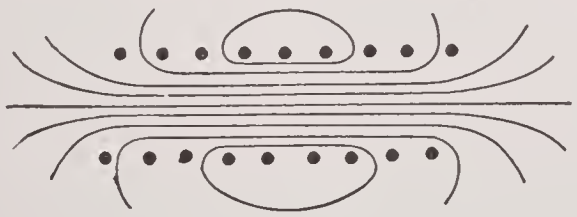


Fig. 43.

at the center of a circular current is $\frac{2\pi I}{r}$. If a number of these circles are placed side by side, as shown in section (Fig. 43), the lines of force will pass through them parallel to a line through the center of the circles. A wire wound in the form of a helix or solenoid, and carrying a current, would be practically the same thing. The magnetic field inside of a long solenoid is uniform, except at points near the ends, and its intensity can be shown mathematically to be $4\pi nI$, or $\frac{4\pi nI}{10}$, in case the current is measured in amperes, in which I is the strength of current and n the number of turns in the helix per unit of its length. This quantity is also called the magnetizing force of the helix, and is designated by the symbol **H**.

The intensity of the magnetizing force **H** is often expressed as the number of lines per unit of area at the point.

§ 56. Effect of Iron in the Field. If, instead of air, soft iron is placed in the helix, as shown in

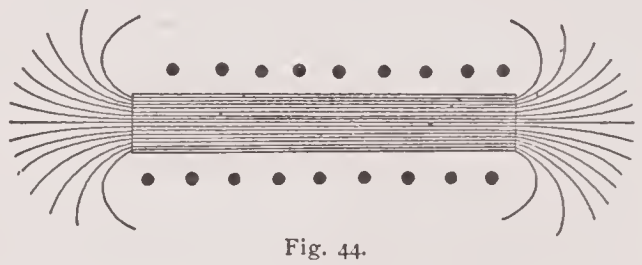


Fig. 44.

Fig. 44, it is found that a great many more lines are set up through the iron than in air; that is to say, iron is a more suitable medium for the formation of the magnetic lines of force than air. Other substances, such as cast-iron, steel and nickel, are more or less suitable for the medium, but pure iron excels all other substances. The number of lines per unit of area in the iron is called the induction, and is designated by **B**.

§ 57. Permeability. Since the capacity of substances for magnetic lines vary, it will be necessary to take some one substance as a standard and compare others with it; hence air is taken as this standard. This property of substance is termed *permeability* and is expressed by the character μ.

If **H** is the number of lines per unit area in air, and **B** the number per unit-area when iron is the medium, then $\mu = \frac{B}{H}$

Fig. 45 shows the effect of placing a sphere of iron in a uniform magnetic field. Since the iron has a greater permeability than air, the lines concentrate in the iron part of the field. If the substance placed in the field has a less permeability than air, the effect would be that shown in Fig. 46.

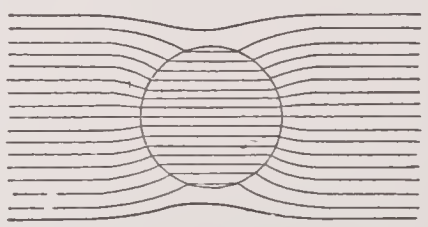


Fig. 45.

§ 58. Magnetic Susceptibility. The magnetic property of a substance is sometimes expressed in another way.

When iron is put in the helix (Fig. 44), it becomes a magnet, with north and south poles; the intensity of magnetization is the number of unit poles

per square unit of the polar surface. This intensity, or, what is the same thing, the pole-strength per square unit, is represented by **I**.

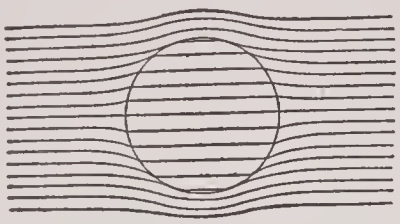


Fig. 46.

The ratio of the intensity of magnetization to that of the field producing it is called the susceptibility of the substance; it is denoted by the symbol k. Therefore, $k = \frac{\mathbf{I}}{\mathbf{H}}$.

§ 59. Relation between μ and k. A unit magnet-pole placed at the center of an imaginary sphere of unit radius would produce unit intensity of field at all points on the sphere. Since the surface of a sphere of unit radius is 4π, the total number of lines of force proceeding from any unit magnet-pole is equal to 4π.

Then if **I** is the number of unit poles per square unit of the face N (Fig. 47), $4\pi\mathbf{I}$ is the number of lines through the same area due to the polarity of the iron. The intensity of the field before the rod was inserted is **H**; hence the total number of lines per square unit, which has been called **B**, is also $(\mathbf{H} + 4\pi\mathbf{I})$. Hence $\mathbf{B} = \mathbf{H} + 4\pi\mathbf{I}$: dividing by **H** we get $\frac{\mathbf{B}}{\mathbf{H}} = 1 + 4\pi\frac{\mathbf{I}}{\mathbf{H}}$ or $\mu = 1 + 4\pi k$.

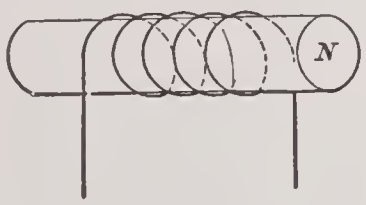


Fig. 47.

§ 60. Paramagnetic and Diamagnetic Substances. It has long been known that some substances, when suspended in the magnetic field, come to rest with their longest dimension at right angles to the field; such substances are called diamagnetic substances. Bismuth and many liquids are examples. Substances that behave like iron are called paramagnetic substances.

A clear conception of permeability enables one to understand this action. Let mm (Fig. 48) be a small bar of a substance having a permeability greater than air, and placed in the field between the two magnet-poles N and S. Since the permeability of the substance is greater than air, a line of force, as ab, will tend to take the path, having as much of the substance and as little air as possible, as shown in the upper sketch of the figure. But if the body mm is free to move, and rotates about its center, the lines will set themselves straight again and pull the body into the line ab.

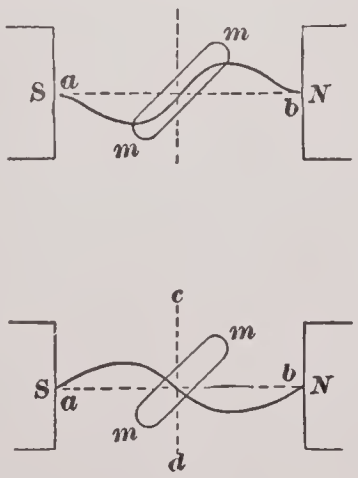


Fig. 48.

If, however, the substance has less permeability than air, a line, as ab, will set itself through more air and less substance; and, as before, if the body is free to rotate the lines, setting themselves straight will set the body along the line cd.

§ 61. Method of Representing Magnetic Properties. The relation of the magnetic force, **H**, to the induction, **B**, is best represented by a curve, as in Fig. 49. The substance in the form of a bar or ring forms the core of a helix of known length and windings. The current in the helix is given different values, and the magnetizing force, **H**, in each case is calculated by the formula given in § 55. The value of the induction, **B**, is measured for each value of **H**, and the result plotted

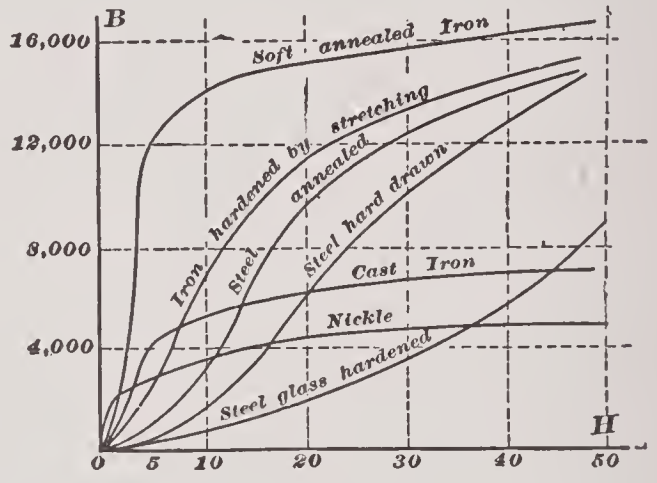


Fig. 49.

in the form of a curve. If the induction, **B**, increased in direct proportion with the magnetizing force, **H**, the curve would become a straight line. It will be noticed that in the case of soft iron the curve rises rapidly, bends over, and then rises very slowly. Beyond the bend, the iron is said to be approaching saturation, and is saturated when an increase of **H** causes the same increase in **B**. Hence we see that the effect of iron in the field is limited, and the permeability of a substance is not a constant, but depends upon the induction. At the point of saturation, **B** is equal to **H**, and the permeability is unity, or that of air.

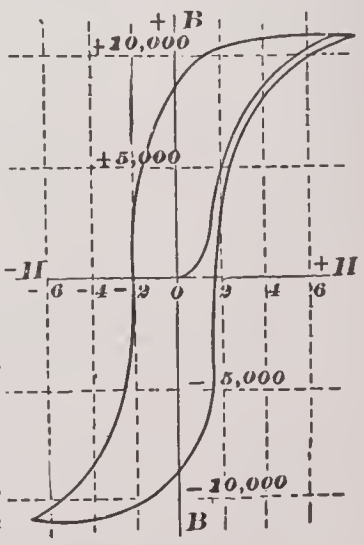


Fig. 50.

§ 62. Hysteresis. If, in the preceding article, **H** is increased step by step to a definite value, then decreased through o to an equal value in the other direction (the current is reversed at o), and then again increased to o, the curve will not be the same for the increasing values

of H as for the same values when H is decreasing. Fig. 50 shows such a curve. It will be seen that the induction lags behind the magnetizing force. For example, when H is increasing from its lowest value,—H, and reaches o, the induction is not o, but nearly —9000. This phenomenon is known as *magnetic hysteresis*. The area inclosed by the curve has been shown to represent the amount of heat generated during the cycle, which is lost as far as magnetic energy is concerned.

§ 63. The Magnetic Circuit. Since magnetic lines always exist as closed curves, their path is called the magnetic circuit. In Fig. 44 the magnetic circuit is through the iron inside of the helix and through air outside of it.

The magnetic circuit is unlike the electric circuit, in that the magnetic lines cannot be confined totally to any one circuit, since there is no material in which the magnetic lines cannot exist.

§ 64. Reluctance. The reluctance of a bar of magnetic substance is defined as the resistance it offers to the flow of magnetic lines. If l is the length of the bar, S its cross-section, and μ the permeability of the material, then the reluctance of the bar is $R = \frac{l}{S}$ If l and S are unity, the reluctance becomes $\frac{}{\mu}$, and this should be termed the *specific reluctance* of the material. The terms are used to express the property of magnetic resistance in exactly the same way that resistance and specific resistance are used to express electrical resistance.

§ 65. Magneto-Motive Force. The electromotive force in an electric circuit is the work done by the electric force in urging unit-quantity of electricity completely around that circuit.

Magneto-motive force is defined in the same manner; i.e., the work required to carry unit magnet-pole completely around the magnetic circuit. Inside the spiral of Fig. 43 the intensity is $4\pi nI$. The intensity outside is very small, so that the work done in carrying unit-pole around the circuit is the product of the force into the distance, which is equal to $4\pi nIL$, or $\frac{4\pi nIL}{10}$ in case amperes are used, in which L is the length of the spiral. Since nL is the total number of turns in the spiral, the above expressions may be written, $4\pi NI$ or $\frac{4\pi NI}{10}$, in which N is the total number of turns of wire.

The product, NI, is called the *ampere-turns* of the coil, when I is expressed in amperes.

§ 66. Law of the Magnetic Circuit. The law of the magnetic circuit is similar to Ohm's law for the electric circuit, and is written

$$\text{Magnetic flow} = \frac{\text{Magneto-motive force}}{\text{Reluctance}}.$$

Let the poles of the electromagnet shown in Fig. 51 be connected by a bar of iron (called the armature), but separated from it by two air-gaps. The magnetic circuit then consists of three parts, —the core, the armature and the air-spaces. Let l_c, l_a and l_g be the length of core, armature and one air gap; S_c, S_a and S_g the cross-section of the same parts; μ_c and μ_a the permeability of core and armature (μ for the air-gaps is unity). Then the flow of magnetic lines is

$$F = \left\{ \frac{4\pi NI}{\frac{l_c}{\mu_c S_c} + \frac{l_a}{\mu_a S_a} + \frac{2l_g}{S_g}} \right\}$$

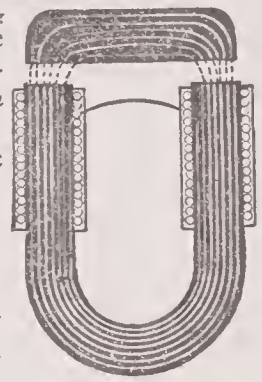


Fig. 51.

To apply the law to any particular magnetic circuit it is necessary to know the curve of magnetization for the material used. Since μ is different for difference of F, this fact makes the formula somewhat difficult to apply.

§ 67. Poles of an Electromagnet. If, when looking directly at the pole of an electromagnet the current in the helix flows around it in the same direction as the motion of the hands of a watch, the pole is a south-seeking pole; if opposite, a north-seeking pole.

§ 68. Motion in an Electromagnetic System. If any part of an electromagnetic system is movable, as, for example, an armature, the motion will always be such as to reduce the reluctance of the circuit, and hence increase the flow of lines. When the armature approaches the poles the air-gaps become less, and more lines of force traverse the circuit. (See Fig. 48.)

IV Electromagnetic Induction.

The production of a magnetic field by an electric current is one of the many reversible processes found in natural phenomena.

If a conductor forming a part of a circuit is brought into a magnetic field, an electric current is set up in the circuit and continues as long as the intensity of the field about the wire is changing. Strictly speaking, it is an electromotive force that is induced in the circuit, and a current flows as a result of the E.M.F.

Faraday, the discoverer of this principle, could scarcely have realized its importance, as all dynamo-electric machines, induction coils, transformers and the telephone are examples of its application.

The intensity of the field about the circuit may be changed in a number of ways; as, for example, by moving a magnet near the fixed circuit, or the opposite, i.e., moving the circuit with the magnet fixed; or the circuit may be near another circuit in which a current is started, stopped or varied in intensity.

§ 69. Direction of the Induced Electromotive Force. The direction of the induced E.M.F., and consequently that of the current, may be determined by the following rule:

An increase in the number of magnetic lines passing through a circuit produces an indirect E.M.F., while a decrease in the number of lines

produces a direct current. By direct or indirect is meant like or unlike in direction, compared with the current that produces the inducing field.

Fig. 52 represents a circuit, B, near the solenoid, A. Some of the magnetic lines due to the cur-

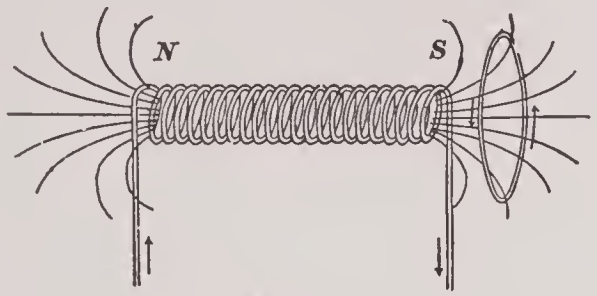


Fig. 52.

rent in A pass through the circuit B. If the current in A is increased, or the circuit brought closer to the solenoid, or a current started in the solenoid, the result in each case would be an increase of the number of lines threading through the circuit B; consequently the induced amount flows in the opposite direction to that in the solenoid. This result might have been predicted from the principle of the conservation of energy, for the three cases are equivalent to that of bringing the circuit B closer to A; in that case, if the currents were alike in direction, they would attract; hence no work would be required to bring them together, and a current would be produced without the expenditure of energy, which is impossible.

The same reasoning may be applied to the three reverse cases, which are equivalent to the separation of B from A, and produce the current which, acting upon the inducing current, resists the force producing the separation.

The solenoid of Fig. 52 may be replaced by a magnet, M, as shown in Fig. 53. The magnet

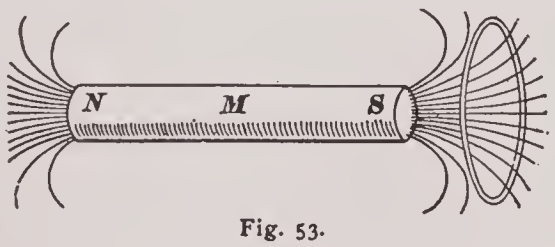


Fig. 53.

may be considered to replace the solenoid and current, which would give it the same polarity. Thus in the figure, the north pole of the magnet is toward the circuit, and the direction of a current in a solenoid which produces a north pole is opposite to the motion of the hands of a watch when viewed from a point facing the pole; therefore making the magnet stronger, bringing it nearer B, or making it a magnet would correspond to the first three cases of the solenoid, while if the magnet is made weaker, moved away, or has its magnetism destroyed, the induced current has the same direction as that in the imaginary solenoid.

§ 70. VALUE OF THE INDUCED ELECTROMOTIVE FORCE. *The value of the E.M.F. induced in any circuit is equal to the rate of change of the number of magnetic lines threading through the circuit.*

If dF is the increase in the number of lines during a small time, dt, then $E = -\frac{dF}{dt}$. The minus sign is given to the second member, since an increase in F induces a reverse E.M.F.

§ 71. MUTUAL INDUCTION. When a current is sent through a circuit which is near another, as in A (Fig. 52), the number of lines of magnetic force common to the two circuits is called their *mutual induction.*

In the case of two circuits or coils fixed as to the number of windings, distance apart and character of the magnetic circuit, the mutual induction will depend upon the current flowing in the *primary*, as the inducing current is called. If, then, the current in the primary is made unity, the number of lines common to both circuits is called the *co-efficient of mutual induction*, and is usually denoted by M. P and S (Fig. 54) are two coils, P the primary and S the secondary. Let the coils have a common core, m, of iron, so that approximately all of the lines of force set up by a current in the primary pass through the secondary. N_1 and N_2 are the number of turns in P and S respectively. Then by § 66 the magnetic flow through the primary is $F = \frac{4\pi N_1 I}{10R}$, where R is the reluctance of the iron core and I the current in amperes. But since there are N_2 turns in the secondary, and all of the lines pass through each turn, the secondary may be considered as composed of one turn, and the number of lines threading through it as $N_2F = \frac{4\pi N_1 N_2 I}{10R}$. If I is unity, $M = \frac{4\pi N_1 N_2}{10R}$. If the current in P varies at the rate $\frac{dI}{dt}$, the lines of force in S vary at the same rate, and the E.M.F. induced in the secondary S is $E_m = -M\frac{dI}{dt}$, where dI is the change in the current during a small time, dt.

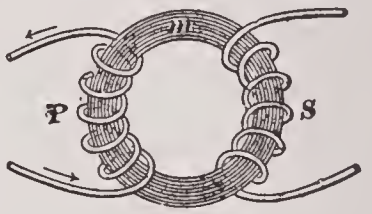


Fig. 54.

For the unit of mutual induction, see ELECTROMAGNETIC UNITS (§ 110).

§ 72. SELF-INDUCTION. When a circuit containing an E. M. F. is closed, the current does not reach its maximum value at once, but rises gradually to this value through a small time, depending upon the nature of the electric and magnetic circuit. The effect of closing the circuit is to introduce into the circuit its own growing magnetic field, which produces a reverse E.M.F., tending to retard the current. Similarly, when a circuit carrying a current is broken, its own field in dying out produces a direct E.M.F., tending to prolong the current. These effects are much more intense if the coil contains many turns, and the magnetic circuit is iron; for in that case the rate of change of the magnetic lines is greater.

Let the coil consist of N turns of wire, then the flow of lines due to a current, I, is $F = \frac{4\pi N^2 I}{10R}$. Since there are N turns in the coil, the effect is the same as if it had but one turn and N times the above number of lines were passed through it; hence, $NF = \frac{4\pi N^2 I}{10R}$. If the current turned on or off is one C.G.S. unit, the number of lines becomes $\frac{4\pi N^2}{R}$, which is called the *inductance, or co-efficient of self-induction* of the coil.

The value of the induced E.M.F. at a time, *t*, after the current has been made or broken depends upon the rate at which the current changes; but since the rate at which the current changes is not uniform, the induced E.M.F. is not uniform. If in a time, *dt*, which is small as compared with the time required for the current to reach its maximum value, the current changes by an amount, *di*, the rate at which the current is changing at the time *t* is $\frac{di}{dt}$, and the value of the self-induced E.M.F. at the time, *t*, is $-L\frac{di}{dt}$. For the unit of self-induction, see ELECTROMAGNETIC UNITS (§ 110).

§ 73. VALUE OF INDUCED CURRENT. If R is the resistance of a circuit having inductance, and i the value of the current at any time, *t*, after the circuit is closed, then from Ohm's law R*i* is the value of the E.M.F. producing the current, and is equal to the impressed E.M.F., E, minus the reverse E.M.F., $L\frac{di}{dt}$, due to the inductance; hence $Ri = E - L\frac{di}{dt}$; for a given coil, L, is constant, and the equation solved gives the value of the current, $i = I(1 - \varepsilon^{-\frac{Rt}{L}})$. Therefore, after a time, *t*, the current is less than its maximum value, I, by a quantity, $I\varepsilon^{-\frac{Rt}{L}}$. The quantity $\frac{L}{R}$ is called the *time constant* of the circuit, for when $t = \frac{L}{R}$, $\frac{Rt}{L}$ is equal to unity; then $1 - \varepsilon^{-\frac{Rt}{L}} = 1 - \varepsilon^{-1} = \frac{\varepsilon - 1}{\varepsilon}$. ε is the base of the Napierian system of logarithms, and has for its value 2.7183, which, substituted, gives 0.632 as the value of the current at the end of a time, $\frac{L}{R}$.

Several of the more important applications of electromagnetic induction are described in the following sections.

§ 74. INDUCTION-COILS. An induction-coil is an instrument for changing the energy of a current into that of another having a higher or lower E.M.F. It consists essentially of two coils having a common magnetic circuit. The coil into which the current is sent is called the primary, and that in which a current is induced, the secondary.

If the induction-coil is to produce a high E.M.F. from a current having a low E.M.F., the primary consists of a few turns of large wire, in order that the current through it may be heavy; the secondary is made up of many turns of fine wire, the ratio of the transformation being nearly the same as the ratio between the two windings.

In the ordinary Ruhmkorff induction-coil the secondary coil is wound outside of the primary,

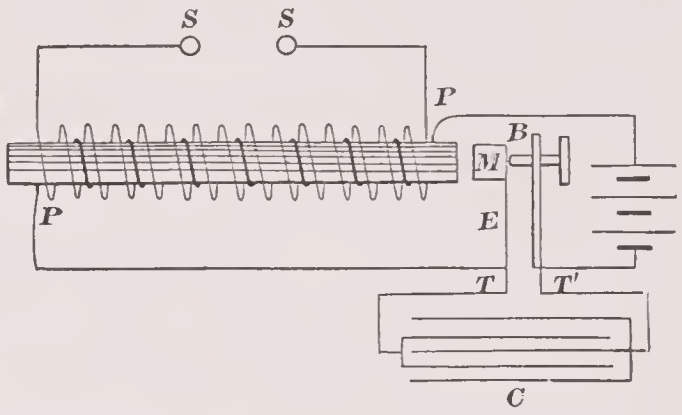


Fig. 55.

and both have the same iron core, consisting of a bundle of soft iron wires, as shown in Fig. 55, in order that a current made or broken in the primary may project the greatest possible number of lines through the secondary. Since the induced E.M.F. depends upon the change in the number of lines threading through the secondary, it is essential that the current in the primary be interrupted, or changed in value. Ordinarily, this is accomplished by means of an automatic circuit-breaker placed in circuit with the primary, as at B; when the primary circuit is closed, the core attracts the mass of iron, M, attached to the spring, E, thus breaking the circuit at B; the core, losing its magnetism, allows M to spring back, and the circuit is made again. Mechanical interrupters are also used.

The condenser, C, is connected with the points T and T′; when the primary circuit is broken, the inductance of the primary produces a direct E.M.F., which prevents the current from dying down immediately, and the current thus induced flows into and charges the condenser, C; but the condenser is free to discharge through the primary, and sends a current through it in the reverse direction, so that the flow of lines in the core is not only reduced to zero, but reversed, thus producing a more intense effect.

It has been shown that the condenser should be of such capacity that it absorbs a charge at a rate equal to the full delivery of the primary circuit during the time the circuit-breaker is opening to the maximum sparking-distance; the condenser then gives an equal reverse current through the primary, thus doubling the change in the magnetic flow, which doubles the induced E.M.F. The secondary is provided with two terminals, S and S′, between which the discharge of the secondary takes place when the difference of potential reaches such a value that the air no longer insulates.

In large coils the secondary is wound in flat spirals, well insulated from each other, as the difference of potential between adjacent wires is then not as large as when the coil is wound in layers from end to end. The primary is insulated from the secondary by a glass or rubber tube, and the turns of the secondary well insulated from each other, by boiling in melted paraffine or wax.

Spottiswood constructed a coil, the secondary of which consisted of 280 miles of wire wound in 340,000 turns, and gave a discharge through 42½ inches of air.

A current which is rapidly alternating in direction may be used in the primary, but in that case the circuit-breaker is not used. (See § 76.)

§ 75. Tesla's Induction Coil. Since the discharge of a condenser is oscillatory (see § 92), the rapidly alternating current thus produced, when sent through the primary of a properly constructed induction-coil, induces E. M. F.'s of enormous values; the discharge under these conditions is extremely beautiful and interesting. (See § 94.)

While the above principle has long been known, we are indebted to Tesla for its successful application.

The electrical connections for securing the above conditions are shown in Fig. 56.

I is an ordinary Ruhmkorff induction-coil, the interrupter of which is not shown. The terminals

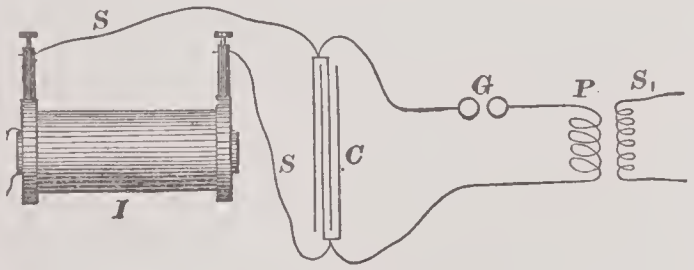


Fig. 56.

of the secondary SS are connected with the condenser, C; the terminals of the condenser are connected to the primary, P, of the *Tesla*, or *disruptive discharge coil* as it is often called. G is a spark-gap consisting of two polished metal balls a small distance apart. S_1 is the secondary of the Tesla coil. When the current in the primary, P, is broken a high E. M. F. is induced in the secondary S; this charges the condenser until the potential is sufficient to overcome the resistance of the gap, G. The air then breaks down, and the oscillatory discharge of the condenser takes place through the primary, P_1.

The construction of the Tesla coil is shown in Fig. 57. PP is the primary, wound oppositely, in two parts. In this particular coil each half of the primary is composed of four layers of twenty-four turns each, or ninety-six turns. The secondary, SS, is also in two parts of twenty-four layers, ten turns each, or 260 turns for each half. The two halves are wound oppositely and connected in series; the secondary is wound on two spools of hard rubber, RR, held apart by the hard rubber rods, C. The primary is placed inside the secondary, and the terminals of both are brought to the top of the case through hard rubber tubes. The whole is then immersed in oil in a zinc-covered wooden box. The action of the coil depends largely upon the proper adjustment of the capacity, self-induction and resistance in the circuit.

§ 76. Transformer. A transformer is an induction-coil for the purpose of changing an alternating current, usually from a high to a low potential, though the reverse is sometimes the case.

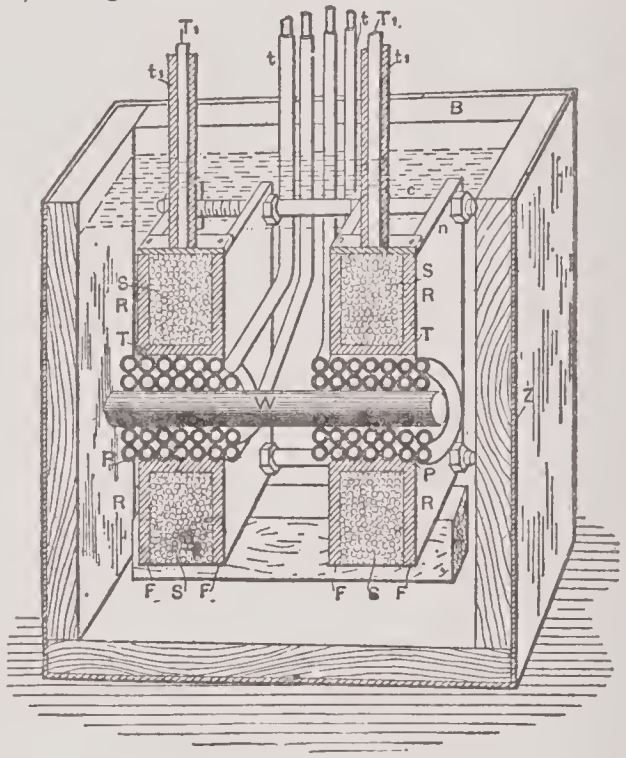


Fig. 57.

In the induction-coils previously described the object has been to transform a low to a high potential.

Faraday's ring (Fig. 54) is the earliest and the type of all transformers, and the electromotive force generated in the secondary circuit is to that employed in the primary very nearly as the relative number of turns in the two coils; if the primary has fewer turns than the secondary, it is called a "step-up" transformer, and a "step-down" transformer when the primary has the greater number of turns.

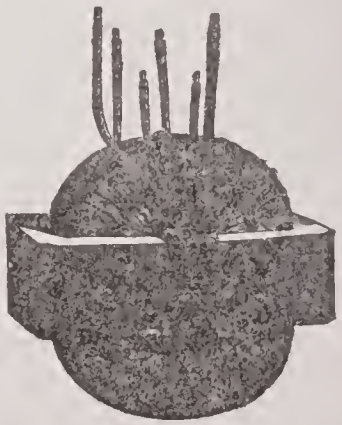


Fig. 58.

Fig. 58 shows the coils and magnetic circuit of one of the many commercial types of transformers. It will be noticed that the magnetic circuit is entirely of iron, the iron being built up of thin sheets separated by varnish or simply the oxide on the plates, in order that there may be no electric currents set up by induction in the iron core. The direction of the plate is arranged perpendicular to that in

which the induced current would flow. The coils are placed inside of an iron box, which is then filled with oil, to further insulate the coils from each other.

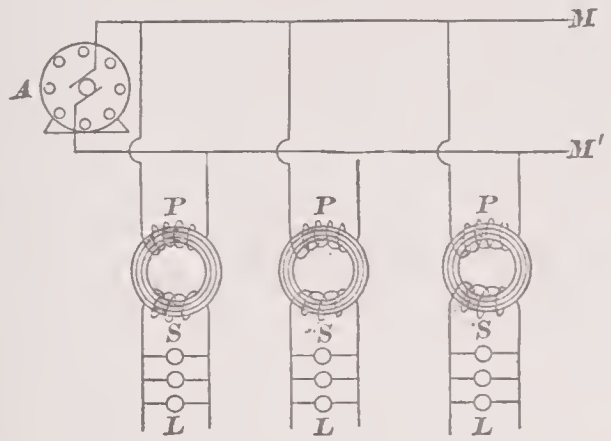


Fig. 59.

Fig. 59 shows the method of arranging transformers. M and M′ are the high potential mains leading from an alternating-current dynamo, A. The primaries, P, are connected in parallel to the mains. The incandescent lamps, L, are placed in the secondaries, S.

The regulation of a transformer is an interesting case of self and mutual induction. The primary remains in connection with the mains, yet very little current flows through it unless the secondary is closed; furthermore, the current supplied by the secondary is the correct amount needed for the number of lamps turned on.

Consider one of the transformers represented in Fig. 59, and let the secondary circuit be open; the reverse E.M.F. in P due to its self-induction almost equals the E.M.F. supplied; hence but little current flows through P. If, now, the secondary be closed, with, say, one lamp in circuit, there will be mutual induction, and this acts in opposition to the self-induction in the primary; thus more of the E.M.F. impressed upon the primary from the mains is allowed to act; or in other words, the mutual induction due to a current in the secondary opposes the self-induction of the primary almost in proportion to the current flowing in the secondary.

If more lamps are turned on, the current in the primary regulates itself to suit the load.

The rate at which electrical energy is transformed into heat in a conductor is I^2R (§ 43); therefore, if the current is doubled, the loss in the conductor is four times as great, or varies as to the square of the current. Since the energy of a current is also IV, or the strength of current times the fall of potential, the factors I and V may be varied, and the energy transmitted remain the same. For example, if I is five amperes, and V 1,000 volts, the rate at which energy is transmitted is 5,000 watts; also, if I is ten amperes, and V 500 volts, the energy rate is 5,000. Now, if this energy is to be transmitted to a distance, through a conductor having a resistance of 2 ohms, the loss in the conductor would be, for the first case $(5)^2 \times 2 = 50$ watts; while in the second case it would be $(10)^2 \times 2 = 200$; therefore it would be more economical to use 5 amperes at 1,000 volts. There is a limit, however, to the extent this principle may be applied. It is not practical to use a voltage as high as 1,000 for incandescent lighting, on account of the danger to life, leakage, and difficulties attending the manufacture of the lamps; hence, when the electrical energy is to be distributed over distances of as much as one or two miles, the current is generated as an alternating current at, say, 1,000 volts, and changed, by means of a transformer, to a potential of 100 volts before it enters the house or place where it is to be used. The loss in transformation is slight if the transformer is properly constructed.

When very great distances are to be overcome, the current is generated at as high a potential as is practical; it is then transformed to a still higher potential by means of a step-up transformer, transmitted at this potential, and changed back again by a step-down transformer at the other end of the line.

§ 77. Rotary Transformers. A rotary transformer is not, strictly speaking, an induction-coil, but a dynamo and motor combined. The armature has two sets of windings, one of which receives the current to be transformed, and drives the machine as a motor; the other set of windings on the armature generates a current at the potential desired. Both armatures have a common axis, and rotate in the same magnetic field.

§ 78. Choking-Coil. A choking-coil is one having large self-induction, but little resistance, and used as a resistance for alternating-currents. The primary of a transformer is a good example of such a coil, when the secondary circuit is open. They are usually constructed so that the self-induction may be varied by varying the magnetic field, or the number of turns in the coil. Such a coil has the property of cutting down the current, but without the expenditure of energy which would take place were a simple resistance used.

§ 79. Dynamo Electric-Machines. Any treatment of the subject of electromagnetic induction would be incomplete without at least the elementary theory of the *dynamo electric machine*, which is by far the most important application of this principle. In the following articles no attempt is made to cover any but the most important and essential features of typical forms.

A *dynamo electric-machine*, or simply *dynamo*, may be defined as a machine for converting mechanical energy into the energy of an electric current; it consists of a series of conducting circuits, so arranged that the magnetic flow through them is continually changing. Figure 60 is a diagram of a typical dynamo. A is the armature, made of soft iron, and carrying on its surface the conductors through which the magnetic flow is made to change, and in which the current is generated. S and N are the poles of an electro-magnet, F, called the field-magnet; C is the col-

lector, made of pieces of bare metal connected to the revolving conductors of the armature. The brushes, B, serve to connect the revolving circuits of the armature with the outside or main circuit.

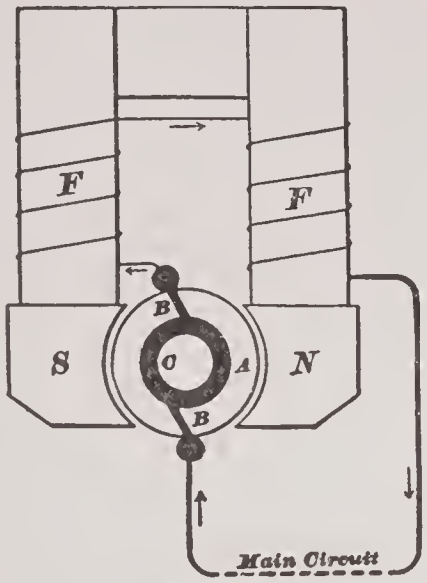


Fig. 60

A single closed circuit rotating in a uniform magnetic field, as shown in Fig. 61, constitutes

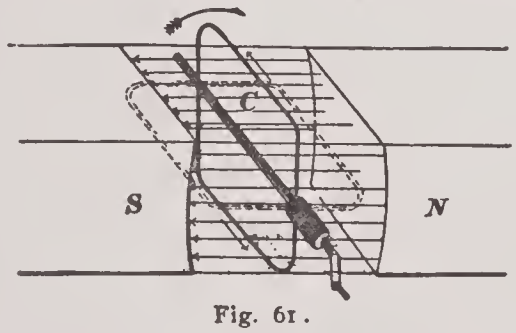


Fig. 61.

the simplest possible dynamo. Let the circuit, C, rotate in the uniform field produced by the poles, S and N. Consider one complete revolution of the upper side of the conductor, C, and represent the different positions by 1, 2, 3, etc. in Fig. 62.

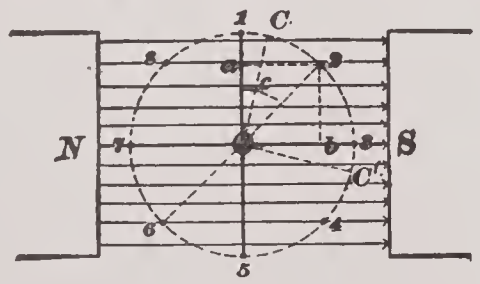


Fig. 62.

At position 1, the circuit incloses the maximum number of lines; at position 2, the number of lines is proportional to the line O*a*, the exact number being F cos θ, F being the maximum flow, and θ the angle moved through. At the position 3, the circuit does not inclose any lines; at position 4, the lines thread through from the opposite side of the loop, which is equivalent to a decrease in the flow from a maximum at 1 to a maximum at 5 in the other direction. At 7, the flow is again O, and increases to the maximum at 1; hence the magnetic flow through the circuit varies as the cosine of the angle revolved through.

The electromotive force generated in the circuit at any time does not depend on the flow, but the rate at which the flow is changing. At position 1, there is a large number of lines through the circuit, but if it be moved through a small angle, CO1, the number of lines is nearly as great as before, while at 3 the same small angle C′O3 would produce a large change in the flow, hence the E.M.F. will be 0 at 1 and 5, and a positive maximum at 3, and a negative maximum at 7.

Let the circle (Fig. 63) be divided up into a great number of small angle parts $d\theta$, and let dt be the time required for the conductor to revolve through this angle $d\theta$. The E.M.F. generated at any time is $\frac{dF}{dt}$ where dF is the change in the number of lines through the circuit in the small time, dt; ab may be considered as a straight line and proportional to dt, and ac is proportional to dF; hence the E.M.F. is $E = \frac{aC}{ab} = \frac{aO}{ad} = \sin\theta$; hence the E.M.F. varies as the sine of the angle of displacement.

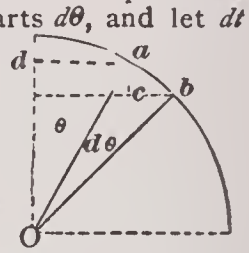


Fig. 63.

These relations can best be represented by curves, as in Fig. 64. The horizontal distances

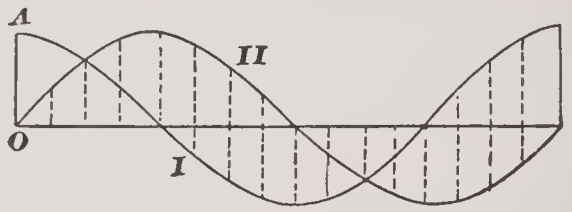


Fig. 64.

represent equal increments of time begun at 1 (Fig. 62); the vertical distances of the curve I are the values of the cosine for the different positions of the conductor, and represent the changes in the magnetic flow. The corresponding values of the sines are shown in curve II, the ordinates of which represent the induced E.M.F. The maximum values differ by 90°, or a quarter of a period. The current in such a circuit changes direction to correspond with the change in direction of the E.M.F.; such a current is called an alternating current.

In case it is desired to send the current always in the same direction, the coil terminates in two parts of a split tube, *a* and *b* (Fig. 65) insulated from each other, and from the shaft; the brushes, *c* and *d*, are placed so that they exchange contacts the same instant that the circuit reverses, thus sending the current in the same direction, but varied as before, all the curves lying above the axis, as in Fig. 66.

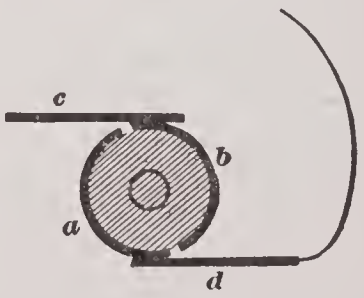


Fig. 65.

This arrangement is called a commutator.

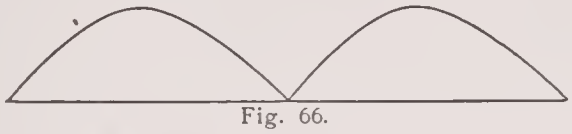


Fig. 66.

§ 80. Ring Armature. The gramme ring is one of the simplest, and occurs frequently in continuous current-machines. Its construction is shown diagrammatically in Fig. 67. The core, C, is a laminated iron ring; the wires are wound on the ring in one continuous spiral. In the figure the spiral is divided into eight coils, the end of one coil connected to the beginning of the next, as well as to one of the collector-bars, which are insulated from the shaft and from each other.

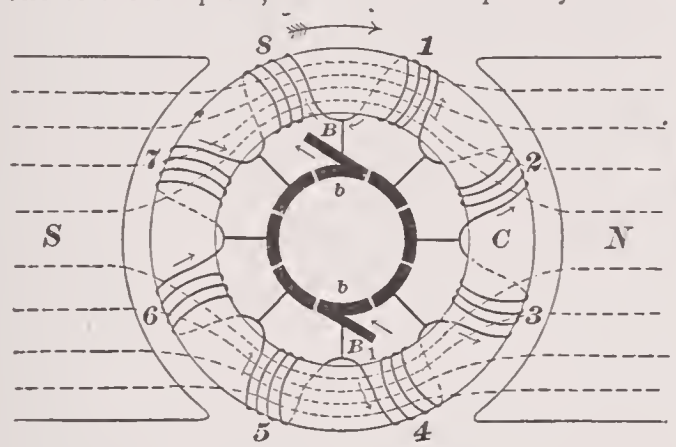


Fig. 67.

Fig. 68.

The current in coils 1, 2, 3 and 4 will be in the direction indicated by the arrows, and out through the brush, B, to the external circuits and back to the brush, B_1. If the coils 5, 6, 7 and 8 are examined, the current is found to be opposite in direction to the coils on the right half, but both currents have the common outlet, B, and inlet, B_1. The coils of each half are in series, and the two halves are in parallel, as shown in Fig. 68.

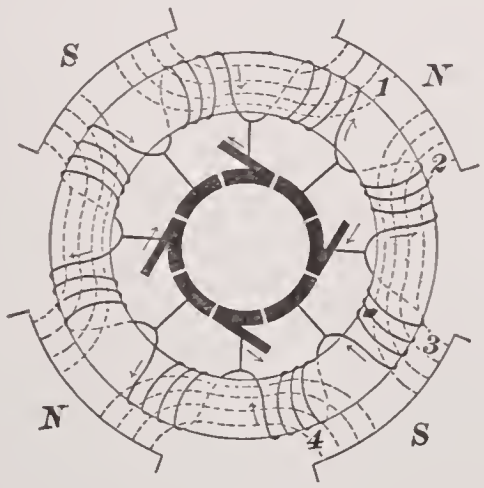


Fig. 69.

Fig. 69 shows the same type of armature, but rotating in a field due to four poles. The number of poles may be any even number; when more than two poles are used, the dynamo is said to be multipolar. The alternate brushes, being at the same potential, may be connected together, or the coils may be permanently connected across, so that two brushes suffice.

§ 81. Drum Armature. If, in Fig. 67, the coils are supposed to enlarge until they include the opposite side of the ring, the armature becomes a *drum armature;* the core would, of course, be

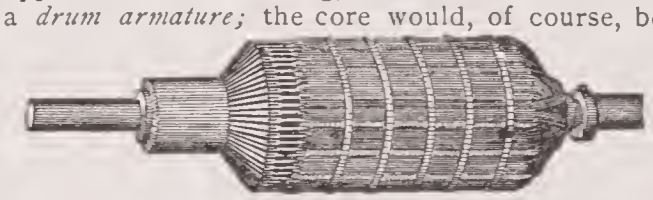


Fig. 70.

a laminated cylinder. Fig. 70 shows the construction of a drum armature.

§ 82. Field-Magnets. The field-magnets of a dynamo are usually made of good cast-iron. Cast-iron is not as permeable as wrought-iron, but the former is much more easily shaped, and since the armature requires a certain amount of space for the required number and size of conductors, the cross-section of the field is usually of such a size that the cast-iron cores may be enlarged enough to compensate for the poor permeability.

In many machines the cores of the field-magnet coils are made of wrought-iron, but united at the base by the cast-iron frame of the machine, and capped by cast-iron pole-pieces in order to get the required cross-section of field.

The field-magnets are excited by the current of the machine; the method of winding the coils depending upon the use to which the machine is to be put. In all cases there is enough residual magnetism to start the machine.

Fig. 60 represents a *series-wound* machine. The current leaves the upper brush, B, and is all sent through the coils of the field-magnets; that is to

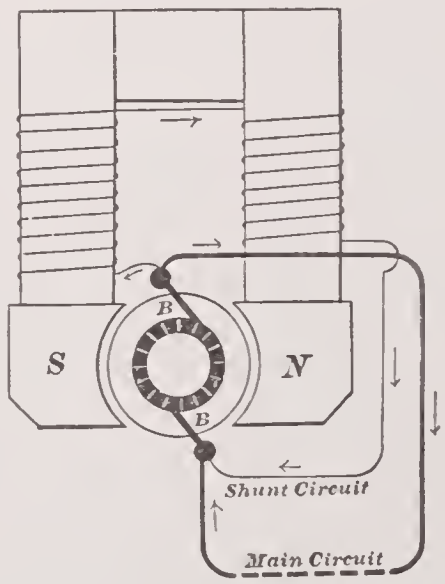


Fig. 71

say, the coils of the field-magnets are a part of the main circuit.

In the *shunt-wound* machine (Fig. 71) the field-

magnets are wound with many turns of fine wire, and the terminals of the coil are connected directly with the brushes; hence the current arriving at the positive brush has two paths by which it may return to the negative, one around through the main circuit, the other through the field-magnet coils; the proportion of the current in each path is inversely as the resistance. Since but a small amount of the current is needed to energize the field, the coils are made of high resistance.

If, in the last case, a few turns of the main circuit are placed on the field, they become *compound-wound*. (See Fig. 72.)

§ 83. Constant-Current Machines. The load of a dynamo is usually added in one of two ways. In the first, the resistances are added in series, as in the case of arc lamps, and each lamp means so much resistance added to the main circuit. This would require that the machine should increase its potential as the load is added, or, what is the same thing, maintain a constant current. In the case of the series-wound machine, more resistance added to the main circuit would lessen the current, thus weakening the fields, when they should be made stronger. When a series-wound machine is used under these conditions, some mechanical device is used to regulate the field by cutting turns into or out of the field-magnets.

The shunt-wound machine, when an increased load means an increased resistance, would regulate, since, then, the greater the load or external resistance, the greater the current through the field-coils, but other disadvantages exclude the shunt in favor the series-wound with mechanically regulated fields for purposes requiring constant current.

§ 84. Constant-Potential Machines. In the second case, the resistances are added in parallel; an increase of load meaning a decrease in resistance, as in incandescent-lighting and electric railways. In such cases it is required that the dynamo should supply current at a constant potential, but varying in amount.

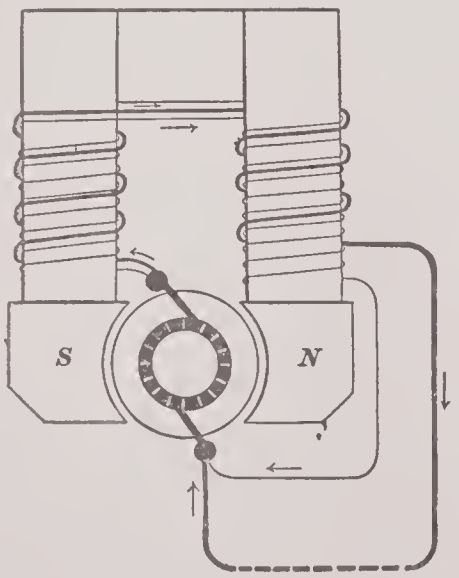


Fig. 72.

If a shunt-machine were used, a decrease of resistance in the external field would cause less current to go through the shunt, when there should be more. The current in the main circuit, however, is increased because its resistance has been decreased, but the increase is not sufficient to compensate. The drop or decrease in the shunt-current is not excessively large, and may be compensated by putting a few turns of the main circuit around the field-coils; it then becomes a compound-wound machine, and beautifully self-regulating for constant potential. (Fig. 72.)

§ 85. Alternating-Current Dynamos. An alternating-current dynamo is one in which the current is periodically changing its direction, as in the case of the current resulting from the E.M.F. generated by the single coil of Fig. 61. The time taken for one complete alternation to and fro is called the *period*, and the number of complete alternations per second is called the *frequency*. The frequency used in practice varies from 50 to 150 per second.

Since a two-pole machine gives but one alternation per revolution, alternators are multipolar, with 8 to 22 or more poles; the number of alternations per revolution of the armature is equal to the number of pairs of poles. By this means the desired number of alternations per second is obtained without increasing the speed of the armature beyond practical limits.

The arrangement of the armature-coils and field-magnet is shown diagrammatically in Fig. 73. The coils of the armature are turned to the front, in order that the method of connecting them may be seen. The two contact-rings at which the armature circuit terminate, are also turned to show the connection; the contact-rings are two complete rings insulated from the shaft, but revolving with it, the connection with the outside circuit being made with brushes, as usual. Since the poles of the field-magnet alternate north and south,

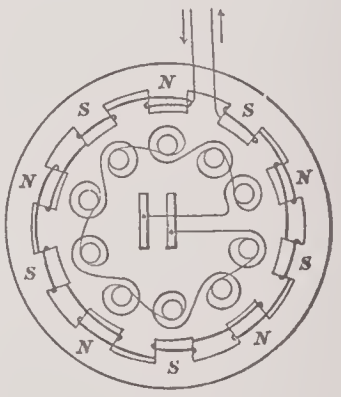


Fig. 73.

the alternate coils of the armature are reversed as to the direction of the winding, so that the current induced by all poles is in the same direction at any one time; the current reverses each time the coils pass the point midway between the poles. The armature of an alternating-current dynamo

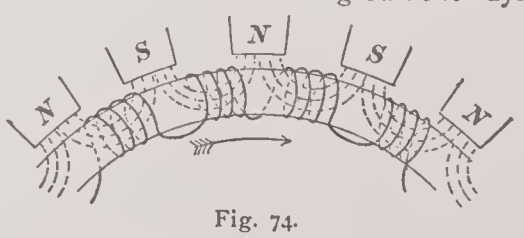


Fig. 74.

may be of either the ring, drum or disk type. Fig. 74 shows an alternating-ring armature; the sec-

tions are wound alternately right and left handed.

Fig. 75 shows a drum armature; the windings lie flat on the outside of the drum, the ends of the coils being bent over the end of the drum, as shown. The coils are often sunk in grooves along the surface of the drum.

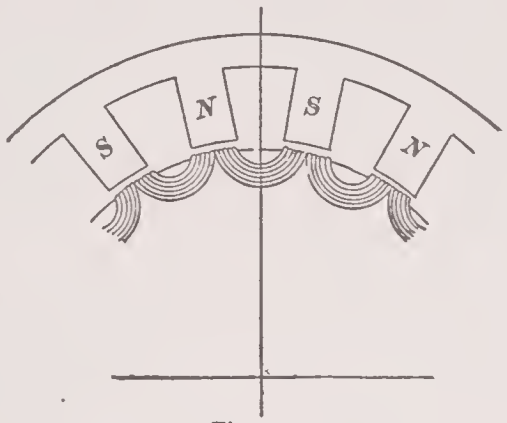


Fig. 75.

The field-magnets of alternators are usually excited by a current from some outside source, commonly a small direct-current dynamo.

Alternating-current dynamos are generally used when the current is to be transmitted over long distances, since the current can be generated at a high potential for transmission and reduced at the other end by means of transformers.

§ 86. Alternating Currents. In any circuit containing an alternating E.M.F., the value of the current at any time would be, by Ohm's law, the E.M.F. at the instant divided by the resistance of the circuit, provided there was no self-induction in the circuit; but since there is self-induction in any circuit in which the current is changing, the effective E.M.F. at any time is less than the impressed E.M.F.; hence the current does not follow the E.M.F., but reaches its maximum value later. If we consider the current as produced by the single circuit of the simple dynamo (Fig. 61), the E.M.F. may be represented as before by the sine curve, E (Fig. 76). The E.M.F. reaches its first maximum at 3 (Fig. 62); but while the E.M.F. has at that position

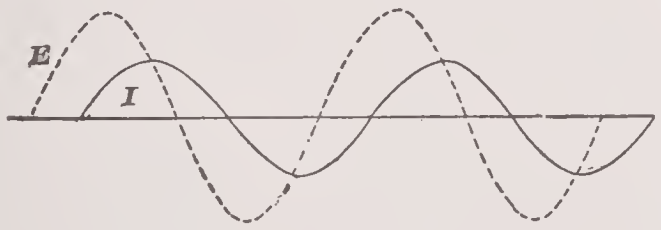


Fig. 76.

its maximum value, its rate of change is 0, and the current due to it at that instant would not be changing; and as the self-induction depends upon the rate of change of the current, the reverse E.M.F. due to self-induction would have a maximum value at the place where the impressed E.M.F. has the greatest rate of change, which is necessarily 90° from the position where it is at a maximum.

The effect of the reverse E.M.F. due to self-induction is to cause the current to lag behind the impressed E.M.F., as shown by the curve I (Fig. 76). The angle between the maximum E.M.F. and the maximum current is called the *lag*.

The effective E.M.F. producing the current must, of course, correspond to the current and its maximum value is RI, where R is the resistance of

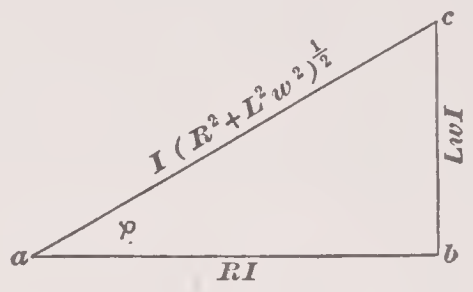


Fig. 77.

the circuit, and I the maximum current. The E.M.F. due to self-induction at any time is L times the rate at which the current changes, or $L\omega I \cos \omega t$, which gives $L\omega I$ as the maximum value, since then $\cos \omega t = 1$, where L is the coefficient of self-induction, and ω the angular velocity.

If the maximum effective and self-induced electromotive forces are represented by the two sides of a right triangle (Fig. 77), the hypothenuse will represent the maximum impressed E.M.F. Therefore we may write $E = I(R^2 + L^2\omega^2)^{\frac{1}{2}}$, or $I = \frac{E}{(R^2 + L^2\omega^2)^{\frac{1}{2}}}$. The expression $(R^2 + L^2\omega^2)^{\frac{1}{2}}$ is called the *impedence*, and is the actual resistance offered to the flow of current. The effect of the self-induction on the value of the current is equivalent to added resistance. No energy is lost in overcoming the resistance, as in the case of ohmic resistance, the machine being simply reduced in capacity. The angle c a b is evidently the angle of lag φ; hence $\tan\varphi = \frac{L\omega}{R}$.

§ 87. Virtual Volts and Amperes. Instruments for measuring alternating currents and voltages depend upon the attraction between currents, as in the case of the electrodynamometer (§ 54) or the heating effect of the current. Since either of these effects varies as the square of the current, the instruments, when used to measure alternating currents, indicate the square root of the average square of the current or voltage throughout the cycle; the values of the readings given by these instruments are called *virtual* volts and *virtual* amperes.

The virtual values exceed the arithmetical mean values by 10 per cent. A continuous current and an alternating current of equal virtual value have the same heating effect; but a continuous current equal to the arithmetical mean of the alternating one will have a smaller heating effect in the ratio of 1 : 1.23 (or $.637^2 : .707^2$).

§ 88. Polyphase Currents. If the armature of any alternator be wound with two sets of coils, one ahead of the other, and each connected with a separate outside circuit, two alternating currents may be generated alike in period and intensity,

but differing in the position of maximum value, or phase as it is termed, by an amount depending upon how much one set of coils is ahead of the other. Fig. 78 represents two alternating currents differing by one quarter of a period, or simply with a difference of phase of one fourth; the currents in this case are usually referred to

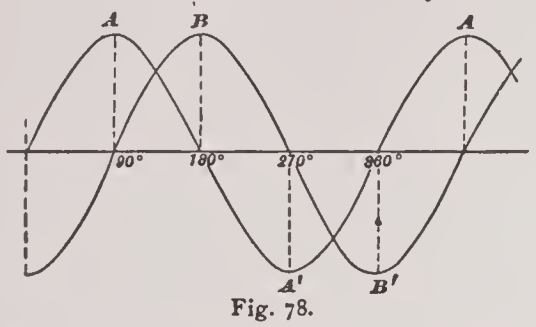


Fig. 78.

as a *two-phase* system of currents. Three currents generated by the same machine would constitute a three-phase system of currents, as shown in Fig. 79. The terms *polyphase* and *multiphase* are

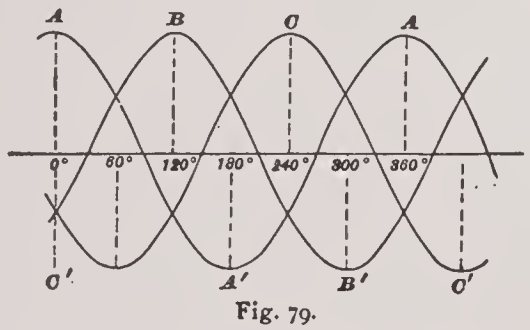


Fig. 79.

used to designate any system of more than one alternating current, each current having its own separate circuit or the equivalent, since, as will be seen later, a conductor may serve as a part of two different circuits.

§ 89. Rotary Magnetic Field. If the currents of a two-phase system are properly com-

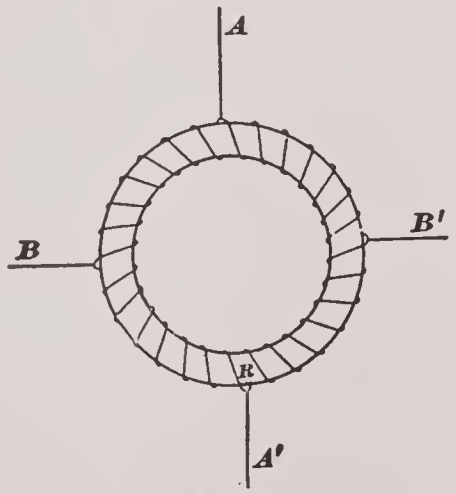


Fig. 80.

bined, they can be made to produce a *rotary magnetic field;* masses of metal and conductors, when placed in a rotary field, have currents induced in them, and the action between these currents and the field may be utilized to produce continuous rotation. Let R (Fig. 80) be a soft iron ring wound with a continuous coil. If a single alternating current is introduced at A and A′, it would set up an alternating magnetic field in the ring, a north pole growing at A and a south pole at A′, then dying away and reversing in direction. If a similar alternating current is introduced at B and B′, but differing from the first by one fourth of a period, it would also produce an alternating magnetic field, and the effect of the two is to produce a rotary magnetic field, though the coil itself is stationary. Let three alternating currents, differing from one another by one third of a period, or 120°, be led into a ring-wound, as shown in Fig. 81, at the points A, B and C; the current flows in first at A and out by B and C, then in at B and out at C and A, then in at C and out by way of A and B, thus producing a rotating magnetic field as before. Inside the ring is placed a rotor,

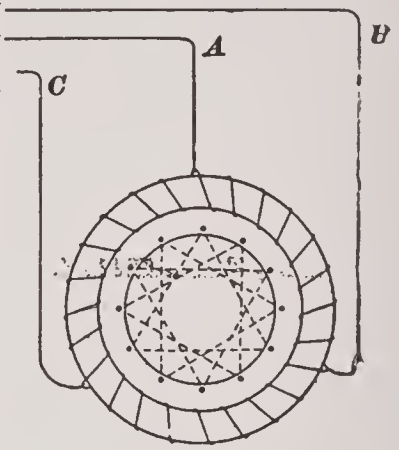


Fig. 81.

as it is termed, consisting of a laminated iron cylinder mounted upon an axis; heavy conductors are placed in grooves at the surface of the rotor and parallel to the axis of rotation; they are connected together at the ends, as shown in Fig. 81. The induced currents in this system of conductors are pulled around by the rotating field. The strength of the currents in the rotating part depends upon the relative speed of the field and rotor. If they rotated at the same speed, no current would be induced, and there would be no driving force. The rotor has no commutator or brushes, and is entirely separate from any other circuit. It receives its currents wholly by induction; such motors are termed *asynchronous motors*.

§ 90. Electrodynamic Action between Alternating Currents — Thompson's Experiments. A harmonic current induces a harmonically varying E.M.F. in an adjacent circuit, which gives rise to a current also harmonic and of the same period. The difference in phase between the two currents cannot be less than $\frac{\pi}{4}$ or greater than $\frac{\pi}{2}$, for the secondary E.M.F. is retarded by an amount $\frac{\pi}{4}$ with respect to the primary current, and the self-induction produces a further lag between 0 and $\frac{\pi}{4}$ in value.

Professor Elihu Thompson has devised a number of experiments to show that there is always repulsion between the two currents. Fig. 82 represents a large electromagnet; the core is of iron wire, well insulated, and the coil consists of a few layers of heavy wire. When a strong alternating current is sent through the coil, a simple

circuit or ring is repelled with considerable force.

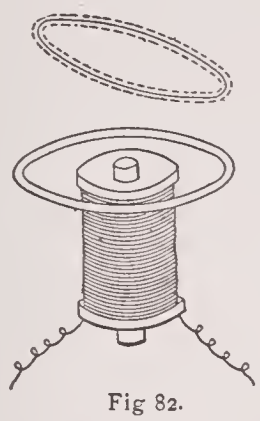


Fig 82.

The force between the magnet and ring at each instant is proportional to the strength of current equivalent to the magnet and that of the ring. The two currents will attract if they are in the same direction, and repel if opposite.

Let the two currents be represented by the two sine curves A and A′ (Fig. 83), having the same period, but a difference in phase of $\frac{\pi}{4}$ and with amplitudes as 4 to 1. The ordinates of the curve B are taken equal to the products of the ordi-

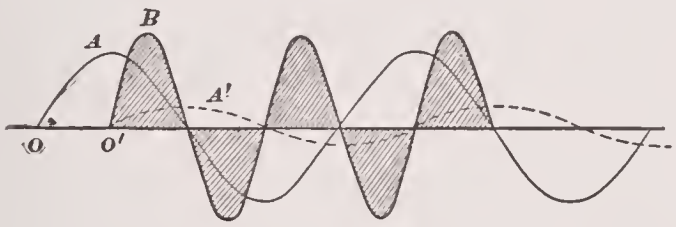


Fig. 83.

nates of A and A′ at the points, and are drawn above the line if the product is positive and below when negative. In this case the attraction

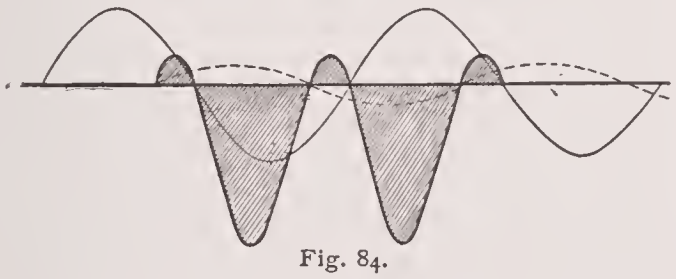


Fig. 84.

and repulsion are equal, and hence there is no effect. But if the difference of phase is greater than $\frac{\pi}{4}$, the curve B takes the form shown in Fig. 84, and the repulsion is greater than the attraction. Fig. 85 shows another experiment, in which the force of repulsion is made to produce rotation. The copper disk, B, mounted on an axis, rotates when it is placed eccentrically in reference to the alternate pole and partially screened by the disk, A. If A is movable, it will turn in the direction opposite to that of B. The rotation is caused by the repulsion of the currents induced in the metal of the disks by the magnet.

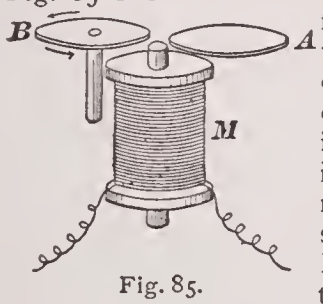


Fig. 85.

§ 91. Electrical Resonance. If a condenser having a certain period of oscillation (§ 92) in the neighborhood of a similar condenser of the same frequency, oscillations are set up in the second condenser, much the same as one tuning-fork or sounding-body may excite vibrations in another body having the same period of vibration. This phenomenon is known as *electrical resonance*, and is very important, since it suggests a wave-motion in the medium as the means by which the energy is transmitted across space.

Any electric circuit having certain relations between its self-inductive capacity and resistance has its own particular periods of electrical oscillations, and is extremely sensitive to impulses or changes in the medium about it when properly timed.

§ 92. Oscillatory Electric Discharge. If the coatings of a charged condenser or Leyden jar be connected by a conductor of small resistance there is a sudden electric current from one coating to the other, through the conductor, but, owing to the self-induction of the conductor, the current does not stop when the discharge is complete, but rushes on and charges the condenser in the opposite way; then follows a reverse discharge, which also rushes beyond the neutral point, and the condenser is once more charged in the original way. Each successive oscillation is feebler than the preceding, so that after a number of oscillations the discharge dies away, as shown in Fig. 86. The conductor between the two coatings usually contains an air-gap, the two ends of the conductor at the gap terminating in polished metal spheres (see Fig. 87); as the condenser is charged, the air-gap prevents a discharge until the potential is sufficiently high to overcome its resistance, when the air suddenly gives way and the *spark* "passes," to use the ordinary term. The effect is the same as that of suddenly introducing a conductor into the gap; the light of the spark is due to the heat generated by this passage of the current. The oscillating nature of the electric discharge may be illustrated by two tanks containing water at different levels, and suddenly connected by a pipe, with little resistance to the flow of water, as in Fig. 88.

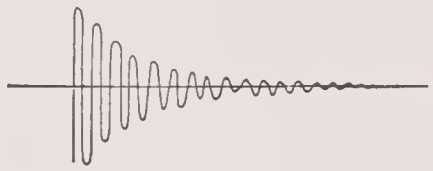


Fig. 86.

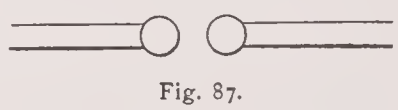


Fig. 87.

T and T′ are the tanks filled to the levels *a* and *c*, respectively; *b* is the common level when the valve at *d* is open. If the valve is suddenly opened (it might be a membrane which bursts when the level of the water in T is sufficiently above that in T′), the water in T rushes to T′; it does not stop when the common level, *b*, is reached, but rushes beyond, owing to the inertia of the water, and fills the tank T′ with more water than T; then the same thing will occur in the opposite direction, the water settling down to a common level only

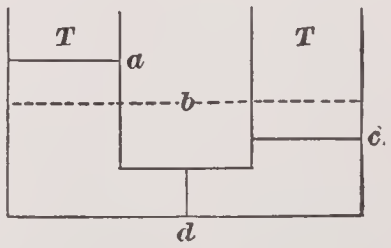


Fig. 88.

after several oscillations. It is evident that the frequency of the oscillations will depend upon the mass of water and the resistance of the connecting pipe; if the resistance of the connecting pipe is large, which would be the case if it were a small pipe, it is easily seen that there would be no oscillation. In the analogy, the capacity of the tanks corresponds with the capacity of the condenser, the inertia of the water to self-induction, and the resistance of the connecting pipe to the electrical resistance of the conductor. If the capacity of a condenser is K (farads), the resistance of the conductor R (ohms), and its self-induction L (henries), oscillations will occur if $R < \sqrt{\frac{4L}{K}}$, and no oscillations if $R > \sqrt{\frac{4L}{K}}$; in the former case the frequency of the oscillations is given by the equation $2\pi n = \sqrt{\frac{1}{KL} - \frac{R^2}{4L^2}}$. The oscillations of an ordinary Leyden jar last only from $\frac{1}{10000}$ to $\frac{1}{1000000}$ of a second.

By using a large condenser and a well-insulated coil for resistance, Lodge succeeded in slowing down the oscillations to 400 per second; the spark then emitted a musical note. The oscillatory character of the discharge may be seen by viewing the spark with a telescope and revolving mirror.

§ 93. Electric Waves. If a current increases in strength, the magnetic field about it increases; the circular lines of force which surround the currents (§ 46) may be pictured as enlarging and traveling outward, much the same as the ripples caused by dropping a pebble on the surface of water. When the current decreases, the circular lines decrease in diameter and return to the conductor, but if these changes in the magnetic field be extremely rapid, as when electric oscillations (§ 91) are taking place in the conductor, electromagnetic waves are set up in the space about the conductor, which travel out through the medium with the velocity of light. Maxwell predicted in 1865 that such waves existed, and put forward the theory that light-waves are very short electrical undulations, partly electric and partly magnetic. This theory is known as the *electromagnetic theory of light*, and according to it, electro-magnetic phenomena and the phenomena of light are all due to certain modes of motion in the ether, electric currents and magnetic fields being streams and whirls in the substance of the ether, while light is due to the vibrations in it. An electric displacement while taking place produces a magnetic force at right angles to itself; it also produces (by induction) an electric force, which is propagated at right angles both to the electric displacement and the magnetic force. Now it is known that, in the propagation of light, the motion or displacement of the ether is at right angles to the direction of the ray,—a striking analogy and an important piece of evidence in favor of the theory. It has been calculated in several ways that the velocity of propagation of electromagnetic disturbances is 2.9857×10^{10} centimeters per second, while the velocity of light, according to the best determinations, is 29992×10^{10}. centimeters per second. From the equations for the propagation of a disturbance in an electromagnetic medium having a specific inductive capacity k (§ 36) and a permeability μ (§ 57), Maxwell showed that the velocity of propagation should be $\frac{1}{\sqrt{k\mu}}$. It follows that if light is an electromagnetic phenomenon, its velocities in two media having the same permeability, but different specific inductive capacities, ought to vary inversely, as $\sqrt{k}$. This velocity ratio is called their refractive index, hence, according to the theory, the specific inductive capacity of an ordinary transparent medium ought to be equal to the square of its refractive index. The agreement has been found to be fairly close for long waves; the following table gives the value of K and the square of the index of refraction of four common dielectrics:

	K.	(Index)^2
Flint glass	3.162	2.796
Bisulphide of carbon	1.812	2.606
Sulphur	4.151	4.024
Paraffine	2.32	2.33

Another consequence of the electromagnetic theory is, that conductors, since they dissipate the energy of currents set up in them, ought to be opaque to light; this is generally true except in the case of liquids which conduct electricity in an entirely different manner (see Electrolysis, in these Supplements); hence they do not form an exception. In some crystalline bodies the electrical conductivity is better in one direction than in another; in these the opacity to light differs accordingly. But the most commonly experimented proofs of Maxwell's theory were brought out in 1888 by Hertz, who succeeded in producing electromagnetic waves in a way which enabled him to examine their properties. He showed that while the rays are much longer than light-waves, they possess the same properties, travel at the same speed and are capable of being reflected, refracted and polarized. They also exhibit interference phenomena, the test of wave-motion. Hertz used as a source of waves an apparatus which he called an *oscillator*, or vibrator, one form

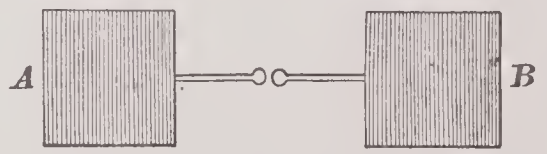


Fig. 89.

of which is shown in Fig. 89. It consists of two conductors, A and B, connected by two metal rods and a spark-gap between two small well-polished metal balls.

To detect the waves he used a *resonator*, which consisted of a simple circuit of wire (Fig. 90), having in it an adjustable spark-gap. The

simple circuit is called a resonator from the fact that it gives the best results when the natural period of oscillation set up in it is the same as the period of oscillation in the vibrator. In one experiment the oscillator consisted of two zinc plates, A and B (Fig. 91), 40 c.m. square and mounted 60 c.m. apart; each plate is provided with a short copper wire terminating in a polished ball, the space between the two balls constituting the spark-gap. The oscillator may be considered as a simple condenser, the two plates forming the coatings. An ordinary induction-coil is connected to the oscillator, as shown; when the two

Fig. 90.

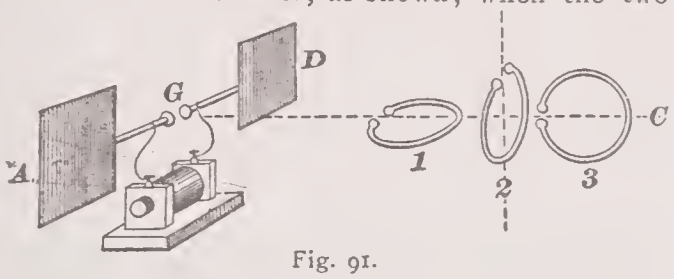


Fig. 91.

plates become charged to a high potential, the air breaks down and an oscillatory discharge takes place, consisting of a dozen or so oscillations (§ 92), and as long as these oscillations last, the wire connecting A and B through the spark-gap carries an alternating current of extremely high frequency, thus producing about the conductor an alternating magnetic field of the same frequency, which is high enough to send out waves in the ether. In this particular case the resonator was 35 c.m. in radius. Let the line of the conductor connecting A and B be the line of oscillation, and GC drawn at right angles to it, a convenient reference-line. If the resonator is placed with its center on the reference-line, and turned first in the position shown at 1, sparks pass in the spark-gap of the resonator when a discharge takes place in the oscillator, and they are brightest when the spark-gap is nearest the oscillator, for in that case the induced spark is parallel to the line of oscillation. If the resonator is turned to the position shown at 2, sparks pass when the gap is at the top and bottom of the circuit, but none if the gap is on the side. When the resonator is placed as at 3, no sparks are observed, whatever the position of the gap; we have then electrical oscillations set up in the resonator similar to those in the oscillator; and it is difficult to conceive of this effect being caused by any other than periodic disturbances in the medium, which are propagated across space, and require a finite time for their propagation; in other words, a wave motion. Hertz showed that the radiation is reflected by, using two large parabolic mirrors, as shown in Fig. 92.

The oscillator, R, was placed in the focal line of the mirror A. The detector in this case, consisting of two long wires, was placed in the focal line of the mirror B; the wires of the detector were bent back, so that the spark-gap was outside the mirror, in a position convenient to be seen. When the mirrors are placed facing each other, as shown in the figure, if this electrical action through space is in the form of waves, they should, after reflection from the first mirror, emerge as parallel rays, and, falling upon the second mirror, be concentrated at its focal line, and produce a much greater effect in the receiver than when the

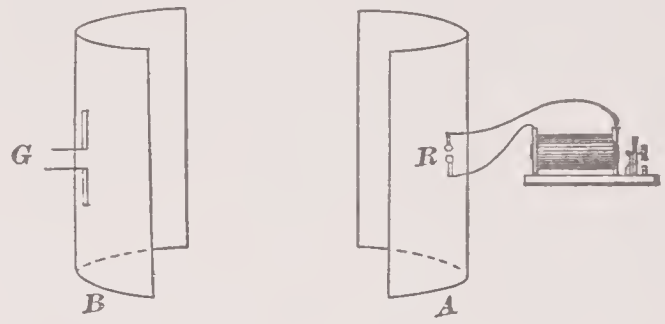


Fig. 92.

mirrors are not present; this was found to be the case. Hertz further showed that the radiations were reflected by placing the mirrors as shown in Fig. 93. No sparks passed in the detector when the vibrator was in action until a metal plate, M, was placed at the right angle to reflect the waves into the second mirror, and a slight variation of this angle caused the sparks to disappear. To

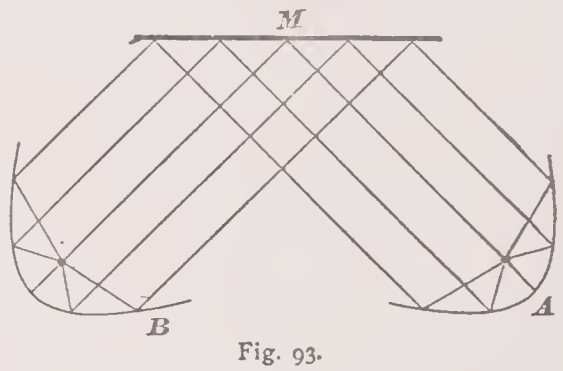


Fig. 93.

show that the electrical radiation is refracted, Hertz used a large prism of pitch one and five tenths meters high, one and two tenths meters along the edge, and a refracting angle of 30°. When the prism was placed between the two mirrors shown in Fig. 92, the second mirror had to be moved to produce a spark in the detector, thus showing that the radiation is refracted; the index of refraction of the pitch for these waves was found to be 1.69. By using a plain metal reflector at some distance from an oscillator, standing waves should be set up between the oscillator and the plate; the resonator, when placed in different position between the plate and oscillator, clearly showed the maxima and minima, or nodes and loops as they are termed. Therefore, since the electrical radiation can be shown to possess all the properties of light-waves, it is reasonable to suppose that they are disturbances of the same kind and in the same medium, but differing in wave-length, the length of the waves in Hertz's experiments being of the order of a meter in light. Recently, Hertz's experiments have been repeated by others, using waves but a few millimeters in length. Other means have been devised for detecting electric waves, such as a sensitive vacuum tube, electrometer, thin wires

which expand when heated, and thermo-electric couples. Lodge has recently brought out the most sensitive detector of electric waves; it consists of a glass or paper tube filled with coarse iron filings. This tube is placed in circuit with a battery and galvanometer, the galvanometer showing a deflection depending upon the resistance of the filings: but if the electrical radiation is allowed to fall on the tube, the resistance of the filing, is greatly reduced, thus causing a large increase in the deflection of the galvanometer. This detector is extremely sensitive, and is capable of detecting the electric radiation when placed at a distance of several hundred feet from the oscillator. The form of the oscillator has lately been very much improved; it often consists of two small spheres, a centimeter in diameter or smaller, immersed in oil. The oil prevents the balls from tarnishing, as it is necessary to keep the surfaces between which the gap is formed continually bright. The balls are made smaller, since they will then have a smaller capacity, and the oscillations a correspondingly high frequency, thus giving a short wave-length.

§ 94. Discharge at High Potential. As the potential of the current causing a disruptive discharge increases, the nature of the discharge changes its appearance. At first the spark is a thin bright line between the terminals; this line grows broader (the coil furnishing a high potential current) and becomes more like a flame as the potential of the current increases, and finally, at very high potential, breaks into numbers of small sparks, which shoot out in all directions from each terminal, totally irrespective of the relative positions of the two. When this point is reached, an exhausted bulb, such as a Crookes tube, will light up when attached to only one (it is immaterial which one) of the terminals. If two long wires, one end of each attached to each terminal of the generator, be stretched out parallel to each other (Fig. 94), the space between will be filled with showers of fine sparks, so that the whole has the appearance of a band of soft light. If two metal plates (Fig. 95) be set up parallel to each other, several feet apart, and each connected with one terminal of the generator, there will be no apparent discharge, but an exhausted bulb, when brought into the space between the plates, will glow with a soft white light. If the potential of the discharge is high enough, it can be taken through the body, not only without harm, but without sensation of any kind. The discovery of these, and many other beautiful effects of high potential discharges, and the invention of the simplest means of producing them, are due to Tesla. (See Tesla Coil, § 75.)

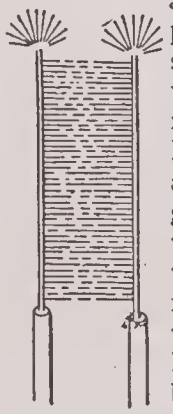


Fig. 94.

§ 95. Discharge in High Vacua—Cathode Rays. When a disruptive discharge passes between electrodes in a rarefied gas, the appearance of the discharge at the positive and negative electrodes is so strikingly different that the discharge loses all appearance of uniformity. Around the

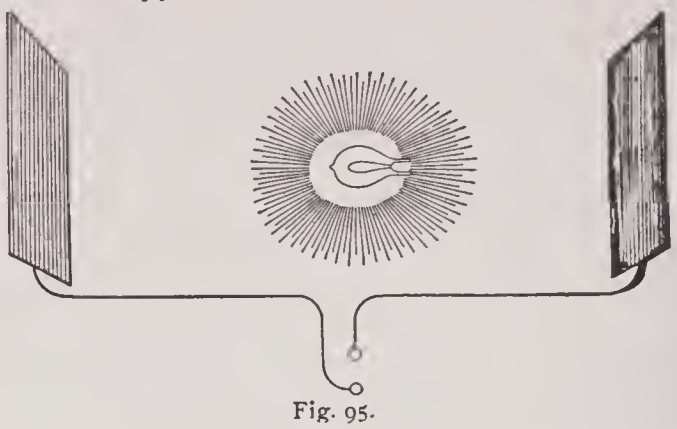


Fig. 95.

negative electrode or cathode there is a dark space, and then alternate bright and dark bands, the size and number of which depend on the degree of rarefication of the gas.

Fig. 96.

Fig. 96 represents the appearance of the discharge under these conditions. The exhausted tube is known as a *Geisler tube.* Crookes found that if the exhaustion be continued, the dark space about the cathode increased in width, and that across the space electrified molecules were projected in lines perpendicular to the surface of the electrode. If the exhaustion be pushed almost to the limit, the dark space fills the entire tube, and the streams of electrified molecules, or *cathode rays* as they are termed, impinge against the glass wall of the tube, causing the glass to emit a beautiful fluorescent light, the color depending upon the nature of the glass; the tube is then known as a *Crookes tube.* Hard German glass gives a greenish yellow light, probably due to the small amount of uranium it contains, while lead glass fluoresces with a pale blue light. A solid object placed in the path of the cathode rays protects portions of the glass, thus casting a shadow, the fluorescence only appearing on the glass where the cathode rays strike.

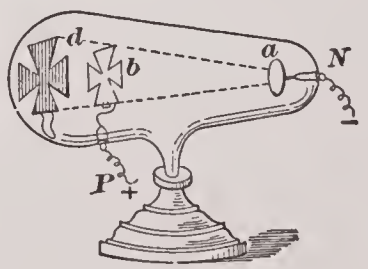


Fig. 97.

Fig. 97 shows a shadow tube; *a* is called the cathode, *b* is a plate of metal mounted inside the tube and in the path of the rays; *d* is the portion of the glass protected from the cathode rays by the screen, *b*. Diamonds, rubies, many crystals and

salts, when placed in the path of the cathode streams, become brilliantly fluorescent (Fig. 98). Calcium tungstate, under these conditions, emits a very brilliant bluish white light; it has been proposed to utilize this light for purposes of illumination.

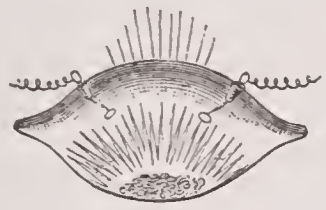


Fig. 98.

Cathode rays develop heat when they impinge against a substance; the effect can be greatly magnified by making the cathode a concave plate, as shown in Fig. 99. The rays are thus concentrated on a platinum plate, P, which becomes intensely heated and is incandescent.

The rays are attracted by a magnet, and exert a force upon the object against which they strike. This is shown by the tube in Fig. 100; the cathode is concave, and concentrates the rays on the screen *d*. A magnet placed at *m* deflects the rays so that they strike against the veins of the pivotal wheel, causing it to rotate.

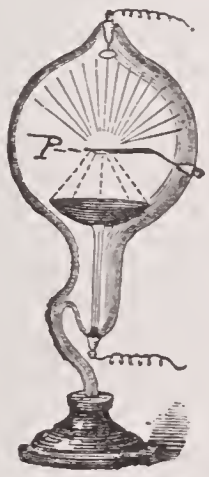


Fig. 99.

If, in these tubes, the exhaustion is pushed to the extreme limit, the discharge no longer takes place through the tube, going, in preference, through many centimeters of air; hence the electric discharge cannot pass through a vacuum.

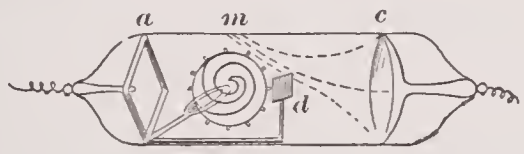


Fig. 100.

Crookes, who devised these tubes and many others, attributed the phenomena to streams of charged gaseous molecules repelled from the cathode, but their exact nature is yet a matter of doubt.

In 1892 Hertz discovered that thin films of gold are somewhat transparent to these cathode rays, —a discovery that led him to believe he could get them outside the tube, and so study their properties in air. This was actually accomplished by Lenard the following year. Lenard succeeded in getting the cathode rays outside his exhausted receiver through a small, thin window of aluminium foil. He discovered that in air the cathode rays are not a prolongation of the cathode stream in the vacuum tube, but that they spread out diffusely from the window; that they differ from light in their penetrating power, being able to pass through aluminium, but not through glass. He concluded that they were not electrical rays, as conductors were not opaque to them; he also found that their penetrating power is roughly inversely propositional to the density of the substance; that they cause fluorescence when allowed to fall on certain substances, and are capable of acting on a photographic plate; that an electrified body loses its charge when these rays are allowed to fall upon it; that they were deflected by a magnet always in a vacuum, and sometimes in air. Lenard considered these rays, which he called *cathode rays in air*, an ethereal phenomenon, and not charged particles of gas. The late discoveries of Roentgen and other physicists, working along the line he proposed, have added greatly to our knowledge of these phenomena.

§ 96. ROENTGEN RAYS AND PHOTOGRAPHY. Discovered by Professor Roentgen in 1895. (See article on X-RAYS).

§ 97. PRIMARY CELLS. A *primary* or *voltaic* cell is a device for producing electrical energy in the form of a continuous current at the expense of chemical energy. It consists usually of two plates immersed in an electrolyte. (See ELECTROLYSIS, in these Supplements.) The electrolyte combines chemically with at least one of the plates, and when the combination is complete the electrical action ceases. Such a cell is termed a primary cell. If, however, after the chemical combination is complete, the resulting substances may be decomposed by an electric current, and thus put back into the original form, the cell is called a secondary cell, which is but another name for accumulator or storage-cell. (See SECONDARY CELLS, § 109.)

§ 98. TYPICAL VOLTAIC CELL. If a strip of amalgamated zinc and one of pure copper be immersed in dilute sulphuric acid, it constitutes the simplest and the typical voltaic cell. (See Fig. 101.) When the plates are placed in the acid, bubbles of hydrogen collect on the zinc, but the chemical action soon ceases. If, however, the plates are connected by a conductor, a current will flow around the circuit, flowing from zinc to copper through the acid, and from copper to zinc in the conductor. The acid attacks the zinc, forming zinc sulphate, while hydrogen is freely liberated, and collects at the surface of the copper plate. For each unit of electricity that flows around the surface one electro-chemical equivalent of zinc and sulphuric acid disappears, and equivalent amounts of zinc sulphate and hydrogen are formed. The simple form of cell does not give a constant E. M. F., as some of the hydrogen produced adheres to the copper plate, forming a gaseous film, which increases the resistance of the cell, and also acts as a reverse E. M. F. The copper plate in this condition is said to be *polarized*, and is the seat of a reverse E.M.F. which reduces the theoretical E.M.F. in value. The reverse E.M.F. may be explained in the following manner: The hydrogen follows the current, and

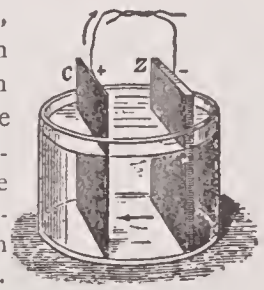


Fig. 101.

its atoms carry positive charges; these, arriving at the copper plate, are prevented from coming in contact at once with the plate by the film of gas already there. The layer of atoms in this condition may be considered to form one plate of a condenser and the copper plate the other, and this condenser tends to discharge around through the liquid in the reverse direction to that in which the current flows.

Polarization is usually prevented by chemical means. In the Daniell cell and similar cells, the hydrogen is utilized in the action of the cell; in other cases, substances are placed in the cell, which combine with the hydrogen or oxidize as soon as formed. Many different primary cells have been devised, but since they are all modifications of a few principal forms, which may be taken as types, the latter only will be described.

§ 99. THE DANIELL CELL. The Daniell cell is one of the oldest and best known, and may be taken as the type of all cells in which zinc and copper and copper sulphate are used. In the Daniell cell (Fig. 102) the plates are zinc and copper. The zinc rod, Z, is placed in a porous cup, P, with dilute sulphuric acid, but later the liquid in the porous cup becomes zinc sulphate. The copper plate, C, surrounds the porous cup; the space between the cup and jar is filled with a saturated solution of copper sulphate, with crystals of the same salt to replace that in solution as fast as it used up in the action of the cell.

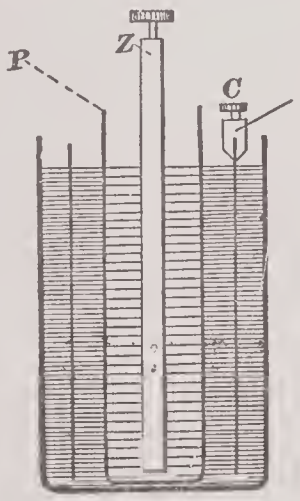


Fig. 102.

The sulphuric acid acting upon the zinc forms zinc sulphate and free hydrogen; the hydrogen, traveling with the current, passes through the porous cup to the copper sulphate, with which it combines, forming sulphuric acid, and setting free pure copper, which also travels with the current, and is deposited on the copper plate. The hydrogen, which ordinarily is detrimental to the action of the cell, becomes useful in keeping up the supply of acid to act upon the zinc. The cell may be set up with the zinc sulphate solution in the cup, instead of dilute acid. Since the copper sulphate is heavier than the zinc sulphate, the solutions are often kept separate by the action of gravity, the copper plate and copper sulphate being in the bottom of the jar, while the zinc and zinc sulphate are at the top (see Fig. 103). Such cells are called gravity cells. The solutions are also sometimes kept separate by a porous cup, which extends but half way down the jar, the bottom of the cup forming the partition.

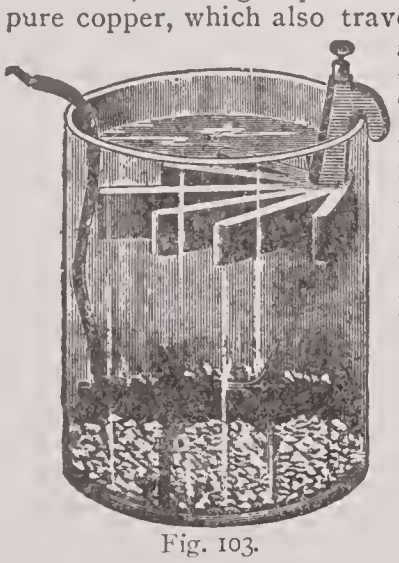


Fig. 103.

§ 100. CALCULATION OF THE E.M.F. OF A DANIELL CELL. When one electrochemical equivalent of zinc sulphate is formed at the zinc plate, one electrochemical equivalent of sulphuric acid disappears; but at the copper plate one electrochemical equivalent of sulphuric acid is formed, and one electro-chemical equivalent of copper sulphate disappears. Hence the source of electrical energy is the chemical energy lost when the copper in the copper sulphate is replaced by zinc, which is equivalent to the difference between the heat developed when zinc dissolves in sulphuric acid and that developed when an equivalent amount of copper dissolves in sulphuric acid. When one gram of zinc dissolves in sulphuric acid the heat developed is 1670 thermal units, or $1670 \times 4.2 \times 10^7$ work-units, 4.2×10^7 being the work-equivalent of one thermal unit, or the mechanical equivalent of heat. The electro-chemical equivalent of zinc is 0.003364 grams; hence the heat developed when one electrochemical equivalent of zinc is dissolved in sulphuric acid is $0.003364 \times 1670 \times 4.2 \times 10^7 = 2.359 \times 10^8$ work-units. When one gram of copper is dissolved in sulphuric acid, 909.5 thermal units are developed, which are equivalent to $909.5 \times 4.2 \times 10^7$ work-units. The electro-chemical equivalent of copper is 0.003261, hence the heat developed when one electro-chemical equivalent of copper is dissolved is $0.003261 \times 909.5 \times 4.2 \times 10^7 = 1.245 \times 10^8$ work units.

The difference between these two quantities, 1.114×10^8, must represent the work done by one unit of electricity in going around the circuit, or the E.M.F. of the cell. The E.M.F. of a Daniell cell is found to be approximately 1.028×10^8; the difference between this and the calculated result is insignificant, and is probably due to the quantity of heat, H, of § 98.

§ 101. GROVE'S CELL. Grove's cell is a zinc-platinum cell; the zinc is acted upon by sulphuric acid, while the platinum is placed in a porous cup containing strong nitric acid, which oxidizes the hydrogen and prevents polarization. Since there is no chemical action upon the platinum, the electromotive force is high, being approximately 1.9 volts.

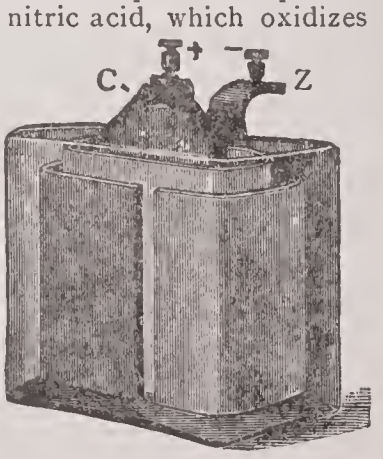


Fig. 104.

§ 102. BUNSEN'S CELL. The Bunsen cell (Fig. 104) is like the Grove, except that the platinum is replaced by hard carbon, which, of course, is more economical. The cell may be modified by placing the zinc and

sulphuric acid in the porous cup, and the carbon (several rods of electric-light carbon will answer) outside the cup in a saturated solution of potassium nitrate acidulated with one tenth its volume of strong sulphuric acid; sodium or ammonium nitrate may be used in place of the potassium salt.

§ 103. BICHROMATE OR GRENET'S CELL. A Bunsen cell without the porous cup, and in which bichromate of potassium or sodium is added to the sulphuric acid as a depolarizer, becomes a Grenet cell. The bichromate in the presence of sulphuric acid forms chromic acid, which gives up its oxygen readily to the free hydrogen.

The sodium salt is to be preferred, since it is more soluble. Fig. 105 is a common form of the bichromate cell, in which the zinc plate can be raised when the cell is not in use. In this and other forms of the cells where the zinc is in an acid solution, it should be amalgamated; commercial zinc contains impurities which form local closed circuits in the plate itself, when placed in the acid. These cause a wasting away of the zinc and add nothing to the E.M.F. of the cell. The zinc is amalgamated by cleaning it in sulphuric acid and rubbing mercury over its surface; the mercury readily forms an alloy with the zinc, dissolving the pure zinc only; hence the acid is in contact with the amalgam or pure zinc dissolved in mercury.

Fig. 105.

§ 104. THE LECLANCHÉ CELL. The Leclanché cell (Fig. 106) may be taken as a type of a large number of cells, in which the zinc and carbon are used as the plates, and a strong solution of ammonium chloride as the electrolyte. The carbon is packed in a porous cup with granulated manganese dioxide and carbon; the granulated carbon is added to decrease the resistance of the cell, and the manganese dioxide serves as a depolarizer. This, however, acts slowly; hence, if the current is kept closed, these cells polarize in a few minutes, but rapidly recover when the circuit is opened. The chemical action practically ceases when the circuit is opened; hence this class of cells is well suited for all kinds of light intermittent work, such as door-bells, signals, etc. The cells are often made portabie by replacing the glass jar with a zinc cup, which serves also as the zinc plate; the electrolyte is made into a stiff paste by adding dextrine, starch, chloride of lime and other ingredients; it is then known as a *dry cell*. When the circuit is closed in this class of cells, the zinc displaces the ammonium from the ammonium chloride, forming zinc chloride. The ammonium breaks up into ammonia and hydrogen; the former is dissolved by the liquid of the cell, or escapes when the cell is worked hard, while the hydrogen is oxidized by the manganese dioxide In a number of these cells the porous cup is omitted, the manganese dioxide being incorporated in the carbon plate or omitted altogether.

Fig. 106.

§ 105. COPPER OXIDE CELL. The copper oxide cell was invented by Lalande and Chaperon. A zinc spiral or plate is immersed in a strong solution of caustic potash or soda, containing thirty to forty parts of alkali to one hundred parts of water. The positive plate is either copper or iron, in contact with copper oxide. The zinc replaces hydrogen in the alkali, forming sodium zincate (Na_2ZnO_2); the hydrogen, following the current, takes oxygen from the copper oxide, leaving metallic copper. Fig. 107 is a common form of the copper oxide cell, known as the Edison-Lalande cell. The copper oxide is in the form of a compressed plate held in a copper frame, C. A layer of paraffin oil, O, is placed on the solution of caustic potash to prevent the absorption of carbon dioxide from the air. The cell has a very low internal resistance, about 0.03 of an ohm; hence it is capable of giving a large current. The E.M.F. is only 0.7 volts.

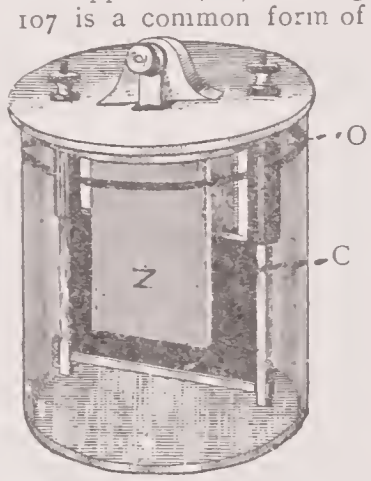


Fig. 107.

§ 106. SILVER CHLORIDE CELL. In a silver chloride cell the elements are zinc and silver; silver chloride is cast on the silver, which acts as a depolarizer. The electrolyte is dilute ammonium chloride containing 23 grams of the salt to one liter of water; a denser solution dissolves the silver chloride. The cell polarizes but slightly and recovers quickly, but can be used for small currents only.

§ 107. CLARK'S STANDARD CELL. The Clark standard cell, one form of which is shown in Fig. 108, has for its negative electrode pure zinc (or a ten-per-cent amalgam) in a neutral saturated solution of zinc sulphate, with an excess of the zinc sulphate crystals. The positive electrode is pure mercury in contact with a paste of mercurous sulphate. In the form shown, due to Carhart, the zinc sulphate solution and the paste are kept from mixing by a layer of asbestos. When

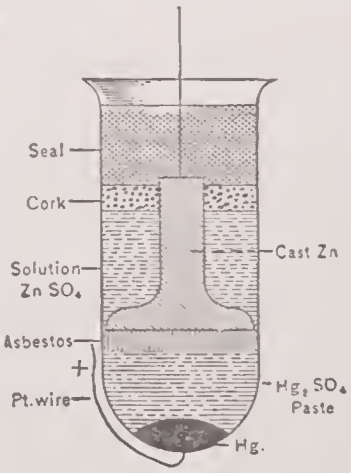


Fig. 108.

this cell is carefully prepared from pure materials, the E.M.F. is constant, and is 1.434 volts at 15° C. It diminishes by about 0.001 volt per degree rise in temperature between 10° and 25° C. The cell has been adopted as the international standard of E.M.F. Helmholtz suggested the substitution of the chlorides of zinc and mercury for their sulphates. The E.M.F. is then lower, and may be made exactly one volt by adjusting the density of the zinc chloride solution. Cadmium and cadmium sulphate have been substituted for the zinc and zinc sulphate; the E.M.F. is then nearly one volt, and the variation with temperature is small.

§ 108. Data Relating to Primary Cells.

Cell.	Negative Electrode.	Excitant.	Depolarizer.	Positive Electrode.	Approximate Volts.
Daniell	Zinc	$ZnSO_4 + aq.$	$CuSO_4 + aq.$	Copper	1.1
Bunsen	Zinc	$H_2SO_4 + aq.$	HNO_3	Carbon	1.9
Grove	Zinc	$H_2SO_4 + aq.$	HNO_3	Platinum	1.9
Bunsen	Zinc	$H_2SO_4 + aq.$	$NaNO_3 + H_2SO_4$	Carbon	1.8
Bichromate	Zinc	$H_2SO_4 + aq.$	$Na_2Cr_2O_7 + H_2SO_4$	Carbon	1.9
Leclanché	Zinc	$NH_4Cl + aq.$	MnO_2	Carbon	1.5
Lalande	Zinc	$NaOH$	CuO	Copper	0.8
Silver chloride	Zinc	$NH_4Cl + aq.$	$AgCl$	Silver	1.1
Clark	Zinc	$ZnSO_4 + aq.$	Hg_2SO_4	Mercury	1.434
Calomel	Zinc	$ZnCl_2 + aq.$	Hg_2Cl_2	Mercury	1.0
Weston	Cadmium	$CdSO_4 + aq.$	Hg_2SO_4	Mercury	1.022

§ 109. Secondary Cells, or Accumulators. If two pieces of platinum, A and B (Fig. 109), are immersed in dilute sulphuric acid, and an electric current sent through the cell in the direction indicated, oxygen and hydrogen are liberated, oxygen collecting at the plate, A, or anode, and hydrogen at B, the cathode (see Electrolysis, in this article). Electrical energy has been used up in separating the oxygen and hydrogen, and they possess a certain amount of chemical energy because of this separation. If, now, the source of current be removed, and the wires leading from A and B are connected through a galvanometer, it shows a deflection, and indicates a current in the *reverse direction;* for since the E.M.F., which was applied to produce the separation, has been removed, the oxygen and hydrogen are free to combine, which they do under these conditions, and give back the chemical energy in the form of electrical energy.

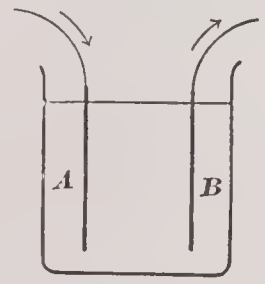


Fig. 109.

Grove constructed a gas battery working upon this principle. The action just described may be taken as the type of all *secondary batteries*, *accumulators*, or *storage-batteries*; but it is to be noted that they do not store electrical, but chemical, energy, the only difference between a primary and secondary battery cell being that in the former the active materials are taken from some outside source, and brought together under the proper conditions, and in uniting they produce a current; but in the secondary cell the active materials are prepared in the cell by means of a current sent through it. When the current is continued, the materials revert to their original state, and during this process the secondary cell is precisely the same as the primary cell. While the fact that a reverse current could be obtained in the case of oxygen and hydrogen under the conditions stated was known as early as 1803, it was not until 1860 that Planté discovered the exceptional efficiency of lead for this purpose, and constructed the first secondary batteries which were commercially useful.

Planté's cell consisted of two large sheets of lead rolled up together, but without metallic contact, and immersed in dilute sulphuric acid. To "form" or prepare the lead, a current is sent through the cell; the oxygen liberated at the anode oxidizes the lead, forming a dark brown coating of peroxide of lead. The cell is then discharged and a current is sent through in the reverse direction, coating the other plate with peroxide, while the hydrogen which collects at the plate first coated reduces the peroxide on it to metallic lead again, but leaving it in a finely divided state. The current is reversed several times in this manner until the plates are covered with a coating of finely divided lead. The cell is finally charged by sending a current through it until the electrolyte begins to be decomposed, showing that the action is complete; it will remain in this condition for many days, and will furnish current until the two plates are reduced to a chemically inactive state. The E.M.F. of the cell is approximately two volts. Faure, in 1881, modified the Planté cell by supplying the two plates with a coating of active material. The plates are cast or rolled in the form of grids, the holes or spaces being filled with the lead oxides which compose the active material, thus dispensing with the tedious and expensive process of forming. During the operation of charging, the oxides are changed to the peroxide at the anode or positive plate, and spongy lead at the cathode or negative plate. The chemical reactions of the cells are not thoroughly understood; sulphuric acid is formed during the charging and disappears when the cell is discharged. An almost endless variety of storage-cells have been devised, but they are generally some modification of one or the other of the two types described.

A commercial form of the Planté cell is shown in Fig. 110. Fig. 111 shows a section of the lead plates, which are grooved in order that they may present as much surface as possible. The active material is formed on the surface of the plates by an electrochemical process which greatly reduces the time and expense of forming.

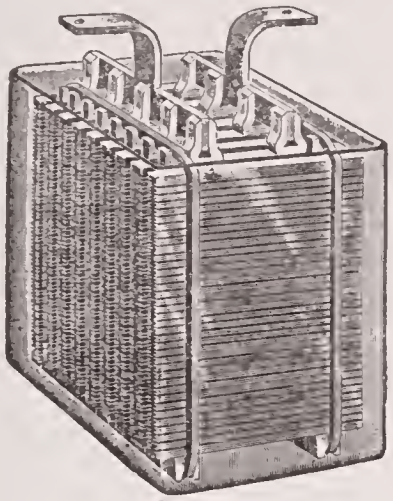


Fig. 110.

Fig. 112 is a common form of cell known as the chloride accumulator. The elements are made of half-tablets or pastilles of a salt of lead, inclosed in a dense frame of metal cast around them under heavy pressure; this plate of lead-salt so framed is then reduced electro-chemically to pure metallic lead. This gives a plate entirely composed of metallic lead, partly in compact form, partly in minute crystalline subdivision, differing only from a plate of cast or rolled lead in that some of its parts are of a granular character. The plates to be oxidized are then put, with alternate lead plates, in an electrolytic cell, and a current is passed through them for a sufficient time to convert the pure crystalline metallic lead into peroxide of lead.

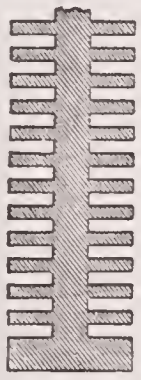


Fig. 111.

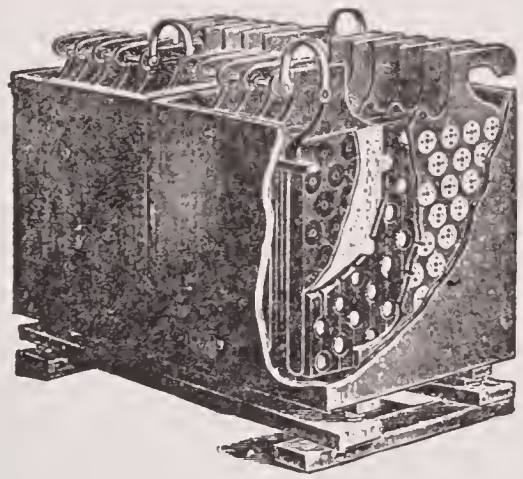


Fig. 112.

In cells of the Faure type the plates are cast full of square holes, the holes in the positive plate being filled with a stiff paste, prepared by mixing red lead (Pb_3O_4) with dilute sulphuric acid. This hardens as it dries, and during the process of charging it is partly changed to the peroxide. The paste for the negative plates is made of yellow lead, or litharge (PbO) and dilute sulphuric acid, which is covered with spongy metallic lead when the cell is charged. The voltage of both types is approximately the same.

Secondary batteries are usually rated at a certain number of ampere-hours. A 150-ampere cell should provide a current of 15 amperes for 10 hours, or one ampere for 150 hours. There is a limit, however, to both the charging and discharging rate, for if the current in either case is too great, the cell is not efficient. A change in the nature of the active material causes, also, a change in its volume; hence if the change in volume takes place too rapidly, the active material crumbles and falls off the plate. Secondary cells have, in general, a high electromotive force and low internal resistance, and hence are better suited to give large currents than primary cells; they give back from 70 per cent to 85 per cent of the energy used in charging. For many purposes they possess the disadvantage of great weight, and many attempts have been made to replace the lead by some lighter material, but as yet none have been entirely successful. The negative plate has been, in some cases, replaced by a zinc plate, well amalgamated; the solution used is dilute sulphuric acid containing zinc sulphate. On charging, zinc is deposited electrolytically on the zinc plate, while the action on the positive plate is the same as in other cells. The voltage is somewhat higher, being 2.5 volts; but the chief defect in the cell is its tendency to local action, necessitating the keeping of the zinc plate well amalgamated.

§ 110. Electrical Units. An absolute system of electrical units is one in which the units are independent of any arbitrary quantities, other than the fundamental units of mass, length and time. Two such systems are in use, and since they both take the centimeter, the gram and the second as the units of length, mass and time, they are called "centimeter-gram-second" systems, or, briefly, C.G.S. systems. The units of these systems have no special names, and are convenient only for mathematical investigation, being, in most cases, too large or too small for practical use.

The first of these systems is built up from the phenomenon of attraction between two charged bodies, and is called the *electrostatic system*. Unit-charge, or quantity of electrification, in this system has already been defined (§ 13). The second system depends upon the magnetic field about a conductor carrying a current (§ 50), and is therefore called the *electromagnetic system* of units.

Electrostatic Units.

Unit Quantity. The unit of quantity is that quantity of electricity which, when placed at a distance of one centimeter (in air) from a similar and equal quantity, repels it with a force of one *dyne* (§ 13).

Unit Potential. Potential being measured by *work* done in moving a unit of positive electricity against the electric forces, the unit of potential will be measured by the unit of work, the *erg*.

Unit Difference of Potential. Unit difference of potential exists between two points when it requires the expenditure of one *erg* of work to

bring a positive unit of electricity from one point to the other against the electric force (§ 25).

Unit Capacity. A conductor has unit capacity when it requires a charge of one unit of electricity to bring it up to unit potential. A sphere of one centimeter radius possesses unit capacity (§ 31).

Specific Inductive Capacity. This is defined in § 36 as the ratio between two quantities of electricity. The specific inductive capacity of air is taken as unity.

Electromagnetic Units.

Unit Magnet-Pole. Unit magnet-pole is one of such strength that, when placed at a distance of one centimeter (in air) from a similar pole of equal strength, repels it with a force of one *dyne.*

Unit-Strength of Current. A current has unit-strength when one centimeter length of its circuit, bent into an arc of one centimeter radius (so as to be always one centimeter away from the magnet-pole), exerts a force of one *dyne* on a unit magnet-pole placed at the center (§ 50).

Unit Quantity of Electricity is that quantity which is conveyed by unit-current in one second.

Unit Difference of Potential (or E.M.F.). Potential is work done on a unit of electricity, hence unit difference of potential exists between two points when it requires expenditure of one *erg* of work to bring a unit of positive electricity from one point to the other against the electric force.

Unit Capacity. A conductor of unit capacity requires unit quantity to charge it to unit potential.

Unit Induction. Unit induction is such that unit E.M.F. is introduced by the variation of the current at the rate of one unit of current per second.

Practical Units and Standards.

The practical units are derived by taking convenient multiples of the units in the C.G.S. electromagnetic system.

A *Standard* is a quantity of the same kind as that to be measured, and with which comparisons are actually made. A standard is conveniently a unit, but not necessarily so; for example, the standard of E.M.F. is that of a Clark cell, but this is known to be 1.434 practical units, or volts.

Resistance. The *Ohm* $= 10^{9}$ absolute electromagnetic units, and is represented by the resistance offered to an unvarying electric current by a column of mercury at 0° C., 14.4521 grams in mass, of a constant cross-sectional area, and a length of 106.3 centimeters.

Current. The *Ampere* $= 10^{-1}$ absolute electromagnetic units, and is represented by the current which deposits silver at the rate of 0.001118 grams per second.

Electromotive Force. The *Volt* $= 10^{8}$ absolute electromagnetic units, and is that E.M.F. which, applied to one ohm, will produce in it a current of one ampere; being $\frac{1000}{1434}$ of the E.M.F. of a Clark standard cell at 15° C.

Quantity. The *Coulomb* $= 10^{-1}$ absolute electromagnetic units of quantity, being the quantity of electricity conveyed by one ampere in one second.

Capacity. The *Farad* $= 10^{-9}$ (or one thousand-millionth) absolute electromagnetic units of capacity, being the capacity of a condenser such as to be charged to a potential of one volt by one coulomb. The *microfarad* (or millionth part of one farad) $= 10^{-15}$ absolute units.

Induction. The *Henry* $= 10^{9}$ absolute electromagnetic units of induction, is the induction in a circuit when the E.M.F. induced in this circuit is one volt, while the inducing current varies at the rate of one ampere per second.

The prefixes *mega-* and *micro-*, when used in connection with the above units, signify, respectively, "one million" and "one millionth" part. Thus a *megohm* is a resistance of one million ohms and a *microfarad* is one millionth of a farad. The prefix *kilo* is used for "one thousand," and *milli* for "one thousandth" part.

The following units of work and power are used in connection with the practical units:

Work. The *Joule* $= 10^{7}$ ergs. It is represented by the energy expended per second by one ampere in one ohm.

Power. The *Watt* $= 10^{7}$ ergs per second; it is equivalent to the power of a current of one ampere due to an E.M.F. of one volt, or one joule per second; approximately, $\frac{1}{746}$ of a horse-power.

ELECTROLYSIS. While many new facts have been learned about electrolysis, or the decomposition of chemical substances by the agency of the electric current, the chief material additions to our knowledge of the subject have lain in the interpretation of the facts already known, and in the confirmation of the new theories. Electrolysis takes place when a current of electricity is passed through a fused substance, or a solution in water, and the latter is by far the more usual method. The views held regarding the nature of the phenomena are as varied as they are conflicting and numberless theories have been put forth. The difficulty lay in our ignorance of the condition of the substance in solution, and of the nature of the process of solution in the case of acids, bases and salts, which are the only bodies whose solutions show electrolytic conduction.

The distinction between conductors, like copper and iron, which remain unchanged by the passage of the current, and solutions in which decomposition takes place, and the constituents are set free partly at one pole, and partly at the other, leads to the perfectly correct idea that the latter process is in some sense a transportation of the electricity with the substance, rather than a simple conduction through it. Thus when a current of electricity passes through a solution of hydrochloric acid, hydrogen is set free at the negative pole, and chlorine at the positive. It is found that the amount of each set free is proportional to the quantity of electricity passing round the circuit. It seems, at first sight, plain that the compound has been torn apart by the electricity. But this is inconsistent with the observation that the weakest current is capable of

producing some decomposition, and that the resistance is comparable with that of ordinary conductors. These facts can only be explained on the assumption that the current finds the decomposition already effected, and merely performs the function of guiding the fragments to the electrodes. The question which remained to be settled was, whether this decomposition affected a large proportion of the salt, or whether only a small quantity was at any one time in a position to yield to the influence of the current.

It was Van t'Hoff's proof that acids, bases and salts are at all times largely dissociated (see CHEMISTRY in the following article) that decided the question, and led Arrhenius to the statement of the theory of electrolytic dissociation as an explanation of all the hitherto unexplained peculiarities of the phenomena of solution. According to this theory, the act of solution of all substances of the above classes in water brings about their dissociation into the ions, to a greater or less degree. The ions $_2H$ & SO^4 from H^2SO^4, H & Cl from HCl, Na & Cl from NaCl, K&NO^3 from KNO^3, K&OH from KOH, and so forth, behave as independent molecules as far as the physical properties of the solutions go. They are not particles of free K, Na, etc., and so do not act chemically, as these substances would do. They are possessed of large charges of electricity. It is only when they have been led to one of the poles, and their electricity has been discharged, that they assume the properties of the free elements. Hence we have no immediate evidence of their separate existence, excepting when a current is passing, and then only at the electrodes. Water is itself so poor a conductor that practically the current is all carried by the ions of the salts. It is true that frequently oxygen and hydrogen are given off, and the action seems to have been a decomposition of water. This is the case in the familiar electrolysis of dilute sulphuric acid. The substances really set free are $_2H$ and SO^4; but the latter, not being a substance capable of independent existence, interacts with the water in the neighborhood: $2SO^4 + 2H^2O = 2H^2SO^4 + O^2$, and the result is the re-formation of sulphuric acid and the liberation of oxygen. That this is the real procedure is shown by the fact that sulphuric acid accumulates round the positive electrode. Such secondary reactions with water are, of course, very common. Thus from NaCl we get, primarily, Na and Cl; but only the latter appears in the free condition. The former interacts with the water, giving sodium hydroxide and hydrogen, $2Na + 2H^2O = 2NaOH + H^2$, and in this case the base accumulates round the negative electrode, and may be shown to be present by its action on red litmus.

It is evident that by this means important information can be gained in regard to the ions really present. Thus sodium platinic chloride, Na^2PtCl^6, cannot be a loose combination of the chlorides, but a compound giving the ions $_2Na$ and $PtCl^6$, for the platinum appears along with the chlorine at the positive, and the sodium is set free at the negative wire. If the solution contained the ions $_2Na$, Pt, and 6Cl, both metals would appear at the negative end. Similarly, potassium ferricyanide separates as 3K and $Fe(CN)^6$. These facts are in entire accord with the chemical behavior of these and similar salts. On no other assumption can we explain the facts that $K^3Fe(CN)^6$ gives the ordinary tests for potassium, but not for iron; that potassium chromate, K^2CrO^4, does not give the ordinary test for chromium; and that potassium chlorate, $KClO^3$, and monochloracetic acid, $ClCH^2COOH$, give no precipitate of silver chloride on adding silver nitrate. In all those cases the tests are for the ions Fe, Cr, Cl, while the ions actually present are $Fe(CN)^6$, CrO^4, ClO^3, $ClCH^2COO$. Almost the whole of analytical chemistry is founded on reactions involving the interchange of ions. Thus on adding hydrochloric acid to silver nitrate, we get a precipitate of silver chloride by the union of the Ag and Cl ions, $\overset{+}{Ag} + \overset{+}{N}O^3 + \overset{+}{H} + \overset{-}{Cl} = AgCl + \overset{+}{H} + \overset{-}{N}O^3$; the H and NO^3 ions remain in the solution. When silver nitrate is added to potassium chlorate no precipitate is produced, because the interchange of the ions can only form silver chlorate, which is soluble: $\overset{+}{Ag}\overset{-}{N}O^3 + \overset{+}{K}\overset{-}{Cl}O^3 = \overset{+}{Ag}\overset{-}{Cl}O^3 + \overset{+}{K}\overset{-}{N}O^3$.

The electrolysis of solutions has been used industrially for many purposes. Thus copper now is extracted from its ores by bringing it into solution, depositing the copper electrolytically and using the exhausted liquid in the treatment of fresh quantities of the ore. A bleaching-solution, which is stated to be more active than ordinary bleaching-powder, is prepared by the electrolysis of calcium chloride dissolved in water: $CaCl^2 = Ca + Cl^2$. The calcium acts on the water, forming calcium hydroxide: $Ca + 2H^2O = Ca(OH)^2 + H^2$, and on mixing, the chlorine interacts with the base, forming bleaching-powder: $2Ca(OH)^2 + 2Cl^2 = Ca(ClO)^2 + CaCl^2 + 2H^2O$. Now that electrical power is very cheap in many localities, operations like this can be carried on profitably. A method of purifying sewage has been patented, in which salt-water is partially electrolyzed, and the chlorine set free acts as a disinfecting agent. In the field of organic chemistry it has been found that the hydrogen set free in electrolysis can be used for the reduction of nitrobenzene ($C^6H^5NO^2$) to amidophenol, and it is expected that this method will have a wide field in connection with the synthesis of bodies which have not hitherto been manufactured on a large scale, but for which technical uses exist. The manufacture of aluminium is now conducted commercially by the electrolysis of a solution of aluminium oxide in molten cryolite.

When a solution containing two salts is electrolyzed, the results vary according to the character of the current used. Unless the current is very strong, both metals carrying it reach the electrode, but only the less oxidizable is deposited. Thus a mixture of salts of zinc and copper deposits, under these circumstances, only the latter. The zinc set free instantly precipitates an equivalent amount of copper, and goes itself into solution, just as it would do in the absence of a current. With a stronger current,

however, there is not time for this chemical change, and brass is deposited.

The character of the deposit of metal depends on the current density, so that, for practical purposes of electroplating, this has to be adjusted carefully, in order to prevent the deposit from being crystalline, or from being formed so fast that it adheres only loosely to the plate.

The use of an exact method for the measurement of the conductivity of electrolytes has cleared up many of the difficulties in understanding the phenomena of electrolysis. The conductivity varies with different salts. With all, it becomes greater relatively to the quantity of substance dissolved on diluting the solution. In every case a maximum is reached or approached. For strong acids and bases and their salts, this occurs on moderate dilution; for weaker acids and bases, it is approached and would be reached only at an infinite dilution. Since the electricity is carried by the ions, this means that dissociation increases with dilution, and is nearly complete for strong acids and bases and their salts, even at moderate dilution. Another factor besides the degree of dissociation enters into the conducting power of every salt; namely, the speeds with which the ions move. These vary within wide limits. Thus hydrogen ions move five times as fast as chlorine ions; hydroxyl ions, two and a half times as fast. If we know the speed of the ions of any salt, and the conductivity at several dilutions, we can calculate the degree of dissociation of the salt in question at each stage of dilution. This degree of dissociation is a magnitude of great importance to the chemist, for it measures the chemical activity of the substance. It is important, therefore, to notice independent evidence in our hands which confirms the value obtained by electrical methods, and so establishes more securely the theory of electrolytic dissociation in general,

In the first place, Ostwald measured the relative affinities of various acids for various bases, where two acids competed for a quantity of the base insufficient to neutralize both. The values agreed with the values for the dissociation of the same acids in solutions of equal strength. Other methods of measuring affinity gave similar results.

In the second place, as we have seen in speaking of solution (see CHEMISTRY, in following article), the osmotic pressure is proportional to the number of particles present, whether they are molecules or ions. A measurement of osmotic pressure of various solutions has given the same figures for dissociation as the electric conductivity method.

In the third place, the lowering of the freezing-point and elevation of the boiling-point give a means of measuring the number of bodies acting as molecules. For salts, this number is always much larger than the quantity of complete molecules present would lead us to expect. Thus, in one experiment, 78 per cent of the potassium chloride was dissociated into K and Cl; in another, 79 per cent of barium chloride was dissociated into Ba, Cl and Cl, three ions arising out of each molecule.

Again, the color of the ion is often different from that of the molecule. Thus anhydrous cobalt chloride is blue. In dilute aqueous solution it is red, the color of the cobalt ion. In concentrated aqueous solution, or in alcoholic solution, therefore, where the dissociation is inconsiderable, the color is blue. On diluting the water solutions, the ionization increases, and the color passes through purple to red. Similarly, the solution of potassium cobalticyanide, $K^3Co(CN)^6$, is colorless, since the ions are 3K and $CO(CN)^6$, and cobalt ions are absent.

Finally, the heat of neutralization of dilute solutions of strong bases by strong acids is the same, whatever bases or acids are selected. Yet the heats of formations of the salts by other methods are very different. The only possible explanation, is that in neutralization the same heat is given out because the same substance is formed; in every case, water only. The action which takes place is represented by the equation:

$$\overset{+}{H} + \overset{-}{Cl} + \overset{+}{K} + \overset{-}{OH} = \overset{-}{Cl} + \overset{+}{K} + H^2O + 13700 \text{ cal.}$$

Water not being appreciably dissociated, its ions H and OH cannot exist in presence of each other, and they unite to form water. The other two ions remain unchanged, unless the solution is evaporated. The action of neutralization consists, therefore, not in the formation of the salt, but simply and solely of water, so that the heat of neutralization is constant for all strong acids and bases, because the action is always the same union of H and OH.

SOME ELECTRICAL TERMS.

Ampere.—1. The practical unit of electrical current. 2. A rate of flow of electricity transmitting one coulomb per second. 3. The current of electricity which would pass through a circuit whose resistance is one ohm, under an electro-motive force of one volt.

Volt.—1. The practical unit of electro-motive force. 2. Such an electro-motive force as is induced in a conductor which cuts lines of a magnetic flux at the rate of 100,000,000 per second. 3. Such an electro-motive force as would cause a current of one ampere to flow against a resistance of one ohm.

Ohm.—1. The practical unit of electric resistance. 2. Such a resistance as would limit the flow of electricity under an electro-motive force of one volt to a current of one ampere, or one coulomb per second.

Ohm's Law.—1. The strength or a continuous electric current in any circuit is directly proportional to the electro-motive force acting on that circuit, and inversely proportional to the resistance of the circuit.

Watt.—1. A unit of electric power. 2. A volt ampere. 3. The power developed when 44.25 foot-pounds of work are done in a minute, or, 0.7375 foot-pounds per second.

Dynamo.—A dynamo-electric machine or generator.

Motor Electric.—A device for transforming electric power into mechanical power.

Magneto.—1. A magneto generator. 2. A small magneto-electric dynamo machine.

Galvanometer.—An apparatus for measuring the strength of an electric current by the deflection of a magnetic needle.

Transformer.—An induction coil employed either for raising or for lowering electric pressure.

Regulating Box.—A rheostat inserted in the field circuit of a generator or motor for regulating the current passing through the field magnetic coils.

Safety Fuse.—A wire, bar, plate or strip of readily fusible metal, capable of conducting without fusing the current ordinarily employed on the circuit, but which fuses and thus automatically breaks the circuit on the passage of an abnormally strong current.

Short Circuit.—1. A shunt or by-path of negligible or comparatively small resistance placed around any part of an electric circuit through which so much of the current passes as to virtually cut out the parts of the circuit to which it acts as a shunt. 2. An accidental direct connection between the mains or main terminals of a dynamo or system producing a heavy overload of current.

Chemistry.

CHEMISTRY is the science of atoms. It detects their relative power, their laws of combination, and their means of decomposition. It enables us to understand the construction of bodies. As astrology preceded astronomy so alchemy paved the way for chemistry. Gradually, as the fallacy of alchemy was revealed, chemistry grew to the enlightenment of the world

In nature we have simple and compound bodies. The former are called elements, which, in chemistry, is any substance which cannot be separated into two or more distinctive different substances. The list of the elements is as follows:

TABLE OF CHEMICAL ELEMENTS.

NAME.	SPECIFIC GRAVITY.	WHEN DISCOVERED.	WHERE AND HOW FOUND.
Hydrogen	.025	1766	Mainly in water.
Lithium	.585	1817	In lepidolite, spodumene, and some rare minerals.
Sodium	.97	1807	In common salt and many rocks.
Potassium	.86	1807	In wood ashes and many rocks.
Rubidium	1.52	1860	In lepidolite and some mineral springs.
Cæsium	1.88	1860	In lepidolite, pollucite, and mineral springs.
Glucinum	1.85	1828	In beryl and several rare minerals.
Magnesium	1.75	1829	In sea-water, magnesite, and many rocks.
Calcium	1.6 to 1.8	1808	In lime-stone, and abundantly in other rock.
Zinc	7.12	1520	In ores, as oxid, silicate, sulfid, and carbonite.
Strontium	2.5	1808	In celestite and strontianite.
Cadmium	8.65	1817	In small amount in zinc ore.
Barium	3.75	1808	In barite and witherite.
Mercury	13.596	.....	Native, and in cinnabar.
Boron	2.6	1808	In borax and various minerals.
Aluminum	2.58	1828	In many rocks. (The most abundant metal.)
Scandium	.....	1879	In gadolinite and other rare minerals.
Gallium	5.95	1875	In certain zinc-blendes.
Yttrium	.....	1828	In gadolinite and other rare minerals.
Indium	7.4	1863	In certain zinc ores.
Lanthanum	6.1	1839	In cerite and other rare minerals.
Neodymium	6.5	1885	In cerite and other rare minerals.
Praseodymium	6.5	1885	In cerite and other rare minerals.
Samarium	.....	1879	In samarskite, cerite, and other rare minerals.
Gadolinium	.....	1886	In rare minerals.
Terbium	.....	1843	In rare minerals.
Erbium	.....	1843	In rare minerals.
Thulium	.....	1879	In rare minerals.
Ytterbium	.....	1878	In such minerals as gadolinite, etc.
Thallium	11.19	1862	In pyrites and in flue-dust of sulfuric-acid works.
Carbon	3.52	.....	In coal, limestone, and all organic matter.
Silicon	2.48	1823	In quartz.

ELEMENTS — CONTINUED.

NAME.	SPECIFIC GRAVITY.	WHEN DISCOVERED.	WHERE AND HOW FOUND.
Titanium	.....	1789	In rocks and clays.
Germanium	5.47	1886	In argyrodite.
Zirconium	4.15	1824	In zircon and other rare minerals.
Tin	7.25	.....	Mainly in cassiterite.
Cerium	6.7	1803	In cerite and other rare minerals.
Lead	11.36	.....	In galena and other ores.
Thorium	11.23	1828	In thorite and other rare minerals.
Nitrogen	.38	1772	In the atmosphere and organic matter.
Phosphorus	1.84	1669	In bones and in apatite and many minerals.
Vanadium	5.87	1830	In vanadinite and other rare minerals.
Arsenic	5.71	1694	Native, as sulfid, and in various metallic ores.
Columbium	7	1801	In columbite and other rare minerals.
Antimony	6.7	1450	Chiefly as sulfid.
Tantalum	10	1802	In tantalite and other rare minerals.
Bismuth	9.8	1450	Native, as sulfid, and in rare minerals.
Oxygen	1.11	1774	Free in air. Forms one-half the earth's crust combined.
Sulfur	2.07	.....	Native and in many natural sulfids and sulfates.
Chromium	7.3	1797	Mainly in chrome-iron-ore.
Selenium	4.5	1817	Mainly in sulfur as an impurity.
Molybdenum	8.6	1782	Mainly as molybdenite.
Tellurium	6.23	1782	In several rare minerals.
Tungsten	19.26	1781	Mainly in wolframite
Uranium	18.69	1789	In pitchblend and other rare minerals.
Fluorin	.....	1771	In fluorite and other minerals.
Chlorin	1.33	1774	In common salt and other chlorids.
Manganese	7.2	1774	In pyrolusite and many other minerals.
Bromin	3.19	1826	Mainly in sea-water and other natural brines.
Ruthenium	12.26	1845	With platinum and iridosmine.
Iodin	4.95	1811	Mainly in ashes of sea-weeds.
Osmium	22.48	1803	In iridosmine and native platinum.
Iron	8	.....	As oxide and sulfid and in nearly all rocks.
Nickle	8.9	1751	In many metallic ores.
Cobalt	8.96	1733	In many metallic ores.
Copper	8.9	.....	Native and in many ores.
Rhodium	12.1	1804	With platinum and iridosmine.
Palladium	12.1	1804	Native and with platinum and gold.
Silver	10.5	.....	Native and in many ores.
Iridium	22.4	1803	In iridosmine.
Platinum	21.5	1741	Mainly as native platinum in river-gravels.
Gold	19.3	.....	Generally free.

An atom in chemistry is usually considered the smallest quantity of matter that exists and is indivisible. A molecule is supposed to be made up of atoms and is the smallest portion of a compound body. The standard atom is hydrogen, which is put down as 1, because we find that when one part by weight of hydrogen is put in combination it must have many more parts by weight of others to form a compound. When we wish to express the number of atoms in a compound, we write the number underneath when more than one; thus water is H_2O. Sulphuric acid is H_2SO_4.

During the last quarter of a century, chemistry has advanced more rapidly perhaps than during any preceding period of similiar length. The number of facts within its domain has increased, and is increasing, so rapidly as to defy the effort of any single man to follow its progress. Not all the facts will be found to be of equal importance, when viewed in proper historical perspective. But the revision of the atomic weights, the discovery of new elements, whether of the rarer sorts, like germanium and radium, or of the more plentiful kind, like argon, the preparation of new compounds of the highest theoretical as well as of practical interest, and the invention of new ways of manufacturing well-known substances, have all greatly increased our knowledge of the subject-matter of the science. Of even greater value have been the advances in theoretical chemistry. Not many years ago the only general laws were those affecting the composition of chemical compounds, the law that the elements unite in definite proportions by weight to form compounds, and the laws closely connected with it. Now we know much about the laws governing chemical change. One of the most valuable additions to our knowledge in this direction has been the modern development of the theory of solution.

Atomic and Molecular Weights. The atomic weight is the most fundamental property of every chemical element. Every physical and chemical

property of the element seems to be a function of this. In the practical point of view, its exact determination is of the greatest importance to the analyst, and so touches the commercial aspect of the subject.

The fixing of the proportions in which hydrogen and oxygen combine to form water, in order to ascertain the atomic weights of these elements, has formed the subject of a vast amount of painstaking work. As the result of ten years' investigation, Professor Morley of Cleveland finds the atomic weight of oxygen to be 15.879 where that of hydrogen is 1. This agrees with the average of the determinations of six out of seven recent experimenters, who gave almost equal care to the work, and may be regarded as expressing the closest approach to accuracy attainable by our present means. Since the atomic weights of all the other elements have been measured by comparison with oxygen, this change from the old value (15.96) has involved a recalculation of all other atomic weights. In view of the fact, however, that the measurement of the proportions in which oxygen and hydrogen combine presents great difficulties, and that the results obtained are therefore liable to err, oxygen (with arbitrary atomic weight = 16) has now been almost universally accepted as the basis of all tables of atomic weights; so that when the atomic weight of another element is determined by the use of compounds containing oxygen, the value is affected by errors of the particular determination only, and not by any change in the atomic weight of oxygen itself. Hydrogen has on this scale the atomic weight 1.0076.

The following table shows the most recent values of the atomic weights, calculated by F. W. Clark on the basis O=16:

Aluminium	27.11	Molybdenum	95.98
Antimony	120.43	Neodymium	140.5
Argon	?	Nickel	58.69
Arsenic	75.09	Nitrogen	14.04
Barium	137.43	Osmium	190.99
Bismuth	208.11	Palladium	106.36
Boron	10.95	Phosphorus	31.02
Bromine	79.95	Platinum	194.89
Cadmium	111.93	Potassium	39.11
Cæsium	132.89	Praseodymium	143.5
Calcium	40.08	Rhodium	103.01
Carbon	12.01	Rubidium	85.43
Cerium	140.2	Ruthenium	101.68
Chlorine	35.45	Samarium	150.00
Chromium	52.14	Scandium	44.00
Cobalt	58.93	Selenium	79.00
Columbium	94.00	Silicon	28.40
Copper	63.60	Silver	107.92
Erbium	166.30	Sodium	23.05
Fluorine	19.03	Strontium	87.61
Gadolinium	156.10	Sulphur	32.07
Gallium	69.00	Tantalum	182.60
Germanium	72.30	Tellurium	127.00?
Glucinum	9.08	Terbium	160.00
Gold	197.24	Thallium	204.15
Helium	?	Thorium	232.63
Hydrogen	1.008	Thulium	170.7
Indium	113.7	Tin	119.05
Iodine	126.85	Titanium	48.15
Iridium	193.12	Tungsten	184.84
Iron	56.02	Uranium	239.59
Lanthanum	138.6	Vanadium	51.38
Lead	206.92	Ytterbium	173.00
Lithium	7.03	Yttrium	88.95
Magnesium	24.29	Zinc	65.41
Manganese	54.99	Zirconium	90.6
Mercury	200.00		

The atomic weights of argon and helium at present accepted are 20 and 2, respectively. These values will probably be altered by further investigation, and may have to be doubled.

Of equal importance to the determination of atomic weights is the measuring of molecular weights. Until recently the only method available for the purpose consisted in the vaporizing of the substance and weighing a known volume of the vapor; this was only applicable to those substances which were not decomposed by heat and did not possess too high a boiling-point. Other methods have now been discovered which permit the measurement to be made in solution. It has long been known that a solution freezes at a lower temperature and boils at a higher temperature than the pure solvent. It is found that these changes depend on the number of molecules of the substance dissolved in a given quantity of the solvent. Equal volumes of a solvent which show equal depressions of the freezing-point, or equal elevations of the boiling-point, contain equal number of molecules of the dissolved substances, so that the weights of the latter are proportional to the molecular weights. Water, benzene, acetic acid, and other common substances are used as solvents. The only notable exceptions to this rule are acids, bases and salts which are ionized (See article on ELECTROLYSIS) in water, and show a larger alteration in the freezing and boiling points, since the ions behave like separate molecules.

Chemical Action. The sharp distinction which was drawn between physics and chemistry long kept the study of these sciences separate. It is gradually being realized, however, that, while "chemistry deals with the relations of atoms to each other, and physics with the properties of molecules and aggregates of molecules," physical conditions have a great influence on chemical changes, and the fundamental laws of the sciences are closely related. One factor in bringing about this *rapprochement* has been the application of the laws of energy to all branches of physical science. All physical changes in matter are accompanied by transformations of energy in some form. Thus a falling body, when changed into a body at rest, becomes heated; its energy of motion is transformed into heat-energy. So when a chemical change takes place in a mixture of, e.g., copper and sulphur, the matter is changed into sulphide of copper, and simultaneously heat is developed. Since this cannot arise out of nothing, it must come by transformation from some other variety of energy.

As the energy resident in a mixture of copper and sulphur cannot be readily identified with any of the familiar kinds of energy, such as electrical or mechanical energy, it is at present regarded as distinct from these, and is named chemical energy.

In every chemical change, as in every physical change, therefore, the transformation of energy is as essential an element in the phenomenon as the change in the matter itself. And in any consideration of the conditions favoring chemical action a study of the energy-change involved will be a prominent feature. In most chemical actions, heat is the form

of energy which arises from, or is transformed into, chemical energy. In special cases, however, the greater part of the energy appears as electricity, as in the battery; and it has recently been shown that mechanical energy, applied by rubbing in a mortar, decomposes certain compounds of silver, gold and other elements into their constituents by producing the necessary chemical energy.

The above reasoning might lead us to the conclusion that the amount of the heat-change involved in any action was a measure of the force which urged the matter concerned from one condition to another. This idea has given birth to the so-called law that every chemical change results in the formation of those substances whose production will evolve the most heat. While this rule is very widely applicable, there are important, and every day more numerous, exceptions to it. In all equilibrium reactions, for example, it is known the chemical change is reversible, and may be driven in either direction, independently of the sign of the heat-change, by altering the concentrations of the interacting substances. Thus in a closed vessel the action,

$$2NaCl + H^2SO^4 = Na^2SO^4 + 2HCl,$$

is only partially accomplished; all four substances co-exist, and the system on the left-hand side is stable in presence of its reaction products, in spite of the fact that heat could be given out by its undergoing change. If the concentration of the HCl is allowed to diminish by allowing the gas to escape, the action will go on to completion from this cause alone. On the other hand, simply injecting more HCl will push the action in the reverse direction of that which the above law would prescribe. The same principle explains the action of carbon monoxide on ferric oxide in the blast-furnace: $Fe^2O^3 + 3CO = 2Fe + 3CO^2$. This action is likewise incomplete in a closed vessel; but if the CO^2 escapes, or increased concentration of the CO is provided for (as is actually done in practice), the action may be carried to completion and all the oxide reduced.

Solution. That chemical changes take place more easily in solution, particularly in water, than under other circumstances, has always been recognized. Till recently, little has been known of the condition of a substance in solution, and so this fact could only be explained by the dogmatic assertion that "substances could only interact when they were in fluid form." An accurate knowledge of the properties of solution, however, has led to a complete explanation of numberless mysterious chemical facts, and has done more for the rationalization of chemistry than any other of its recent advances. Solutions are no longer liquids in which gases, solids or other liquids have been dissolved. They include mixtures of any of these kinds of matter with any other. They have been defined as "homogeneous mixtures which cannot be separated into their constituent parts by mechanical means, the proportion between the parts being continuously variable between certain limits, with a corresponding continuous variation in properties."

The addition of solid solutions to the list has been particularly noteworthy. Thus isomorphous substances form mixed crystals which have many of the properties of solutions. In the ordinary test for iodine the strongly colored blue substance formed has been shown to be a solid solution of iodine in starch, and not a chemical compound. In dyeing, the process is very often, apparently, the passage of the coloring matter out of solution in water into a condition of solid solution in the material of the fabric on account of its greater solubility in the latter; so that the dyed material is not a compound, but a solution. The absorption of hydrogen by heated platinum is a phenomenon of the same order, and it follows the same law in regard to pressure as the solution of a gas in a liquid. Opinions are divided in regard to the similar absorption of hydrogen by palladium, which can take up 900 times its volume of the gas. It is maintained by some that up to 40 volumes the process obeys the laws of solution, and above that a compound is formed. Others consider the whole absorption a case of solution. At all events, the formation of a solid solution of the gas in the metal plays an important part in the operation.

The observation of diffusion (that is, the mechanical transferences of particles through the mass) in solids confirms this view. Thus the penetration of carbon into a bar of iron, in the preparation of steel by cementation, is akin to the diffusion of a salt in solution. It is found that there is a corresponding diffusion of part of the iron into the surrounding charcoal. Plated articles often show a similar interchange in the adjacent parts of the metals. By purposely pressing them together, chemical changes can be produced between dry substances which would otherwise (at the ordinary temperature) only interact in solution in water. Thus when barium sulphate and sodium carbonate were mixed and put under pressure, 20 per cent of the barium became barium carbonate and a corresponding quantity of sodium sulphate was formed:

$$BaSO^4 + Na^2CO^3 = BaCO^3 + Na^2SO^4.$$

On starting with the latter substances the change took place to the extent of 80 per cent in the other direction. This could only have happened in consequence of interdiffusion of the molecules of each substance.

A substance in solution (say, in water) is, in consequence of the presence of the water, compelled to occupy a much larger volume than that which ordinarily belongs to it at the same temperature in the absence of the solvent. The question as to whether the dissolved substance forms a loose combination with the water, and therefore penetrates to every part of it, or whether the phenomenon is a purely physical one, has long been the subject of much discussion. The fact that a substance in dilute solution shows many of the properties of a gas, and that the properties are often independent of the chemical nature of the dissolved body, and depend only on the number of molecules in a given volume of the solution, has led to the belief that no union of any kind with the water has taken place. All the observed facts can be explained on the assumption that the solvent power of the water merely destroys the coherence of the body to be dissolved, and scat-

ters its particles over a much larger space, leaving them in an essentially gaseous condition.

This view explains satisfactorily the phenomena of diffusion. If we place a strong solution of a salt at the bottom of a jar and cover it with pure water, we find that the particles of the salt make their way upward against gravity as if driven by some force, just as the particles of a gas at the bottom of an empty jar would do. The process is slower, on account of the interference of the water, but the similarity between the phenomena is unmistakable. The particles of the gas diffuse by virtue of their energy of motion, and so do those of the salt as fast as the hindering water will permit. This view suggests to us at once the idea that in consequence of this motion the dissolved substance would exhibit a pressure similar to the pressure of a gas, if we could find proper means of measuring it. If a suitable partition (called a semipermeable membrane) is interposed, such that the molecules of the solvent can freely pass through, while those of the salt cannot, the impact of the latter on the membrane establishes a pressure inside the membrane in excess of the pressure on the outside, which is that of the water alone. Such a membrane can be made by filling a porous pot with a solution of potassium ferrocyanide and immersing it in a solution of cupric sulphate. The cupric ferrocyanide precipitated in the material of the pot can be traversed freely by water, but resists the passage of substances in solution. When such a pot, is then filled with a solution and placed in pure water, an excess of pressure shows itself inside, which represents the pressure of the dissolved substance, and is called the osmotic pressure. It can be measured by any convenient gauge.

This osmotic pressure is proportional to the concentration of the solution; that is, it follows a law corresponding to Boyle's law for gases. Furthermore, it is found that equal volumes of solution containing molecular quantities of different dissolved substances, at the same temperature, exhibit the same osmotic pressure. This corresponds to Avogadro's law for gases: that equal volumes of gases at the same temperature and pressure contain equal numbers of molecules.

Measurements show that acids, bases and salts in solution in water exhibit abnormally high pressures, and behave, therefore, in an exceptional manner. This fact, however, far from being a disturbing element, is one of the most striking proofs of the established theory that these substances undergo electrolytic dissociation in solution. (See article on ELECTROLYSIS.) Thus sodium chloride, nitric acid, etc., are dissociated in dilute solution with the ions, Na & Cl and H & NO^3, etc., and these particles contribute to the pressure just as if they were independent molecules. The pressure is therefore greater on account of the greater number of molecules present.

The absolute amount of the osmotic pressure is often considerable. A six-per-cent solution of sugar, for example, exercises an osmotic pressure of four atmospheres. Calculations show that a substance exercises the same pressure in solution as it would if it could exist as a gas in the same volume at the same temperature.

These results have explained the phenomena of dialysis observed by Graham about the middle of this century. He found that some bodies, like tannin and gums, which he called colloids, could not pass through membranes of bladder or parchment paper by diffusion, while acids, salts, etc., which he called crytalloids, could do so. He was simply using imperfect semipermeable membranes which permitted the passage of some substances, as well as the solvent, and delayed or prevented the passage of others. The pores of the membrane were apparently large enough to permit the passage of some molecules, while hindering the passage of others. This process is still used in pharmacy, in making substances like dialyzed iron, which is a solution of ferric hydroxide in water which has been freed by dialysis from the salts used in preparing it. The ferric hydroxid is a colloid, and does not pass through the membrane.

Not only do equal numbers of molecules of a substance produce equal osmotic pressure, but also equal depressions in the freezing-point and equal elevations in the boiling-point of the solvent. The use of these facts for the determination of molecular weights has been referred to already. Other chemical properties of solutions are discussed under ELECTROLYSIS; q. v.

The Atmosphere. Our knowledge of the atmosphere has been enlarged by the discovery of argon (discovered in 1894), and by the recognition of the important *rôle* which dust plays in the air. The importance of this constituent escaped notice until Dr. Aitken showed that the condensation of moisture to fog and rain was due to its presence. By filtering air through cotton wool, or letting the dust settle for a day or two, he prepared samples of air in which excess of moisture produced no condensation, while the introduction of dust caused the instant formation of a fog. The particles of dust seemed to act as nuclei around which the moisture was deposited, and in their absence the air remained supersaturated with water vapor. Not only was smoke capable of producing fog in dust-free, moist air, but even the gases from Bunsen flames exhibited the power in an unusual degree.

Dr. Aitken's experiments show that, other things being equal, the larger the amount of dust in the air, the greater the tendency to form fog and rain. This suggested to him the idea of applying the method in meteorology by the use of a dust-counter. This instrument enabled the observer to count the number of drops of fog which had settled, out of a known volume of moist air, on a known fraction of the whole surface of the vessel. By this means it was possible to determine the number of particles of dust in a cubic inch of various samples of air. In one series of determinations he found the numbers for outside air (raining), 119,000; outside air (fair), 521,000; room, 30,318,000; room, near ceiling, 88,346,000; above a Bunsen flame, 489,000,000; at great altitudes the number was much smaller than at the sea-level. It appears that artificial rain can sometimes be produced in air containing sufficient mois-

ture, by the introduction of large quantities of dust. Experiments in "rain-making" by means of explosives were frequently successful from this cause.

The nitrogen of the air used to be considered an entirely inert constituent, yet the question remained unsettled whether it was not absorbed in some way by plants. It had been a familiar fact that many parts of their structure, particularly the fruit, contained a considerable proportion of nitrogen in combination, but it was also an undoubted fact that they could obtain this constituent from soluble substances in the soil. It is now known, however, that, even when the food-supply to the plant is entirely non-nitrogenous, it can draw its necessary supply of nitrogen from the air. This is accomplished, not by the plant itself, but through the agency of certain organisms which grow at its roots.

Water. As we shall see (see ELECTROLYSIS, in preceding article), water, far from being a neutral substance, takes an active part in assisting and controlling chemical changes through its dissociative power. In addition to electrolytic dissociation, water frequently produces decomposition by acting chemically on substances dissolved in it. This action is called hydrolysis (or hydrolytic dissociation). Thus when water is added to antimony trichloride, antimony oxychloride is precipitated:

$$SbCl^3 + H^2O = SbOCl + 2HCl.$$

The action is incomplete, and can be reversed by adding hydrochloric acid. It appears that actions of this kind are much more common than was supposed, very many salts being hydrolyzed to a small extent by water. Thus cupric sulphate (anhydrous) is white, but its solution in water is blue. This color was at first attributed to the color of the copper ions, the SO^4 ions being colorless. But if this were the case, dilution, by increasing the dissociation, and therefore the number of ions, should deepen the tint in proportion to the amount of the salt present. As a matter of fact, however, no such change occurs, even when the number of copper ions is doubled; so that probably the blue color is due to the formation of copper hydroxide,

$$CuSO^4 + 2H^2O = Cu(OH)^2 + H^2SO^4,$$

to a small extent. Similarly, the yellow color of a solution of ferric chloride is thought to be due to the presence of ferric hydroxide, since the solution always has an acid reaction:

$$FeCl^3 + 3H^2O = Fe(OH)^3 + 3HCl.$$

In the case of actions furthered by electrolytic dissociation, the fullest exhibition of this power of water is shown in dilute solutions. But it appears that the presence or absence of even traces of moisture may determine the occurrence of many chemical changes. It has been shown that phosphorus, potassium and sodium will not burn in oxygen which has been carefully dried with phosphorus pentoxide, and that the combustion of carbon is greatly retarded; that when dry hydrogen and chlorine are exposed to bright sunlight for two days, more than a quarter of the material remains uncombined, while with the moist gases complete union takes place instantly with explosive violence. Sulphur trioxide refuses to combine with calcium or copper oxides under the same circumstances. The same is true of dry ammonia and hydrochloric acid. Conversely, perfectly dry ammonium chloride gives normal values for vapor density, while the ordinary salt is completely dissociated into ammonia and hydrochloric acid. The most curious fact of the series is, that the same salt also fails to act on quicklime, although, under ordinary circumstances, ammonia, calcium chloride and water are formed:

$$CaO + 2NH^4Cl = CaCl^2 + H^2O + 2NH^3.$$

Here the slightest interaction would have produced the moisture apparently indispensable to the occurrence of the change. In all these cases, on the introduction of a little moisture the chemical actions took their usual course.

New Elements. The discovery of a new element, like that of a new member of the solar system, is always a matter of great interest, and recent years have seen many discoveries. In 1875 Boisbandran separated Gallium from a variety of zinc blende, and found that its atomic weight and properties were those of the hypothetical element, eka-aluminium. In 1879 Nilson and Cleve found a new element in euxenite and gadolinite, which they named Scandium. Its properties showed it to be Mendelejeff's ekaboron, and finally, in 1886, Winker analyzed a new mineral, argyrodite, and found in it the third of the series, Germanium. No one of these elements is sufficiently plentiful to be of commercial value. It has been known for more than a century that the mineral cerite contained a number of different elements. The oxides of these elements, the so-called cerite earths, proved to be very difficult to separate, however. The elements Cerium and Lanthanum were the first to be obtained pure. The other constituent, didymium, at first regarded as a single element, has since (1885) been separated by V. Welsbach into two, Neodymium and Praseodymium. These elements are of practical interest, since their oxides are used in making the mantle of the Welsbach lamp. They give out a very pure, white light when raised to a high temperature.

The new elements, or perhaps mixtures of new elements, Argon and Helium, form later additions to the list. The first is found in the air, and forms one per cent. of its volume; the second has been extracted from cleveite and other minerals.

A new chemical element of a pale brown color, and called Victorium, was discovered by the great English scientist Sir William Crookes in 1901. It ranks between yttrium and erbium, and like these has not been put to any practical use. Its atomic weight is seventeen and its spectrum lies in the ultra violet region.

The domain of chemistry was enriched in 1903 by the discovery of one of the most wonderful metals known to science. It is known as Radium, and was so named by Mme. Curie, of Paris, France, who discovered it while experimenting with the salts of uranium. Radium is found in a mineral called pitchblend, in the proportion of about one-tenth of a grain to a ton of pitchblend, which is found deep in the earth in several localities in Bohemia, Saxony, Cornwall, and Colorado; and forms the latest addition to the list of elements.

The isolation of Fluorine has attracted more attention, perhaps, than any of the above discoveries. It occurs plentifully in nature, in various

forms of combination, and especially as fluorspar (CaF^2). But although many of its compounds were familiar bodies, the element itself had never been obtained in the free state, in spite of innumerable efforts to prepare it. The cause of the difficulty was known to lie in its extreme chemical activity, by virtue of which the moment a trace of it was formed it interacted with the substance of the vessel in which its preparation had been attempted, or with the ever-present moisture, and so passed into a new form of chemical combination. By combining three ideas,—the use of a vessel of material very difficult of attack, a low temperature and consequent relatively small chemical activity of the element, and the absence of moisture,—Moissan (1876) succeeded in preparing considerable quantities with great ease.

When an electric current is passed through aqueous hydrochloric acid, the constituents, hydrogen and chlorine, are liberated at the negative and positive poles respectively. When ordinary hydrofluoric acid is treated similarly, hydrogen and oxygen are the only products. The latter is clearly formed on account of the action of fluorine on water:

$$2F^2 + 2H^2O = 2H^2F^2 + O^2,$$

whereby the hydrofluoric acid is re-formed. Even chlorine acts on water in the same way in sunlight. By taking perfectly anhydrous hydrofluoric acid containing 25 per cent of acid potassium fluoride (KHF^2), Moissan secured a liquid which was decomposed by the current, and yet contained no water. The potassium fluoride broke up into fluorine and potassium. The former was evolved at the positive pole, the latter acted on the hydrofluoric acid, producing potassium fluoride again, and hydrogen, which appeared at the negative pole.

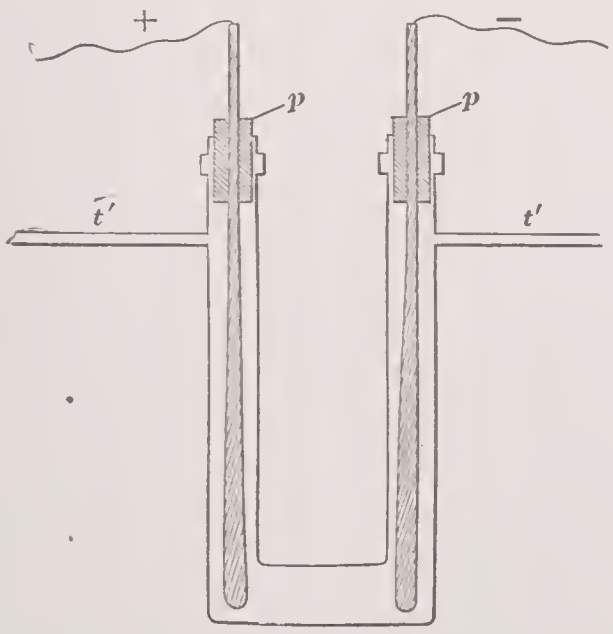


FIG. A.

The apparatus consisted of a U tube made of a platinum-iridium alloy. (See Fig. A.) This material was found to be much less attacked than platinum alone. To avoid the loss of hydrofluoric acid by evaporation, which is rapid at the ordinary temperature, as it boils below 20° C., and to diminish the activity of the fluorine, the tube was surrounded by a glass vessel in which methyl chloride boiled under reduced pressure. The boiling-point of this liquid is −23° C., and by drawing air through the apparatus by means of a pump, a temperature of −40° to −50° C. was maintained. The tube was provided with plugs (p) of fluorite, through which the platinum-iridium terminal passed, and with side-tubes (t and t') for the exit of the fluorine and hydrogen respectively. Observation of the fluorine gas arising at the positive pole showed it to be similar in color to chlorine. It had an odor like chlorine monoxid. It displaced chlorine in sodium chloride just as chlorine displaces iodine in potassium iodide. It united directly with many elements. In contact with hydrogen, explosive union took place even in the dark. Iodine, sulphur, phosphorus, and even crystalline silicon and boron, took fire spontaneously in uniting with it. All metals were converted into fluorides more or less readily. All forms of carbon, excepting diamond, gave CF^4 on warming. Very startling was the action of a few drops of water on fluorine in a platinum tube. So much ozone was formed that the tube seemed to be filled with an indigo-blue gas:

$$3F^2 + 3H^2O = 6HF + O^3.$$

The blue colors disappeared after a few minutes, on account of the decomposition of the ozone. In connection with this new mode of obtaining ozone, it may be mentioned that traces of it have been proved to be formed during the heating of potassium chlorate with manganese dioxide for the purpose of making oxygen. This appears to be a particular case of the remarkable fact that it is formed when oxygen is passed over manganese dioxide, lead dioxide and other oxides at 400° C. These and other experiments have shown that it is not so readily decomposed by heat as had formerly been thought. The gas, supposed to be ozone, which is formed during the slow oxidation of phosphorus has been shown to possess some properties which do not bear out this supposition. It is now thought to be atomic oxygen.

New Compounds. Of the many new substances, or substances which have recently been rendered accessible in a pure condition, a few may be briefly mentioned.

Hydrogen peroxide (H^2O^2) was for a long time regarded as an oxidation product of water ($H^2O + O = H^2O^2$). It is now held to be a reduction product of free oxygen. It is never formed from nascent oxygen and water, while nascent hydrogen has been frequently found to act upon oxygen and produce it. Thus the presence of hydrogen peroxide, in dilute sulphuric acid undergoing electrolysis, has been found to be due to the action of the electrolytic hydrogen on dissolved oxygen. Renewed interest has been attracted to the subject by the fact that the compound can now be prepared perfectly pure and free from water, so that our study of it is not confined to more or less dilute solutions. It is a very unstable body, but if the solution is freed from all traces of alkaline matter, compounds of heavy metals and solid particles, it can be concentrated on the water-bath to a 65-per-cent solution without great loss. The loss which takes place is partly due to evaporation and partly to decomposition into water and

oxygen: $2H^2O^2 = 2H^2O + O^2$. When the concentrated solution is distilled under diminished pressure, the water passes off first, and the last fraction contains 90 per cent of the compound. By repeating the process, perfectly pure hydrogen peroxide is obtained. It is a colorless liquid which can be kept safely in vessels whose surface has been covered with paraffin. Small particles of solid matter, rough surfaces, or the production of a scratch on the bottom of the vessel in which it is held, lead to rapid decomposition in the sense of the above equation. The assumed molecular weight (H^2O^2) has been shown to be correct.

Hydroxylamine (NH^2OH), a base-like ammonia, is obtained as hydrochloride by reducing nitric acid with tin and hydrochloric acid. Till recently, it was only known in the form of salts and in solution. By fractional distillation of the solution in methyl alcohol under diminished pressure, it has been obtained as a hygroscopic crystalline solid, which melts at 33° C., and decomposes explosively at about 100° C.

Hydrazine (N^2H^4) is an extremely interesting and very active body, related to ammonia. It is prepared from triazoacetic ether, and can be obtained by reduction of a compound nitric oxid and potassium sulphite according to the equations:

$KSO^3.NH.NO + 4H = KSO^3.NH.NH^2 + H^2O.$
$KSO^3.MH.MH^2 + KOH = K^2SO^4 + N^2H^4.$

It forms salts with acids, and when set free by bases, forms a hydrate with water ($N^2H^4.H^2O$), from which it is obtained by the action of barium oxide, and can be purified by fractionation *in vacuo*. It is a white solid, melting at −1° C.

Still another compound of nitrogen and hydrogen, hydrazoic acid (N^3H), has been prepared. It is formed by conducting nitrous oxide over Sodamid ($NaNH^2 + N^2O = N^3Na + H^2O$). The product is the sodium salt of the acid, which may be set free with sulphuric acid. The acid is a colorless mobile liquid, of frightfully explosive properties. Less than one grain exploded on being introduced into the vacuum of a barometer, and pulverized the apparatus so completely that only minute particles of it could be found, distributed in every part of the room.

The gas, nitrous anhydride (N^2O^3), has now been shown to be a mixture of NO^2 & NO in molecular proportions. The anhydrid exists only as an indigo-blue liquid at −21° C. Above this temperature it undergoes partial dissociation, even in the liquid state, and when completely vaporized it is entirely broken up into the above two constituents. The gaseous mixture of the composition N^2O^3 is a substance of great commercial importance, as on its power of combining with sulphur dioxide, water and oxygen depends the chemical reaction used in the manufacture of sulphuric acid; so that the above discovery involves a change in our view in regard to the reactions which take place in the lead chamber. The chief changes which take place are:

First, the union of NO and NO^2 with SO^2 and O^2 and H^2O to form nitrosyl-sulphuric acid (chamber crystals):

$$(1)\ 2SO^2 + NO + NO^2 + H^2O + O^2 = 2SO^2 \begin{matrix} / \\ \backslash \end{matrix} \begin{matrix} NO^2 \\ OH \end{matrix}$$

And second, the action of water on the product, producing sulphuric acid and NO and NO^2 again:

$$(2)\ 2SO^2 \begin{matrix} / \\ \backslash \end{matrix} \begin{matrix} NO^2 \\ OH \end{matrix} + H^2O = 2H^2SO^4 + NO^2 + NO.$$

The latter then repeat the first operation with fresh quantities of SO^2, H^2O and O^2.

Among the compounds with metals, the carbonyl derivatives have been the most interesting. It had long been known that potassium united with carbon monoxide to form a black explosive substance of the composition $(KCO)^x$, in which the x was probably $= 6$. It has recently been found that nickel in a finely divided condition unites directly with CO at 100° C. to form $Ni(CO)^4$. Nickel carbonyl is a colorless liquid which boils at 43° C., and freezes to a mass of needle-shaped crystals at −25° C. Cobalt, which resembles nickel very closely in most respects, does not give any corresponding compound, so that the removal of nickel by means of a stream of carbon monoxide makes a welcome addition to the few known means of separating the elements. The substance decomposes at 180° C. into nickel and carbon monoxide again. A large plant has been erected at Birmingham, England, with a capacity of one and a half tons per week, for preparing pure nickel from nickel matte. The process depends on the removal of the nickel as nickel carbonyl, the decomposition of the latter at a higher temperature, and the re-employment of the carbon monoxide for the extraction of a fresh quantity of the metal. Injected subcutaneously, it is a violent poison, and the breathing of air containing one-half per cent of the vapor is dangerous. The symptoms are the same as those of carbon monoxide poisoning and the spectroscope shows the presence of the same compound with the hæmoglobine in the blood.

Carbon monoxide also forms several compounds with iron of the formulæ $Fe(CO)^4$, $Fe(CO)^5$ and $Fe(CO)^7$, but they have not yet been fully investigated.

Chemistry at the Temperature of the Electric Furnace. Until recently, the highest temperature attainable for commercial or scientific chemical work has been about 2000° C. Isolated attempts have not been wanting to secure higher temperatures by means of the electric arc, but M. Moissan has been the first to devise apparatus for making higher temperatures easy of application. M. Moissan uses an electric furnace made of quicklime or pure limestone. The lower block is hollowed out for the reception of a small crucible, and is provided with grooves for the insertion of the carbon terminals. The upper block is not so thick, and serves simply to cover the hollow in the lower one. The whole apparatus is from 7 to 9 inches long by 6 inches wide and 5 to 6 inches high. The fundamental points are, that the substance of the furnace is so poor a conductor that the outside can be touched with the hand without discomfort, and the heat is thus concentrated as much as possible; that the current does not pass through the substance, but across its surface, so that the full action of the heat is obtained without any electrolytic effect; and that the carbon poles can be moved so as to regulate the length of the arc, with the object of maintaining the same current-strength even when vapors with con-

siderable conductivity are formed, and so maintaining a constant temperature. To prevent chemical action between the lime of the furnace and the carbon of the crucible, a layer of pure magnesia is used to line the interior. For some purposes, hollow carbon poles were used to permit the introduction of various gases during the experiments. In examining the vapors present, a small copper vessel through which a stream of water flowed was lowered into the interior. A part of the vapor condensed on its surface. The currents ordinarily used varied from 35 to 40 amperes and 55 volts, to 450 amperes and 75 volts. The temperature was estimated to be at least 3500° C.

The physical effects of exposure to such temperatures were remarkable. With the less powerful current quicklime was transformed into shining white crystals of CaO; with a stronger current, fusion took place; with a current of 1,200 amperes and 110 volts, 100 grams (3½ ounces) of quicklime were melted and converted into vapor in five minutes. Pure sand (silica) melted and boiled with a current of 360 amperes and 70 volts. The condensing vapor took the form of small drops. Even carbon was converted into vapor. A tube made of carbon became filled with a network of fine crystals of graphite. The chemical effects were still more remarkable. They took the form chiefly of reduction of hitherto irreducible oxides, and the formation of compounds of the metal with carbon (carbides), while reductions which are difficult in a gas-furnace became mere child's play. Of the latter sort was the production of manganese from the oxides and carbon. The metal evaporated rapidly. Of the former class were the preparation, in large quantities, of the metals chromium, tungsten, molybdenum and titanium.

In nearly every case the first product was a carbide, or at least a specimen of the metal containing much carbon, and renewed heating with some of the oxide of the metal was necessary to effect the removal of the carbon. Metal carbides of definite composition were obtained in several cases (Cr^3C^2, Cr^4C, Mo^2C, Al^4C^3, TiC). The aluminium carbide could only be made by this interaction of alumina and carbon in the form of vapor. It consisted of transparent yellow crystals, which decomposed slowly in contact with water, giving marsh-gas and aluminium hydroxide:

$$Al^4C^3 + 12H^2O = 3CH^4 + 4Al(OH)^3.$$

In several cases a practical application has been found for the newly discovered substances. Thus calcium carbide (CaC^2) is now manufactured for the preparation of acetylene for illuminating purposes. The carbide is made by heating quicklime (120 parts) and coke (20 parts) in an electric furnace (350 amperes and 70 volts) for 15 to 20 minutes. It is a white homogeneous substance of crystalline structure. It reacts violently with water, giving torrents of acetylene gas:

$$CaC^2 + 2H^2O = Ca(OH)^2 + C^2H^2.$$

Carborundum is another result of these investigations. It is made by heating silica (sand) with carbon, and has the composition SiC. Its value is due to the fact that it is almost as hard as the diamond, and can be advantageously used for many purposes as a substitute for the latter, on account of its cheapness. When free from iron it forms colorless crystals which scratch the ruby; it is not affected by oxygen at 1000° C., or by potassium nitrate or chlorate at their melting-points, or by any acids.

Carbide of boron (B^6C) is prepared by heating amorphous boron with carbon and a large quantity of copper. The latter acts as a solvent for the carbide, which is obtained in shining black crystals when the copper is dissolved in nitric acid after the mass has cooled. It is of interest because it is harder than carborundum, and can be used for polishing diamonds, although slightly inferior to the latter in hardness.

The original experiments with the electric furnace were undertaken in connection with efforts to prepare artificial diamonds. These were partially successful. The best results were obtained by dissolving carbon in molten iron or silver at 2000° to 3000°, and then immersing the crucible in cold water. This produced a solidified coating around the still molten exterior, and the contraction accompanying the solidification subjected the solution in the interior to great pressure. By allowing the mass to continue cooling slowly in the air and then dissolving the metal away with acids, various forms of graphite and diamond were obtained. Without the preliminary sudden cooling and consequent pressure, only graphite was formed. The diamonds were of two kinds. Some were black, and resembled the natural "carbonados." Other fragments were transparent, and had all the properties of natural diamonds. They were very small, however.

The results of electric-furnace work are of great importance for several reasons. Besides those already mentioned, the carrying out of actions impossible at lower temperatures, and the production of new compounds, especially carbides, many of which will doubtless be of commercial value, they give us some grounds for speculation in regard to other chemical changes which may go on in the stars, and which may have taken place during the cooling of the earth from a nebulous condition. They recall Daubrée's suggestion that all the carbon of the present organic world may have originally been in combination with metals, and that possibly much of the interior matter of the earth may be carbide of iron and other similar compounds. It has been thought that some of our natural gas, consisting largely of methane, or marsh-gas, may come from the action of water on carbides.

Chemistry at Low Temperatures. The liquefaction of the various gases has always been a problem of interest to chemists. Faraday succeeded, by applying cold or pressure, in obtaining such gases as chlorine, sulphur dioxide and ammonia in liquid form, but he failed to effect this change with hydrogen, oxygen, nitrogen, marsh-gas, nitric oxide, carbon monoxide, etc., and these were therefore known as the permanent gases. Later experimenters have succeeded in liquefying all of these, and have even obtained the last four in solid form.

The earlier (1877) experiments of Cailletet and Pictet, in which the highly compressed permanent gases were cooled by boiling liquid carbon dioxide, showed that on releasing the pressure the temperature fell still farther, and a mist of liquid particles was visible for a few seconds in the inner tube of the apparatus. More recently, large quantities of these gases in the liquid condition have been prepared. By using the evaporation of liquid ethylene (−120°), and a pressure of about 50 atmospheres, liquid oxygen can be made. Liquid oxygen, in turn, evaporating *in vacuo*, gives a temperature of −211°, and can therefore be used as a cooling agent for other experiments. Thus when an open test-tube is surrounded by a jacket in which liquid oxygen is boiling under reduced pressure, the air in the tube liquefies, and a large quantity of the liquid air can be collected in a very short time. Oxygen boils at −180° and carbon monoxide at −190°, in an open vessel, at atmospheric pressure. Hydrogen, which was the most difficult of the series to liquefy, boils at −243.8° This work was rendered much easier by the invention of vessels of glass with double walls in which the air had been withdrawn from between, so that a kind of "vacuum jacket" was formed. In such vessels a pint of liquid oxygen can be kept without external cooling for considerable time, the only loss being due to the gentle boiling of the liquid.

A few experiments on the effects of low temperatures on ordinary chemical changes have led to interesting results. Photographic action seems to be impeded, but not prevented. On the other hand, many substances which react violently at ordinary temperatures become entirely passive on cooling. Thus metallic sodium has no apparent action on aqueous alcohol at −80°. It may be added that it has been found that while moist chlorine attacks metals with extreme vigor, dry chlorine has no effect on them, so that liquid chlorine is now sold compressed in iron cylinders, and is much used in chemical industries. (See LIQUID AIR.)

Organic Chemistry. Organic chemistry, or more properly the chemistry of the compounds of carbon, for many of the products can be obtained quite independently of physiological processes, has accumulated more material than all the other departments of chemistry together. Yet much of this is of so technical a nature that we must here confine ourselves to a short account of a few only of the chief advances.

Many familiar organic bodies can now be prepared artificially. Indigo, for example, has attracted much attention on account of the large quantities of the natural products which are used in dyeing. No satisfactory substitute has been found for it, and hence a method of preparing it from cheap materials would be very welcome. Its constitution is now known, and several methods of synthesizing it have been discovered, but the artificial product still costs as much as, or more than, the natural one. Alizarin, another valuable dye, has been known for ages, and was obtained from the madder-root. In this case the efforts to prepare it cheaply have been more successful, and it is made in large quantities from athracene, a constituent of coal-tar.

The investigation of the vegetable alkaloids, such as conine, nicotine, atropine, cocaine, quinine, morphine, narcotine, strychnine and brucine, has been followed strenuously. In a few cases their artificial preparation has been achieved. Conin, the poisonous principal of hemlock, was the first of the class (1886), and piperin, which occurs in pepper, and trigonelin, which is found in fenugreek, followed closely. In other cases their decomposition into known substances has paved the way for synthetic work. On the other hand, some artificial substances which have similar physiological action have been adopted in medicine, and have taken the place of the alkaloids to some extent. Thus we have as antipyretics, acetanilide (antifebrine), phenyl, dimethyl, pyrozolone (antipyrine) and phenacetine, which are manufactured in enormous quantities, and produce a greater lowering of temperature than quinin.

In no direction has chemistry made greater progress than in the study of the sugars. Not only have many new members of the group been discovered, but several sugars which occur in nature have even been prepared artificially. Formerly the simplest substances known as sugar had the formula $C^6H^{12}O^6$ (grape sugar and levulose), and the others, such as cane sugar ($C^{12}H^{22}O^{11}$), contained simple multiples of this number of carbon atoms. Our view has now been widened, so that all bodies having the atomic groupings—CHOH.CO—are found to share the properties of the sugars, and members of the series containing from 2 to 9 carbon atoms have been prepared. Bodies, like cane sugar, derived by doubling up the simpler formulæ are classified as saccharids and polysaccharids (e.g., starch $(C^6H^{10}O^5)^x$). The first sugar to be synthesized was α-acrose. It was a constituent of a mixture of sweet substances formed by boiling an aqueous solution of formaldehyde with milk of lime $6CH^2O = C^6H^{12}O^6$. A better yield of it was obtained by oxidizing glycerin ($C^3H^8O^3$) with bromin. The product from the first step was called glycerose, and contained two bodies having the formula $C^3H^6O^3$. When it was boiled with lime, α-acrose was formed:

$$C^3H^6O^3 + C^3H^6O^3 = C^6H^{12}O^6.$$

From α-acrose, grape sugar (dextrose) $(CH^2OH.(CHOH)^4.COH)$, levulose (fruit sugar) $CH^2OH.(CHOH)^3.CO.CH^2OH$, were prepared.

In this connection reference may be made to saccharin. This substance is a coal-tar derivative, and is chemically entirely unrelated to the sugars. It resembles them solely in its quality of sweetness. It is orthobenzoylphonimide ($C^6H^4\begin{matrix}/SO^2\backslash\\\backslash CO/\end{matrix}NH$). It is 500 times as sweet as cane sugar, and is manufactured in considerable quantities.

Among the long-known substances whose constitution is now determined are several derivatives of carbon monoxide in which the carbon atom is bivalent. Hydrocyanic acid (prussic acid) is H—N = C. Fulminic acid has the formula H — O — N = C. Its mercury salt ($Hg(ONC)^2$) is known as fulminating-mercury, and is largely used in making percussion-caps.

WIRELESS TELEGRAPHY

WE ARE confronted to-day with something wonderful and important, even revolutionary — the extraordinary fact that telegraphy needs no wires.

Electrical waves were discovered by an American, Joseph Henery, in Washington D. C., 1842. He did not call it electric waves but he saw that an electric spark on a wire circuit set up some kind of an action in the ether and caused an induced current in wires which were connected by no visible means of communication. And these waves passed with the same ease through walls and ceilings as they did through air. The fact of induction is now one of the most commonplace phenomena in the work of electricians. Edison has already used it in telegraphing to a flying train. It is a peculiar fact, however, considering the vast number of brilliant electricians and the great mania for experiment in the new world, that it was left to an Italian, Guglielmo Marconi, to demonstrate to the world what could be done with electric waves.

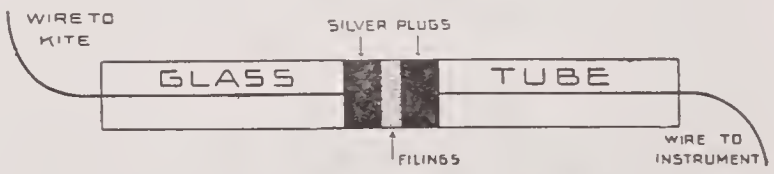
At noon, Dec. 12, 1901, the 2,000 miles of Atlantic were spanned with invisible fingers. The first wireless signal crossed. Wireless telegraphy then came for all the world. And Marconi is only 27 years old. Just when other men are starting out, his name is known in all the nations of Christendom. To the general public Marconi is the creator of this new system, but this is an error. He did simply the practical thing. Marconi himself says modestly that he has simply observed certain facts and invented instruments to meet them. Both the facts and the instruments are new, however, as far as the public at large is concerned and they are exciting an immense amount of interest. The young scientist was able to obtain no satisfactory recognition of his invention in his own country, and it is due to W. H. Preece, the chief of the electrical department of the British postal system that he received full recognition in England. Marconi was probably the first to signal without wires at a distance of more than a mile; certainly the first to reach over 8 or 9 miles. By working indefatigably he managed to reach 31 miles; and then to span the English Channel. Step by step he went till finally across the Atlantic his message was sent — across 2,000 miles with nothing but space, a pole with a pendant wire on one side of the ocean, an erratic kite floating in the air on the other side. And the apparatus for sending and delivering these transoceanic messages costs not one-thousandth part of the expense of a cable.

In outline Marconi's system of telegraphy consists in setting in motion by means of his transmitter certain waves which, passing through the ether, are received on a distant wire suspended from a kite or mast, and registered on a receiving apparatus.

The ether is a mysterious, intangible, unseen, rarefied something which is supposed to fill all space. About all we know of it is that it has waves. Etheric vibrations of certain kinds give light, other kinds give heat, others give electricity. If ether vibrates at 400 billions of waves per sec. we see the color red; if twice as fast we see violet; if more slowly we have the Hertz waves used by Marconi in his wireless telegraphy experiments.

Ether waves should not be confounded with air waves. Sound is the result of air waves, and these are sluggish when compared with ether waves. Electricity is another name for certain vibrations of ether. Electric waves cannot be seen but electricians have learned how to incite them, to control them to a certain extent, and to register them by cunningly devised instruments. Electrical waves have long been harnessed in the sending of messages by wires; but the ether exists outside the wire as well as within; therefore, the ether being everywhere, it must be possible to produce waves in it which will pass anywhere — through mountains and over seas, and if the waves can be controlled they will convey messages as easily as the ether within the wires. So argued Signore Marconi. The difficulty lay in the mechanical problem of making the instruments.

THE COHERER.



The mechanism alike of sender and receiver is simple in the extreme. A row of ordinary electric batteries joined together make what is called a circuit, through which a current flows. A high tension current will jump a gap — which in the case of Marconi's instrument is only a fraction of an inch. The electric sparks, which leap between two highly polished brass balls, have a peculiar effect — they seem to set up waves in every direction. To one of the balls a wire is attached that runs up a high mast or hangs from a kite. The electric pulsations, set up when the spark leaps from one ball to another, run along the wire and thence are radiated off into space. And these waves seem to go through brick and stone, almost everything but the metals. The operator by opening and closing his circuit can make the series of sparks

long or short as he likes; i. e., a long or short series of waves is sent flying through space.

The receiver is an instrument of a little different sort. Here are batteries and a circuit, but a little glass tube forms part of the circuit.

This little devise was invented by an Italian and improved by a Frenchman, and put into practical use by Marconi. This glass tube is called a *coherer* and is about as big around as a lead pencil and perhaps 2 inches long, plugged at each end with silver, the plugs nearly meeting within the tube. The narrow space between them is filled with finely powdered fragments of nickel and silver which possess the strange property of being alternately good and bad conductors of electrical waves. Into this run the two ends of the wires from the batteries. Ordinarily these filings will not let the current from the batteries pass. But if this little tube be attached at the same time to a receiving wire which runs out through the window and up the mast, a curious thing happens. When the waves strike the wire and are absorbed they come running down and effect the filings in such a way that they cohere and let the other current from the batteries pass through. Give the tube a little tap and they fall apart again. It is an odd performance. A little automatic tapper is attached and gives the tube of filings a jog every time the electric waves make them cohere. The batteries on the floor operate the tapper and set a common Morse printing machine going. According as the series of waves coming down the receiving wire is long or short, the machine prints a dot or a dash. Another wave comes down the suspended kite wire into the coherer, there drawing the particles together again, and another dot or dash is printed. All these processes are repeated rapidly until an entire message is recorded.

This is the bare outline. Marconi's instruments contain intricate detail of marvelous ingenuity but this is only technically interesting.

Of course the waves set up at any one place travel in all directions—east, west, north, south, with impartiality. Just *how* they travel no one knows but if the more accepted suppositions regarding them be true, it appears merely a question of waves of sufficient strength to send them straight around the earth at the gait of 8 times around a second.

But here we are confronted with the vision of flying pulsations from thousands of stations arriving with indifference anywhere on earth. What good could come from such a muddle? Fortunately Marconi and scores of others are at work on this problem and believe they see their way out. The first electric waves measured by Hertz, were about 20 feet in wave length. Marconi's waves, when he made his successful signal across the Atlantic, were 1,000 feet long. Prof. Bose, another experimenter with wireless telegraphy, used waves one-fourth of an inch. There is a corresponding difference in the number of vibrations per second. This is a wide range. Two tuning forks which have the same length of vibration will set each other going, while they will have no effect on a fork of differing amplitude. As in sound waves so with electric waves. A sender and receiver must be "tuned" or one will not act on the other.

"Tuning" is the most important part of Marconi's work—the construction of a certain receiver so that it will respond only to the message sent by a certain transmitter. Marconi has succeeded in doing this with some degree of perfection. This system will prevent any mix up in the messages and insure a large measure of secrecy. There are, Marconi claims, considerably over 200 "tunes" and it would be exceedingly difficult for a "tapper" to discover which is used by the instruments in communication. Great importance attaches to the latest invention of Peter Cooper Hewitt of New York City—the mercury vapor interrupter. It is essential to the progress of wireless telegraphy that a method be discovered of generating exceedingly powerful electrical waves that will overcome great distances and persistent enough to permit methods of selective "tuning." Such methods can be produced by Mr. Hewitt's mercury interrupter, which interrupts, stops, and starts a powerful electric current which moves millions of times in a second with inconceivable rapidity. His instruments set up electrical vibrations so far reaching in their energy that they may be caught by a wireless telegraphy instrument on the other side of the globe; while it would be exceedingly difficult for any other instrument to steal the message.

Wireless telegraphy has long since left the laboratory and the experimental stage and is in large commercial use. Its development has been astonishing. Most of the ships of the important navies of Europe and all the great ocean liners are fitted up with their wireless apparatus. Nowhere is the success of the system watched with more interest than by the navies of the world. For in proportion as the range of wireless telegraphy is extended will the operations of future naval campaigns be greatly modified.

The new system on land will certainly prove an important adjunct in war-times, for it will enable generals to signal, as they have done in South Africa, over comparatively long distances in fog and storm and over stretches where it would be impossible to string up telegraphic wires.

Marconi's demonstration of transoceanic signalling means in the near future a big reduction in cable tolls. A wireless telegraphy station in itself costs more than an ordinary Morse Station but the stations are the whole cost. $400,000,000 is invested in cable systems in various parts of the world. If Marconi succeeds, much of this will be useless. The inventor claims to be able to transmit with single instruments about 20 words a minute and at a cost ridiculously low compared with present cable tolls.

The field of usefulness of wireless telegraphy, however, must needs be limited. It can never compete with the long distance telephone or the rapid telegraph system, but for maintaining communication between moving vessels, vessels and land, and across channels where cables are not safe, it offers by far the most satisfactory solution of the difficulty.

Some of the most important and successful modifications in wireless telegraphy methods have been made in this country under the directions of the officers of the United States Signal Service.

An immense amount of attention was given the last year to the perfection of the system; although there was noticeable no decrease in the earnings of the companies operating the old method. Investors and experts have given it their undivided attention. Difficulties have arisen and defects have become manifest but these are mere details and do not seriously affect the vital fact that wireless telegraphy is a practical consideration and of immense commercial value. The defects serve only to indicate the direction in which improvement is necessary, and these are being worked upon by the best scientific

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WILLIAM MARCONI,

OF WIRELESS TELEGRAPHY FAME

minds of the country with every promise of success. It has been announced authoritatively that means have been secured to maintain the secrecy so desirable in the sending of messages.

This method is far superior to the ordinary one by wire lines, in so far as atmospheric disturbances and severe climatic changes have no effect whatever on the wireless system. However, as has been said, the best results so far have been in oceanic signaling. The safety and convenience of an ocean trip is greatly increased since the ocean liner is, or at least can be, in constant communication with the land all through its voyage.

Lee DeForest, the American inventor, is making rapid strides in the direction of wireless telegraphy improvements and bids fair to become a formidable rival of Marconi. In Europe, the Lodge-Muirhad wireless system is being pushed forward in England. A new wireless system is receiving marked attention from the German admiralty. This directs electric waves exclusively to one point, doing away with the danger of outside interference and is a system invented by Ernst Ruhmer.

RADIUM.

IT WAS a great day in the scientific world when it was announced that a new element had been discovered. Radium, while it will never be of great practical use, is incalculably so from a theoretical standpoint.

The metal was discovered by Professor Curie and Madame Curie of Paris, in 1898. The history of the discovery as told by C. W. Kanolt in the *Scientific American* is interesting:

"In 1896 Professor Becquerel of Paris discovered the radio-activity of uranium. He found that all compounds of uranium as well as the metal itself continually emitted radiations which act upon photographic plates and have a penetrating power similiar to that of the X-rays. This was one of the first of a series of quite remarkable discoveries. Investigators immediately experimented with various metals with the hope that they might find other substances having the same property as uranium. Of the elements already known, thorium as well as uranium was found to be radio-active. But research has led to the discovery of three other radio-active substances which are looked upon as new elements. These are radium, polonium, and actinium. Of these radium alone has been obtained in a pure condition, and it is the one that has been most experimented with. Professor Curie and Madame Curie turned their attention to pitchblende, a mineral that consists largely of oxides of uranium. They found that some samples of this mineral obtained from Bohemia possessed a greater activity than either uranium or thorium. This led them to the conclusion that the activity of pitchblende must be due to some new element of great activity. In order to find this new substance they dissolved a quantity of pitchblende in acids and by ordinary chemical methods separated the material into portions containing different elements. They then observed which of these portions possessed radio-activity. * * * Guided by experiments, they gradually concentrated the active substances into small portions of the material. One portion they believed to contain a new element which they called polonium; another yielded radium. * * * The spectrum of this material was examined and it was found to consist of lines which were not those of any previously known element, proving conclusively that radium was actually a new element."

Radium is a constituent of pitchblende which is found in many places but only in a small way—a ton of which carries about $\frac{1}{10}$ of a grain of the valuable metal and it is extremely difficult to extract. This amount is so small that the discovery of some material containing a greater per cent. of the rare element is greatly to be desired. Professor Curie has in his possession what is probably the only chemically pure specimen in the world. This is about the size of a buckshot and weighs not quite half a grain. So many tons of pitchblende were required in order to obtain this small amount that the possessor has said it could not be bought for $20,000. Heretofore the price per pound of this metal reasonably pure has been about $1,000,000. It is only lately we learn that the price has been reduced to only $900,000 a pound. This reduction will probably not produce any great commotion in the commercial world since there is at present in existence not over three pounds of the precious metal. It is said that within the last year not more than 1¼ pounds have been manufactured. Even this, as we have said, is not absolutely pure. Preparations, however, are on the market at a much lower price ranging from $4.50 to $100.00 per gramme.

The immense intensity and power of this new metal is little short of marvelous. It has caused an undoubted disturbance in the accepted theory of light. The radiations from radium cannot be refracted, polarized, or regularly reflected as ordinary light; they are something quite different. But the metal emits something more than this. A particle of radium is continuously hurling off into space heat and material particles, and the strangest part of the whole proceeding is that there is no apparent alteration in either power or quantity.

One of the most striking features of the new element to those not technically interested is its luminosity. The pure

radium chloride emits of itself light sufficient to distinguish printed characters. These rays also are able to excite phosphorescence in many bodies such as diamond and common salt. If a small quantity be put in a lead box an inch thick and brought near the forehead of a person in a dark room, a flash of light is experienced on the retina of the eye even when the eyelids are tightly closed. The blind apparently experience this sensation which has given rise to the rumor that radium can make the blind see.

Another most extraordinary fact concerning this new metal is that it possesses the property of continuously emitting heat without combustion, without chemical change of any kind, and without any change in the structure of the molecules.* It has been stated:

"Radium maintains its own temperature at 1. 5 C. (2. 7 F.) above its surroundings. This is equivalent to saying that ½ pound of radium salt would evolve heat equal to that produced by burning ⅓ cubic foot of hydrogen gas, this evolution of heat going on constantly for indefinite periods, leaving the salt at the end of that period of activity as potent as it was in the beginning.

"Although the fact of the emission of heat by radium is in itself sufficiently wonderful, this heat is probably only a small portion of the energy radium is constantly sending off into space. It is at the same time hurling off material particles which reveal their impact on a screen by luminous scintillations, while, if stopped by a glass or mica screen, torrents of Röntgen rays pour out from a few milligrammes (a milligramme being 0.015 grain) of radium salt with phenomenal energy."

The abandonment of the atomic theory has been lately very seriously discussed; and the discussion has been greatly aggravated by the discovery of this new element. Since it has been shown that radium, despite its remarkable radio-activity, loses an inappreciable amount of its mass — an amount calculated by Becquerel to be one gramme in a billion of years per square centimetre of surface — it becomes very manifest that the atomic theory is utterly inadequate to account for the phenomenon.

It is certain that radium does emanate particles of some kind. These particles cannot be atoms, for atoms are so large that the actual substance would lose rapidly in weight. The phenomenon can only be accounted for by assuming the existence of something much smaller than the atom. Its behavior tends to confirm the new theories of Thomsan, Larmor, and other physicists concerning "electrons," bodies so small that from 1,000 to 100,000 are needed to equal an atom in value.

Radium contains an immense, inalterable reservoir of energy that is sufficient to enable it to maintain a continuous flow of these powerful radiations over many centuries. The source of this energy is a mystery. Calculations based upon experiments demonstrate that the energy stored up in one gramme (15.432 gr.) of radium is sufficient to raise 500 tons a mile high. An ounce could drive a 50 horse-power motor 30 miles per hour around the world. Stated in another form, a gramme of radium radiates energy enough in one year to raise a pound one foot in one hour.

Radium has many curious and inexplicable qualities and may not be handled carelessly. If a small quantity be kept near the skin for a few hours it produces a serious sore. Professor Curie is said to have remarked that he would not venture into a room that contained one kilogramme of radium as it would probably kill him. Bodies placed near the metal become radio-active themselves, even to the hands and clothing of the experimenter. This, however, is only temporary, disappearing in a few hours.

The new substance is so powerful that the stuff is unmanageable. There seems to be no safe way of storing or handling it except in microscopic quantities. Professor Crookes has said that a pound of it in a room would be sufficient to kill everybody there; he has also stated that the energy represented by the throwing off of particles from a gramme of radium was enough to raise the British fleet as high as Ben Nevis.*

Certain chemical changes are brought about by the rays of radium. Under their influence oxygen is converted into ozone, yellow phosphorus into red phosphorus, glass becomes violet and almost black.

In discussing the new scientific discovery, the spirit of utilitarianism is here evident as it is in everything else that is brought to the notice of the world at large. The question that is being repeatedly asked is: What is the practical use, what is the possible commercial application of radium?

It seems clear that the interest aroused is not merely temporary; that the demand for radium must always be in excess of the supply, and that the industry of its extraction may be recommended to the chemical manufacturers.

In France and Germany radium is being produced on a manufacturing scale. Even at the exorbitant price of something like $73,000 per ounce, the demand is far beyond the supply. In America thousands of tons are being worked over in a fruitless search.

Some of the most important uses to which radium can be applied and one most prolific of good results is in the field of medicine. There has always been the complaint against the Röntgen rays of the impossibility of obtaining *certain* results, some treatments being followed by results decidedly disastrous. Radium can always be depended upon to give a beautifully uniform and constant supply of rays, with the additional advantage of compactness in the matter of apparatus. Instead of the large focus tube of the X-ray outfit, a tiny glass tube no larger than a toothpick containing from 1-10 to 1-5 of a grain of radium has been successfully used in the treatment of cancer. Medical attention is gradually being concentrated on the possibilities of this element, and the successful treatment of other diseases beside cancer may be confidently predicted for the near future.

Radium rays are also a powerful agent to destroy disease germs and other bacteria, and the smaller animals as the mouse and caterpillar live only a few hours under their influence.

Supposing the supply of radium to be abundant enough to bring it within reach of the ordinary mortal's pocketbook, its application for illuminating purposes would be perfectly

* A MOLECULE is the smallest quantity of a substance which can exhibit the properties by which that substance can be identified. The smallest particle visible to the eye is a cube 1-4,000 of a millimetre on a side. But such a cube contains from 16 to 100 million molecules. It has been calculated by an eminent scientist that to count the molecules in a pinhead, supposing that 10,000,000 are counted every second would require 250,000 years.

* The highest mountain in the British Islands, 4,406 feet.

practical. A small fraction of an ounce of radium properly employed would be sufficient to satisfactorily light up several rooms. This seems beyond belief of those who have not experimented with the metal but it must be remembered that the energy of radium is capable of being converted into visible light by certain phosphorescent substances, while all known illuminants transform the greater portion of the energy they consume into heat and a very small percentage into the desired form.

The greatest mystery about this strange substance is its source of power. The *effects* are so wonderfully vast and there is no apparent *cause*; for instance, its ability to maintain a temperature above its environment. A bit of radium immersed in ice or liquid air continues to give out heat and light, apparently uninfluenced by its surroundings. The difference, 2.7°, is small but that there should be any difference at all after an opportunity has been given to radiate its excess warmth, is a remarkable phenomenon. Where does the superfluous heat come from? Perhaps the discovery of this new element has raised more problems than it settles, but it certainly throws new light on the constitution and properties of matter.

While this new element will always be to a large extent merely a laboratory product and science holds out scant prospects of any great practical accomplishments, yet the mere possibility of our being able sometime in the future to control the store of energy in radium and to liberate it for use as required, is bound to make the subject one of undying interest to scientists and of never ending fascination to all who are interested in radio-activity.

STANDARD TIME.

BY STANDARD TIME we mean the time of a certain meridian adopted for local use over a large region instead of true local time. Thus the time of certain designated meridians, each differing from the next in time by one hour, is used in places within half an hour of them, for railroad and other purposes. The time of the meridian four hours from Greenwich is known as Colonial time; that of the others in order toward the west as Eastern, Central, Mountain, and Pacific. In 1883 the railroads in United States and Canada began to use these standard times and they have since been widely adopted by cities and towns. Clocks at any place within 7½ degrees east or west of a standard meridian are set to agree with the time of that meridian. They may therefore differ by as much as a half hour from local mean time, but convenience for commerce and travel compensates for this.

The table of times based upon the meridian used by the United States and Canada:

NAME OF TIME.	DEGREE	CENTRAL MERIDIAN FROM GREENWICH.	NEAREST PLACE.
Intercolonial.	60	4 hours west	About 3⅛° east Halifax, N. S.
Eastern	75	5 " "	Between N. Y. and Phila.
Central.....	90	6 " "	St. Louis and New Orleans.
Mountain	105	7 " "	Denver, Col.
Pacific.....	120	8 " "	1½° east of Sacramento, Cal.
Sitka	135	9 " "	¼° east of Sitka, Alaska.
Tahiti	150	10 " "	½° west of Island of Tahiti.
Hawaiian	157½	10 hrs. 31 m. "	Near center of Molokai.

According to this system the United States, extending from 65 degrees to 125 degrees west longitude, is divided into four time sections each of 15 degrees of longitude, exactly equivalent to one hour, commencing with the 75th meridian. The first or Eastern section includes all territory between the Atlantic coast and an irregular line drawn from Buffalo to Charleston, S. C.; this line running through Pittsburg, Wheeling, Parkersburg, Kenova, east to West Clifton Forge, southwest again to Bristol, southeast to Salisbury, N. C., then through Asheville, Atlanta, east through Augusta and on to Charleston. The second or Central section includes all territory between this line and another irregular line extending from Bismarck, N. D., to the mouth of the Rio Grande; this line having for its main points Minot and Mandan, N. D.; Long Pine, Alliance, and North Platte, Neb.; Holyoke, Col.; Phillipsburg, Ellis, Hoisington, and Dodge City, Kan.; and El Paso, Texas. The third or Mountain section includes all the territory between the last named line and almost the western borders of Idaho, Utah, and Arizona. The fourth or Pacific section includes all the territory of the United States between the boundary of the Mountain section and the Pacific Coast. Inside of each of these sections standard time is uniform and the time of each section differs from that next to it by exactly one hour. At 12 noon in New York City, Eastern time, the time at Chicago, Central time, is 11 o'clock A. M.; at Denver, Mountain time, 10 o'clock A. M.; and at San Francisco, Pacific time, 9 o'clock A. M.

Standard time is 16 minutes slower at Boston than true local time, 4 minutes slower at New York, 8 min. faster at Washington, 19 min. faster at Charleston, 28 min. slower at Detroit, 18 min. faster at Kansas City, 10 min. slower at Chicago, 1 min. faster at St. Louis, 28 min. faster at Salt Lake City, and 10 min. faster at San Francisco.

Roentgen Rays or X-Rays.

RÖNTGEN rays* are certain rays wholly invisible, which resemble in many ways the rays of light, and which are only indicated by the effect they produce on a piece of sensitized photographic paper. These rays are set free when a high pressure electric current is discharged through a vacuum tube.

The following interview with the famous discoverer appeared first in McClure's Magazine of April, 1896:

"I have for a long time been interested in the problem of the cathode rays from a vacuum tube as studied by Hertz and Lenard," said Professor Röntgen. "I had followed theirs and others' researches with great interest and determined as soon as I had time to make researches for myself. I had been at work for some time when I discovered something new."

"What was the date?"

"The 8th of November."

"And what was the discovery?"

"I was working with a Crookes tube covered by a shield of black cardboard. A piece of barium platino-cyanide paper lay on the bench there. I had been passing a current through the tube and I noticed a peculiar black line across the paper."

"What of that?"

"The effect was one that could only be produced in ordinary parlance by the passage of light. No light could come from the tube because the shield which covered it was impervious to any known light, even that of the electric arc."

"What did you think?"

"I didn't think, I investigated. I assumed that the effect must have come from the tube since its character indicated that it could come from nowhere else. I tested it; in a few minutes there was no doubt about it. Rays were coming from the tube that had a luminescent effect upon the paper. I tried it successfully at greater and greater distances even at 2 metres. (Something over 6½ feet.) It seemed at first a new kind of invisible light. It was clearly something new, something unrecorded."

"Is it light?"

"No."

"Is it electricity?"

"Not any known form."

"What is it?"

"I don't know." And the discoverer of the X-rays thus stated as calmly his ignorance of their essence as has everybody else who has written on the phenomena so far.

"Having discovered the existence of a new kind of rays, I of course began to investigate what they could do." He took up a series of cabinet-sized photographs. "It soon appeared by tests that the rays had a penetrative power to a degree hitherto unknown. They penetrated paper, wood, and cloth with ease. And the thickness of the substance made no perceptible difference within reasonable limits."

He showed photographs of a box of laboratory weights, of platinum, aluminium, and brass, they and the brass hinges all having been photographed from a closed box without any indications of the box; also the photograph of a coil of fine wire wound on a wooden spool, the wire having been photographed and the spool omitted.

"The rays," he continued, "passed through all the metals tested with a facility varying, roughly speaking, with the density of the metal."

He showed a photograph of a sheet of zinc. This was composed of smaller plates soldered together with solders of different proportions, the differing lines of shadow caused by the difference in the solders were visible evidence that a new means of detecting flaws and chemical variations in metals had been found. A photograph of a compass showed the needle and dial taken through the closed brass cover; the markings of the dial were in red metallic paint and thus interfered with the rays and were reproduced.

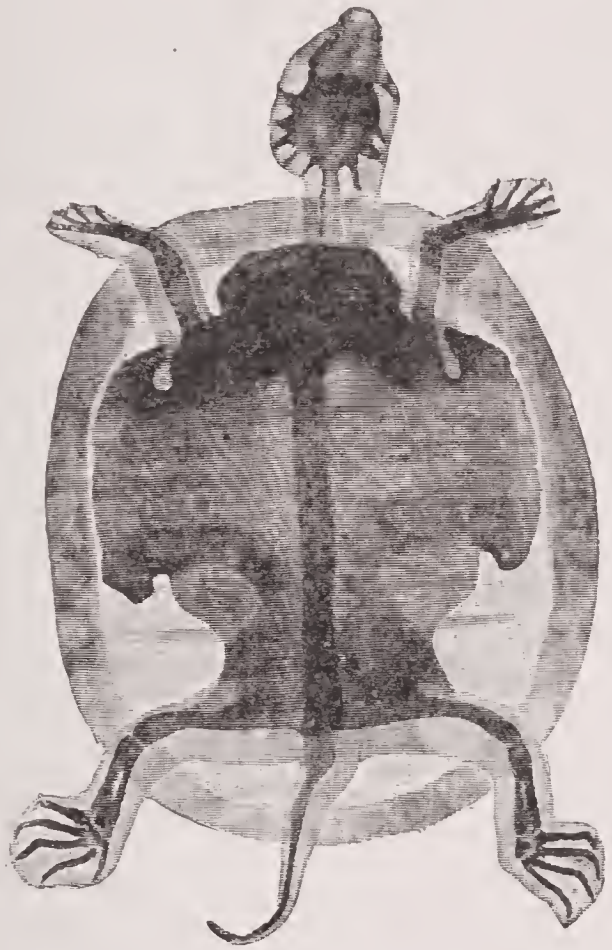
The way to his wonderful achievement was opened to Professor Röntgen by earlier explorers in the scientific world.

Some time ago Sir John Herschel noticed that a peculiar *blue* light was diffused through a perfectly colorless solution of quinine sulphate. This phenomenon was explained by showing that this blue light consists of vibrations originally too rapid to be visible that are slowed down within the limits of perceptibility as they pass through the liquid.

For the "Crookes tube" to which Prof. Röntgen referred, the scientific world is indebted to William Crookes; not only are the extraordinary developments in the improved method of

*Discovered by Professor Wilhelm Konrad Roentgen or Röntgen (pronounced "Renken") of the Bavarian city of Würzburg.

obtaining high vacua largely due to him, but he also studied very extensively the remarkable phenomena produced by an



electric discharge through these high vacua. Briefly speaking, a Crookes tube is a glass tube containing a high vacuum; connected, in this case, with an electric battery. When the exhaustion of the air in the tube reaches a certain limit, no electric discharge in the proper sense takes place within the tube, it is the negative terminal that alone becomes important. If this terminal be a disk of aluminium placed in the middle of the tube, the purple glow ordinarily surrounding the terminal will recede from the disk as the exhaustion proceeds and will finally reach the glass and cause it to phosphoresce with a yellow or greenish-yellow color depending on its character. A diamond or ruby subjected to this discharge glows strongly, the former giving a bright green the latter a rich red light. Phenakite phosphoresces blue, calcite orange, smithsonite a brilliant green, and emerald a beautiful red.

In 1894 Professor Lenard discovered a wonderful power of such a bulb. Emerging from it was a cathode ray — which is a ray from the negative pole of an electric machine — which passed through a thin plate of aluminium as sunshine does through glass.

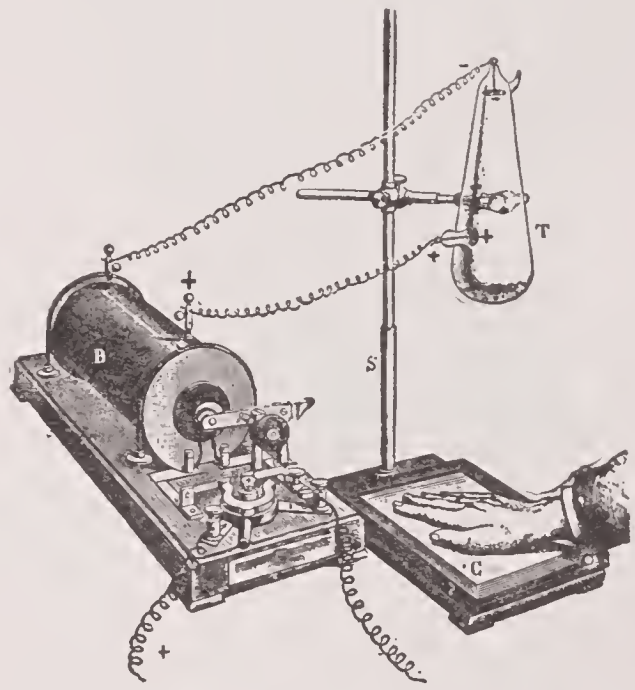
It remained for Professor Röntgen, however, to discover that during such a discharge a certain other kind of rays was set free that differed very greatly from the cathode rays.

The Röntgen rays are not deflected by a magnet while their range and power of penetration are far greater. They are not transmitted nor do they behave like ordinary light or any other known form of radiant energy; for not only do they freely penetrate substances which by good rights should be opaque, but they utterly refuse to be reflected by a mirror, bent in passing through a prism or lens, or twisted by diffraction.

The identity of these rays has been a matter of continual scientific debate, experiment, and wonder; and it is still a mystery. Rays that can pass squarely through the human body and imprint upon a photographic plate the shadow of its inner structure can scarcely fail to be a subject of sincere interest to those also without the scientific circle.

It is in the world of surgery that the X-rays have found their practical mission and even here there is yet much to be desired in the method. At present all the great hospitals of the world examine injuries of the extremities of the body by means of these rays. In some cases even the thicker portions of the body can be examined, but in general the rays only exhibit the shadows of the bones of the extremities. If the muscles and tendons or the veins and arteries could be studied by this means a great aid to surgery would result. However, it is hoped that much will be accomplished along this line in the future.

The manner in which photographs are made by the Röntgen rays:



The Crookes tube is supported in a convenient manner and connected to an electric battery. The photographic dry-plate is inclosed in a light-tight holder which is placed directly under the tube. When the current is discharged through the tube it glows with a pale greenish light. This, however, must not be confused with the X-rays, which are invisible. The time of exposure depends on the density of the body to be photographed and the intensity of the radiation. If the hand is held between the tube and the plate only the shadow of the bones is shown, since the flesh allows the rays to pass through almost unobstructed.

In a surgical case the Crookes tube actuated from a battery is placed on one side of the body and on the other side of the part to be investigated is the photographic plate shut up in its case, which is exposed to the rays emanating from the tube for a greater or less time. Parts of the plate not protected by the body are acted upon by the rays through the lid of the plate-holder while the tissues of the body act

as feeble or strong obstacles to the passage of the rays; and thus a shadow is produced on the parts of the plate thus

protected. Soft tissues of the body act as very slight obstacles to the passage of the rays and therefore throw faint shadows; the thicker portions act as greater obstacles and print heavier shadows; thus the bones are shown in the photograph as heavy shadows. The very thick portions of the body obstruct the rays to such an extent that the shadow of the bones can not be distinguished. But surgical dressings and clothing form no obstacle.

In the treatment of diseases of the bones the X-rays are a great aid to surgeons. Deformities, injuries, and all diseases of the bone can be readily and accurately diagnosticated; limited, however, to the thinner portions of the body. Foreign bodies that are opaque to the rays; such as, needles, bullets, etc., can be accurately located and their removal facilitated. As has been said, internal portions of the body are not at present accessible to examination by the rays owing to the thickness of the body or to the inclosure of bone. It is doubtful whether tumors, cancers, etc., can be diagnosticated by this means, being as permeable to the rays as the normal parts. Bony tumors can be examined, however.

Although the X-rays in many cases have proved themselves a beneficent acquisition to science, Mr. Edison has been reported as stating that such is the destruction wrought by the rays that one of his laboratory assistants was so seriously injured that it was necessary to amputate one of his arms and the fingers of the other hand. The effect is the same as that resulting from the paralysis of the white corpuscles of the blood. Mr. Edison has himself suffered severely from stomach troubles resulting from experiments with the rays. Two physicians in the London Hospital have fallen victims and have sustained injuries which in the course of two years show no signs of healing. The first symptom of X-ray injury is an annoying inflammation of the hands, accompanied with swelling and insomnia. The nails of the hand are particularly affected and the eyes too are apt to suffer.

Up to a certain point the X-rays seem to be highly beneficial; beyond that just as highly injurious.

In spite of these limitations the method of treatment of diseases by means of the Röntgen rays is steadily improving and all obstacles are being rapidly overcome.

LIQUID AIR.

SCIENTISTS until recently divided gaseous matter into condensable and permanent vapors. To-day it is known that there are no permanent gases, all can be made to assume the liquid or solid form. It sounds very much like an Arabian Nights' Tale when one is told that the air one breathes, the storms that rage, the hurricanes and cyclones that work such disaster can be bound down in liquid form or compressed within the radius of a common tumbler, or frozen solid. Nevertheless, liquid air is a real achievement. The liquefaction of gases has engaged the attention of scientists almost from the beginning of the century; that of air was attempted as early as 1823 but not accomplished until 1877. In later years experiment has advanced the study of the subject almost incredibly.

For all practical purposes air may be considered simply a mixture of nitrogen, which does not maintain life or combustion and oxygen, which performs both of these functions in the most energetic manner. Air as everybody knows is more dense at the surface and becomes more rare as the altitude increases. Light as we are accustomed to regard it, the weight of a column of air one inch square is 15 pounds, and this unfelt covering presses on our globe with a total weight of 300,000 million tons. This air can be reduced to a clear, sparkling liquid that boils on ice, freezes pure alcohol, and burns steel like so much tissue paper; and yet can be dipped up and poured around like so much water. It is not wet to the touch, although a fluid, but burns like a white-hot iron; and when exposed to the air for a few minutes vanishes in a cold gray mist, leaving only a bit of white frost.

Air, the cheapest thing in the world, we are just beginning to learn how to use. The principle involved in air liquefaction is exceedingly simple although its application has sorely puzzled more than one wise man. The familiar example of the steam engine is understood by every one. In order to run it one must have coal and water, must take heat enough out of the coal and put it into the water to change the water into gas—i. e., to make steam. The expansion of this gas makes power. Water at a boiling point of 212° Fahrenheit gives off steam. Now steam bears the same relation to water that air bears to liquid air. Air is a liquid at 312° below zero—a degree of cold that we can scarcely realize or imagine. If it is raised above 312° below zero it boils just as water boils above 212°. Now then the average temperature that we live in is about 70° above zero—i. e., we are 382° warmer than liquid air, compared with the cold of which, we are living in a furnace the like of which Shadrach, Meshach, and Abednego had no conception. Take this liquid air at 312° below zero; expose it to the fiery furnace in which we live and it boils instantly, throwing off a vapor which expands and furnishes power. Liquid air can be handled with perfect safety but only so long as it is not shut up tight. This is not surprising when one considers that a single cubic foot of liquid air contains 800 cubic feet of air at ordinary pressure, and when confined the pressure it develops is simply enormous—10 or 12 thousand pounds to the square inch. Its desire, therefore, to expand is irrepressible. But as long as it is kept open it simmers away contentedly for hours, disappearing whence it came.

In 1895 Charles E. Tripler of New York succeeded in producing liquid air on a commercial scale. He was the first man who ever ran an engine with it as he was the first to invent a machine for producing it in quantities. His apparatus was much larger than any before used and much more efficient.

Liquid air has some very peculiar properties. It is nearly as heavy as water and quite as clear and limpid, but when seen in the open air it is always enveloped in a dense white mist of evaporation, that flows over the side of whatever receptacle it happens to be in and down on the floor in a beautiful billowy cloud. No other substance in the world is as cold, yet we can dip our hands into it with perfect impunity provided we remove them instantly. A few drops allowed to remain on the flesh will sear it like a white-hot iron—although it does not burn but kills. If placed within a glass bulb and this set inside a larger bulb from which all the air has been exhausted, it is protected by this vacuum jacket and will then vaporize very slowly. There is no difficulty or danger in handling it in this state.

Many interesting and varied experiments may be performed with liquid air:

Wool, as you know, will not burn under ordinary circumstances, it only scorches and crisps; but when saturated with liquid air it flashes up like so much gunpowder.

Pour some liquid air into a tumbler which is immersed in water. A thick cake of ice will speedily form around it and gradually a thick ice cup will be moulded. Fill this cup partially with liquid air and dip into it the end of a steel wire. When lighted the hard metal will burn with a brilliant display of sparks; while ordinary steel, as everybody knows, requires many hundreds of degrees of heat to melt. After this pyrotechnical display, melted iron in a crucible of ice will be found!

Raw beefsteak may be frozen until it rings like metal when struck. It can be broken into pieces with a hammer or pounded into powder. Butter can be reduced to a fine, dry dust; and fruits and eggs can be pulverized. A ball of india-rubber immersed in liquid air becomes brittle and if dropped upon the floor breaks like glass. A lead ball acquires elasticity and will rebound like the rubber in its normal state.

If a teapot be partially filled with liquid air and set on a block of ice, the air at once begins to boil violently, throwing off a white vapor. The temperature of the ice is about 32°, that of liquid air about 312° below zero; in other words ice is about 344° warmer than liquid air, consequently it will make the air boil.

Alcohol freezes at so low a temperature (202° below zero) that it is used in thermometers to register all degrees of cold; but it will not measure the fearful cold of liquid air. Pour a cup of liquid air into a tumbler partially filled with alcohol. It will boil violently for a few minutes and then thicken up suddenly and finally freeze solid.

Mercury is frozen until it is as hard as granite. A quantity of mercury may be frozen so hard that it can be used as a hammer to drive nails.

Iron and steel immersed in liquid air become as hard and brittle as glass. A tin cup that has been filled with liquid air for a few minutes will, if dropped on the floor, shatter into a thousand pieces like thin glass.

Numberless experiments may be performed demonstrating the explosive power of liquid air.

All of this is extremely interesting and as wonderful as magic but—of what use is it? what are the practical applications of this astounding liquid? to what uses may it be put that will give it a commercial value and make it of benefit to mankind?

Liquid air is no mere curiosity of the laboratory, its possible uses are manifold and some of them are of incalculable value and importance.

The most obvious application is to purposes of refrigeration. Liquid air seems about to become the great refrigerating agent of the future, nothing is better adopted for such uses. It furnishes a clean, dry air easily delivered and at any temperature required. With it the transportation of fresh meats, fruits, etc., to any distance becomes a simple matter.

The possibilities in medicine and surgery are numerous. Air absolutely pure and free from germs could be furnished in any amounts. The cauterizing cold which liquid air is capable of producing might be used in many instances with great advantage.

The most important application is as a source of power. This is the project that Mr. Tripler has in hand. The economic conversion of heat into work is one of the great problems of the day. Why could it not be possible with the aid of liquid air to contrive a means whereby the enormous amount of energy stored in the atmosphere around us may be utilized? Either as an intensely active agent in accelerating combustion or by virtue of its expansive power, it has no equal as an explosive. Its value in warfare may exceed that of guncotton or nitroglycerin if properly controlled.

Notwithstanding the cost, a demand will be made for liquid air, considering the fact of its unequaled compactness and entire controllability. Certain uses will be found for a source of power in which considerations of cost are not so important as is the ability to obtain the effects in view. In warfare especially the possession of energy stores highly concentrated and under control is very important.

The great feature of the application of such a power as liquid air is its emergency power value; i. e., the ability to obtain if necessary an output far beyond the normal.

With regard to the future of liquid air, one can only await the possession of full and accurate data before drawing any final conclusions; yet the potential applications of this wonderful power seem to be little less than revolutionary. It is possible that even electricity is not destined to be of greater service to mankind.

JOHN MITCHELL,

President of the United Mine Workers of America

TRADE UNIONISM

Its Purposes and Prospects

BY

John Mitchell.

To the ordinary man of affairs, immersed in his business and the daily routine of life, trade unionism may seem a bewildering maze of conflicting ideas and doctrines. The complexity of trade unions, however, is merely the complexity of human life itself. No matter how simple and fundamental the principles and constitution of an organization, its rules and regulations necessarily become complex as soon as they encounter the diverse conditions that characterize modern life.

In the hundreds of trade unions that exist and the thousands of local groups into which these organizations are divided, various problems are encountered and various measures taken in each exigency. The result is a perfectly bewildering series of rules and regulations, in which those not conversant with the movement see neither rhyme nor reason, except, perhaps, that they observe in vague outline the ever-present desire on the part of the workingmen to improve their conditions and to raise their standard of life and labor. But even when the general public clearly understands this ideal, it fails to see why so simple an ideal requires so many and so elaborate regulations, and, in many cases, though the good motives of trade unions are not impugned, their wisdom is questioned.

In its fundamental principle trade unionism is plain and clear and simple. It starts from the recognition of the fact that under normal conditions the individual, unorganized workman cannot bargain advantageously with the employer for the sale of his labor. It is based upon the idea that united the workmen stand, and divided, they fall. At one time employer and workman were on practically equal terms. The employer had been a workman and the workman hoped to become an employer. At present, however, this is not the case. Great corporations have come into being and these corporations, taken singly, maintain in their employ thousands, or even tens of thousands of men. It does not make any difference to them whether an individual workman accepts or rejects, retains or surrenders the position they offer, for they can always and easily replace him. It is not the same with the workingman. He has no money in reserve and must sell his labor immediately and where he is; he has no knowledge of the market and no skill in bargaining; finally, he has only his own labor to sell, while the employer engages hundreds or thousands of men and can easily do without the services of any particular individual. If the workingman has a family dependent upon him, and particularly if he owns a home in the town in which he lives, he cannot lightly surrender a position because wages are reduced or the conditions of work made more difficult. The individual workingman is thus more dependent upon the employer for his job than is the employer upon the workman for his labor. Singly, he can do nothing; it is only when he is united that he can demand and secure justice. When it comes, therefore, to a settlement of wages, hours, or conditions

of work, the employer is usually at a great advantage over the unorganized applicants for positions, and wages are kept low, hours of labor long, and conditions of work bad.

Trade unionism recognizes the fact that under such circumstances labor becomes more and more degenerate, because the labor which the workman sells is, unlike other commodities, a thing which is of his very life and soul and being. He is progressively debased, because of wages insufficient to buy nourishing food; because of hours of labor too long to permit sufficient rest; because of conditions of work destructive of moral, mental, and physical health and degrading and annihilating to the laboring classes of the present and future; and, finally, because of danger from accident and disease, which kill off the workingman or prematurely age him.

To remedy these conditions, workingmen unite in trade unions. By means of trade unions they do collectively and together what they formerly did individually and separately. Just as the strength of a chain is the strength of its weakest link, so, without a union, the power of a body of men is the power of the poorest and least resourceful of them. By means of a union, the strength and power of resistance of all are put into a common fund; the united action renders the organization infinitely more powerful than the combined strength of all its members acting separately. Instead of each workingman making a contract for himself under unfavorable circumstances, all united make a contract for all; instead of the individual worker quitting his job and being replaced by his fellows, all of the men give up their positions simultaneously; instead of the men individually showing approval or disapproval by buying in some stores and refusing to buy in others, they now unite by means of the union label in assisting fair, and by means of the boycott in discriminating against unfair employers of labor. As a result of this concerted action, the union is as much stronger than the members which compose it, as an army is stronger than the individual soldiers who are found within its ranks.

There are at present in the United States some two and one half million of workingmen united into trade unions. There is hardly a trade or occupation in which unions do not exist in one form or another. Actors and agents, barbers and bakers, carpenters and clerks, furriers and foremen, hatters and horseshoers, miners and moulders, tailors and teamsters — so on through the whole alphabet of trades — all are possessed more or less of the spirit of unionism and all are organized more or less effectively in labor unions. The fever for organization extends even into the most insignificant occupations, and wherever men are employed at a common vocation, there the seeds of trade unionism find fertile soil.

For a long time unionism was not strong in the United States because it was not absolutely essential. As long as a man could go West and take a farm, he was not obliged to work under unfavorable circumstances; but with the closing up of the West and with the pressure brought to bear upon the population by the hundreds of thousands of immigrants who annually arrived from Europe, the average workingman was convinced that he must organize. This was especially true owing to the fact that with each year the difficulty of becoming an independent employer became greater and greater. Even to-day there are workingmen who rise to the highest positions in the industrial world, but the opportunity of men to do so is becoming daily less. As a result, the great body of workingmen have been compelled to seek their relief in unions, and by means of organization to obtain higher wages, shorter hours, and better conditions generally.

The movement toward the organization of labor is not a passing or temporary phenomenon which will vanish with the conditions against which the unions now protest. It is essentially permanent. In this respect a trade union is like a political party, as distinguished from the temporary reform movements from

which political parties sometimes take their rise. Unionism is not only permanent, but it is growing. It is idle to suppose that the unions of American workingmen have already reached their maximum growth. Despite their membership of two and one-half millions, a membership greater than that in the trade unions of any other country in the world, the unions of the United States are merely in their infancy and the majority of trades are as yet only imperfectly organized.

To all thinking men a movement of this great magnitude cannot but have vast significance. The trade union has meant an entirely new life for millions of workingmen. Externally and superficially, the conditions of employment have remained the same. The employee still works under the direction of a foreman or an employer, for a stipulated wage and under certain given conditions. Nevertheless, the advent of the union has brought a change in the relation of the workman to his trade. The union has made it possible for all men in an industry to make their contracts as though they were one man. It has made all the men in an industry responsible for each and each responsible for all. It has enabled the men engaged in a trade to agree upon common rules and present a united front, and it has permitted a regulation of industry to the benefit of the whole body of workingmen and of the occupation in general.

In a direct manner, trade unions have contributed greatly to the welfare of the workingman. It is manifestly impossible within the length of this article to give even an abstract of the work which has been accomplished, both in England and the United States, as well as in several of the countries of Continental Europe. Hours of labor have been everywhere reduced and, largely through the instrumentality of unions, wages have been increased and wage reductions prevented. While all of this progress cannot, of course, be ascribed to trade unions — since much has been due to the improvement in technical processes and to the intelligent and enlightened management of industry — yet much has undoubtedly been attributable to the organization of labor.

The goal toward which trade unionism strives is continued progress in this direction. Wages have not yet reached their maximum and the distribution of the product of labor is not yet in accord with the desires of the American workingman. As machinery improves, as technical processes are bettered, as the product of labor increases, it is only just that the return to labor — in the form of wages — should likewise increase. As work becomes more intense; as high-speed machinery takes the place of low-speed machinery; as the pressure upon the individual workman becomes more severe; as, through the growth of cities, the workingman's home becomes separated further and further from the place of his employment, it is only just and reasonable that his hours of labor be decreased and his leisure extended.

There is no near limit to the possibility of advance in the direction of increased remuneration and increased leisure for the workingman, so long as we assume a continual betterment in technical processes and in the economy of business. The trade unions are also seeking for the workingman a still more complete protection from sickness and avoidable accidents on railroads, in factories, mines, and workshops, while for women and children immunity is demanded from exhausting and degrading toil. What, in the last instance, the trade unions desire, is that as society increases in wealth, education, and refinement, these things shall not be monopolized by a small class, but shall become general throughout the community. The welfare and prosperity of a state depend not upon the number of its multi-millionaires, but upon the general comfort and happiness of the great mass of its citizens.

"Rome was not built in a day," and it cannot be expected that the trade unions will reach their goal within a short period. The work of the union is cumulative; it is the small gains which make the greater gains possible. In some industries the unions must advance

slowly because they are forced to commence with men who have been degraded, or even bestialized, by excessive work under intolerable conditions, and who are not ready for the reforms which other workingmen have secured. It is as much a part of the duty of trade unionists to raise the moral and intellectual standard of these men — their own members — as it is to increase their wages. In fact, these two things are, in the long run, inseparable. An increase in wages is of no permanent value to any class in a community unless it is combined with an increase in their desire for reasonable and sane expenditure; and, on the other hand, no permanent intellectual or moral progress can be made without securing, at the same time, a reasonable material basis. Trade unions must do everything in their power to elevate the moral standard of their adherents, to inculcate into them a love of fair play, to compel them to respect their own word and the interests of workmen and employers alike, and to increase their intelligence while encouraging them to spend their leisure in a sensible and permanently beneficial manner. The mere fact of organization tends to improve the calibre of men by persuading them to sacrifice their own good to that of their fellows, and by forcing them to bow to the will of the majority. It is a matter of common knowledge that the organized workmen in any trade are usually the most capable and intelligent members of that trade, not only because the union attracts the better men, but because men within the union are improved by their contact with one another. The unions are governed from within and not from without, and the lessons which come from an attempt to govern themselves are not the least valuable gifts which the union confers upon its members.

The development of trade unionism in the past has been along the line of a continuous growth in wisdom and experience. Unions grow in experience and knowledge as they grow in years and numbers. With strength has come moderation. They have made their mistakes and are still making them — from the highest officer of the greatest organization to the newest recruit from the least skilled occupation — and errors will continue to be made. No movement has ever succeeded which did not make mistakes. It is only by the sad experience of many years that unionists, like other men, have learned. It often occurs that unions gain as much by a lost strike as by one which is victorious, and that they are strengthened as much by the evils of adversity as by the uninterrupted successes achieved in favorable times.

The trade unions of the United States will not increase their membership without interruption and without losses. During periods of adversity they will be doomed to lose a certain percentage of their numbers, and no leadership — however astute — will be able to prevent defections. There will be advances and recessions, like the flow and ebb of the tide, but the progress will be continuous and membership will increase. In less than a generation the great bulk of workingmen engaged in industries where men work in common, will be organized into trade unions. These organizations will be bound together in federations and, individually and united, will be much stronger than those which exist to-day. The unions will undoubtedly become more conservative, less disposed to enter lightly into quarrels, and more willing to see and hear the other side of the argument. Before the organizations shall have attained their full growth, the leaders — as well as the rank and file — will be more conversant with industrial conditions; they will continue to improve, as in the past, and, equipped with larger experience, will be better able to cope with whatever difficulties may arise.

While the growth in numbers and conservatism of the trade unions will undoubtedly minimize friction, the hope of future peace in the industrial world lies in the trade agreement. The trade agreement is the very essence of trade unionism; it represents the central idea for which trade unionism stands; *viz.*, the collective or joint bargain; it represents the highest form of cooperation in modern busi-

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ness life, in that it secures to the workingman what various beneficent schemes in the past have failed to secure, a measure of control by workingmen over the conditions of industry. The trade agreement is the clearest and most unmistakable recognition of the importance of labor to capital and of capital to labor, and there is nothing so promising to the establishment of friendly relations between these forces as the growing tendency of their representatives to meet in friendly conference, in order to adjust conditions of employment.

When labor organized throughout the community shall be faced, as in all probability it will be, by capital organized in an equally effective and permanent manner, and when these two shall meet in joint conference to regulate the terms and conditions of work in the various trades, the strikes which are now a daily incident of industrial life will tend to disappear. While it must not be supposed that the trade agreement will prevent all ruptures, the strike or lockout will become a weapon to be used only in the direst extremity and as the most extreme resort. The effects of a strike in which hundreds of thousands or even millions of men would cease their work will be too terrible to contemplate. There is no better guarantee of peace than the fear of war, and safety lies in formidableness. The growth of trade unions on the one side and of strong, conservative, intelligent employers' associations on the other, should presage the advent of an era in which labor and capital can meet upon common ground and can unite in a successful effort to better conditions, to extend, improve, and elevate industry, and to give to industrial life the assurance of a continued and permanent peace.

Automobiles.

SCARCELY five years ago it was a comparatively rare occurrence in this country to see a self-propelled vehicle, or "automobile," of any description. To-day they are among the most familiar sights; hundreds of firms are engaged in their manufacture — many of them scarcely able to keep abreast of the demand for machines — while in the popular mind there is a constantly increasing interest in the subject.

Accompanying these phenomena of industrial development, very nearly unparalleled in its rapid rise to an approximate perfection, there will be found a corresponding desire for information on the construction and operation of these new masterpieces of skill. The treatment of subjects throughout this article has been kept as nearly as possible in the lines popularly called "non-technical," in order that the involved situations may be readily comprehended by all readers.

The wide-spread interest in the subject of horseless vehicles propelled by motors seems to have determined that the word, "automobile," shall be permanently adopted into the English language. This being the case, it is useless to attempt to change the usage or prepare any other generic term to describe a "self-moving," or motor-driven carriage. To be exact, however, the word is not properly derived, according to the rules of rhetoric, being a compound of the words, *autos*, self, and *mobilis*, moving, the first Greek, the second Latin. The best authorities assert that all the elements in a compound word should properly be derived from the same language. According to this rule, the word, "locomobile," from the words *locus*, place, and *mobilis*, moving, both Latin, is undoubtedly a more correct term. But since this word seems to have been pre-empted as the designation for an excellent type of American carriage, and it seems impossible to find any other euphonious word with the meaning of "self-mover," there is probably no alternative but to submit to current usage, and to call the motor-carriage of any type "automobile."

Even before the days of successful railroad locomotives, several inventors had proposed to themselves the problem of a steam-propelled road-wagon, and actually made attempts to build machines embodying their designs. In 1769 Nicholas Joseph Cugnot, a captain in the French Army, constructed a three-wheeled wagon, having the boiler and engine overhanging, to be turned with the forward wheel and propelled by a pair of single-acting cylinders which worked on ratchets geared to the axle shaft. It was immensely heavy, awkward, and unmanageable but succeeded, nevertheless, in making the rather unexpected record of two and a half miles per hour over the wretched roads of that day, despite the fact that it was compelled to stop every few hundred feet to steam up. Later attempts along the same direction introduced several of the essential parts used at the present day in motor-vehicles, and with commensurately good results. But the really practical road-carriage cannot be said to have existed until inventors grasped the idea that the fuel for the engines must be something other than coal; and that, so far as the boilers and driving gears are concerned, the minimum of lightness and compactness must somehow be combined with the maximum of power and speed. This seems a very simple problem but it has proved a most difficult one to solve. Just as the art of printing dates from the invention of an inexpensive method of making paper, so were light vehicle motors first made possible by the successful production of volatile or liquid fuels. In addition to this, immense contributions to the present successful issue have been made by pneumatic tires, stud steering axles, and balance gears, none of which were used in the motor-carriage of sixty and eighty years ago. Consequently we may confidently insist, although many thoughtless persons still maintain that the motor-carriage industry is in its infancy and its results tentative, that we have already most of the elements of the perfect machine and approximations of the remainder. At the present day the question is not what machine can do the required work but which one can do it the best.

As might be readily surmised, the earliest motor-vehicles were those propelled by steam engines; the first attempt, that of Captain Cugnot, dating, as we have seen, from 1769–'70. In the early years of the nineteenth century, and until about 1840 or '45, a large number of steam carriages and stage-coaches were designed and built in England, some of them acquiring considerable success and bringing profit to their owners. At about the close of this period, however, strict laws regarding the reservation of highways to horse-vehicles put an effectual stop to the progress of an industry that was already well on its way to perfection; and for over forty years little was done, either in Europe or America, beyond improving the type of farm tractors and steam road rollers, with one or two sporadic attempts to introduce self-propelling steam fire engines. During the whole of this period the light steam road-carriage existed only as a pet hobby of ambitious inventors or as a curiosity for exhibition purposes. Curiously enough while the progress of railroad locomotion was, in the meantime, rapid and brilliant, the re-awakening of the motor-carriage idea and industry, about 1885–'89, was really the birth

of a new science of construction, very few of the features of former carriages being adopted.

In 1885 Gottlieb Daimler patented his high-speed gas or mineral spirit engine, the parent and prototype of the wide variety of explosive vehicle-motors since produced; and in the same year Carl Benz of Mannheim constructed and patented his first gasoline tricycle. The next period of progress, during the years immediately succeeding, saw the ascendency of the French engineers. The name of Peugeot, Panhard, De Dion, and Mors, next to that of Daimler himself have become commonplaces among those who speak of motor-carriages. In 1889 Leon Serpollet of Paris invented his famous instantaneous or "flash" generator, which was fairly enough the most potent agent in restoring the steam engine to a measure of consideration as a means of motor-carriage propulsion. Although it has not become the prevailing type of steam generator for this purpose, it did much to turn the attention of engineers to the work of designing high-power, quick-steam, small-sized boilers, which have been brought to such high efficiency particularly in the United States. With the perfected steam-generators came also the various forms of liquid or gas fuel burners. The successful electric carriage dates from a few years later than either of the others, making its appearance as a practical permanency about 1893 or '94.

As is well understood the steam engine depends for its operation on the expansive power of water vapor under the influence of heat. When water passes from the liquid into the gaseous state its tendency to expand is simply irresistible and any attempt to resist or confine this force is the occasion for producing a power of almost unlimited possibilities. Thus when water is heated above 212 degrees in a confined receptacle, as a boiler, there is generated a pressure sufficient to move machinery. Allowing it to escape through valves operated by properly adjusted gears, it may be so controlled that, by its expansive force, it drives backward and forward the piston sliding in a hollow cylinder, thence by piston rod, energy is imparted to cranks and wheels for the accomplishment of work. Since every boiler is calculated to supply steam to its engine at a certain maximum working pressure (with light steam-carriage boilers the usual working pressure is between 150 and 180 pounds), the driver can readily find from his gage whether or not full power is being generated. Exceptionally high pressures under working conditions indicate a danger point, and in small boilers they are often due to a low water level which, unless remedied, will result in a burning out. Carriage boilers holding a proper supply of water cannot derive sufficient heat to generate pressure above a certain fixed point because the fire is automatically regulated. If, however, the water has become exhausted, even though an excessive pressure acts to shut off most of the fuel supply, the metal of the boiler will become sufficiently heated to collapse the tubes. The enormous heat-absorbing property of water neutralizes the tendency toward overheating of shell and tubes under ordinary conditions; it is the "dry heat" that must be guarded against. So far as the test resistance of small boilers is concerned they should be able to endure pressures beyond the "blow-off point" of the safety valve. Several American carriage boilers are advertised to have been tested at a "cold water pressure" of one thousand pounds and over to the square inch. This test is made by injecting water under such a pressure mechanically exerted. Such a test, however, in the absence of heat, indicates only the tensile strength of the metal. For obvious physical reasons this is quite a different thing from the conditions brought about by the action of heat.

It has been frequently said that steam is the best available motive power found, under ordinary conditions, for utilizing the vast expansive energy of heat. At a certain temperature, as has been said, water assumes the gaseous state, generating a power of expansion so vast that, when properly confined, it will displace any movable object in its effort to assume greater proportions; thus furnishing the force for driving machinery. Vaporized water is not, however, the only gas possessing such properties. Likewise, in certain aspects, it is not the most convenient medium for transforming heat into motive energy, particularly for small power motors. This is true because the steam engine, as we have seen, requires a boiler or generator to produce the steam and a constant source of heat to accomplish this effect; the consequence is that a large percentage of the heat units employed is actually wasted, even in the best designed engines. This result is inevitable, because the fuel for combustion, the fluid to be vaporized by heat, and the engine to be driven by the expansive energy are all separate and distinct elements, requiring, frequently, elaborate devises to secure the end of co-operation as a practical working unit. If now the expansive energy can be derived direct from the fuel and the ignition effected by an intermittent source of heat, it is obvious that the machine is simplified and the total economy increased. In other words, when some such rapidly-acting expansive force, as is found in the explosion of gun powder, can be so controlled and utilized as to drive a piston, as a gun throws forth its projectile, we have achieved the end of transforming heat into power with the smallest waste. In the steam engine a large percentage of heat is wasted in raising the water to the boiling point; another, in maintaining the degree of temperature necessary to continual generation of steam; a third, by being absorbed in the cylinders as a necessary means for preventing a check of expansion. Furthermore, a chimney draught, requisite to combustion in the heater and as an escape for burned products, acts as a waste in expelling considerable heat through the flue. On the whole, its disadvantages are many, and render it a poor substitute for an internal combustion motor, like the modern gas engine.

The internal combustion or explosive engine possesses most of the desirable features which the steam engine lacks, and realizes many of the requirements of an ideal motor. Its fuel, a hydrocarbon gas or liquid, is properly mixed with air, fed direct to the cylinders, and ignited explosively, so as to be raised instantly to its highest temperature point, by an intermittent source of heat, all in the same small chamber. It is, therefore, merely a cylinder and driving gear, without boiler or furnace attachments; and, on this account, affords a high-power efficiency, in proportion to its total size and weight. For use in motor carriages, internal combustion motors must be provided with some device for producing the explosive gas from a suitable liquid; since it is both inconvenient and impracticable to carry it stored in tanks or bottles, which must be constantly charged under high pressure. Such a liquid, moreover, must be one that is readily mixed with atmospheric air passed through it or over it, in a specially designed vessel, commonly called a carbureter, or vaporizer, so as to form a true gas with inflammable properties. Several hydrocarbons, such as benzine, gasoline, and some forms of

alcohol, are suitable, although gasoline has been most generally adopted for this purpose. The cylinder of a gasoline motor is, as in most gas engines, open at the end toward the crank shaft. Admission for the fuel gas at the opposite end, which is normally closed, is had by mushroom valves operated usually by suction of the descending piston. The piston is, therefore, single-acting, or moved by an impulse from one direction only, and is of the "trunk" pattern, having the swinging connecting rod pivoted within. The action of the piston and driving gear is, thus, entirely positive and automatic, in the sense that there is no pressure whatever outside of the cylinder — as in the steam engine — to effect movements of the parts, when proper valves are opened.

An automobile motor is started by turning a crank on the driving shaft a sufficient number of times to carry the gears, cams, and valves through the charging, compression strokes, to the moment of ignition, when it will "take up its cycle," and run by the power generated in itself. The cylinder is charged by an outstroke of the piston, creating a vacuum behind it and drawing in the mixture of air and gasoline gas formed in the carbureter. With some carbureters this is too "rich" to burn readily, so a quantity of pure air is also drawn in. With better carbureters the mixture needs no more air. The charge is then compressed by the return stroke of the piston, which act secures complete carborization of the contained air, and reduces it to the proper degree of mixture to be kindled by the igniting spark or other source of firing. This causes it to explode, or to expand suddenly and with great effect, and drive the piston outward again. The fourth stroke, which is the one immediately following the explosion, is known as the "scavenging" stroke, from the fact that the piston, moving back again into the cylinder, expels the products of combustion through exhaust valves which are operated by cams. This process completed, the parts are in position for a repetition; the valves for admitting gasoline gas to the cylinder then being opened again. These four strokes — two outward and two inward — are called a "cycle," and, as may be readily understood, there is thus only one power impulse for every two revolutions of the fly-wheel. This power stroke also continues while the crank is traveling through half a revolution, or through an arc of 180 degrees. It is also evident that the cam shaft, for operating the valve system of the cylinder, revolves but once for every two revolutions of the crank shaft, with which it is geared. Thus is secured the opening of the charging, or "inhaust" valve, and of the scavenging, or "exhaust," at precisely the proper point of the cycle. The operation of the four-cycle gas engine may be understood from this figure: Supposing we have a four cylinder motor, the cranks of whose four pistons are so fixed that, counting from 1 to 4, we have the pistons, cams, and valves in positions representing the four cycles. That is to say, the first cylinder would be performing the inhaust stroke; the second, the compression; the third, the explosion; the fourth, the scavenging. In such an engine the crank would be turned by a steady impulse, since in some one of the four the explosion would be due in every 90 degrees of its rotation. Also every one of the four cycles would be taking place contemporaneously.

Vehicles propelled by electric motors, whose energy is derived from secondary batteries, are much preferred by many authorities on account of the combined advantages in point of cleanliness, safety, and ease of manipulation. When well constructed and well cared for, they are also less liable to get out of order from ordinary causes. Among their disadvantages, however, may be mentioned the facts that the storage batteries must be periodically recharged from some primary electric source, which fact greatly reduces their sphere of efficient operation. Since at the present time road-vehicles driven by electricity are not the prevailing type, power charging stations are few on the ordinary lines of travel, and it is not possible to make a tour of more than thirty or forty miles, at the most, from the base of supplies. It is impossible to counteract this deficiency by carrying an extra set of batteries, since these are so immensely heavy, as usually constructed, as to greatly curtail the speed and carrying power of the vehicle. It is also impracticable to propel a vehicle by a battery of primary cells carried within it, since a battery of sufficient power to propel the vehicle would have little, if any, advantage in point of endurance over secondary cells, and when once exhausted must be entirely replaced. One or two attempts to use a primary battery on a motor-vehicle have been recorded, but the great waste and expense involved must continue to render such a construction more of a toy and an experiment than a practical possibility. Some machines, particularly of European manufacture, have attempted to combine the use of electricity with the explosive motor, the latter serving the double duty of driving the carriage and charging the batteries, which may then be used to supply energy for the electric motors. It must be said, however, that such a carriage as this is heavy and complicated to a point vastly in excess of the advantages supposedly gained.

Steam Vehicle Operation. The first essential operation in starting a steam carriage is to fill the fuel and water tank. The filling of the water tank is a practise which must be performed almost daily, on account of the necessity of blowing off the boiler after each day's work, in order to prevent the accumulations of incrustations and the corrosion due to the harmful chemicals held in solution in the water. As cannot be too strongly emphasized, there is no greater source of injury to a boiler than allowing the water to stand in it for any unnecessary period after the fire is extinguished. The operation of "blowing off" the boiler is a simple one, but certain conditions must always be observed. In the first place, the valve controlling the fuel supply to the burner should be shut off, thus extinguishing the fire. Second, the blow-off valve, situated at the base of the boiler, and opened and closed by a cock, should be opened, allowing the water to be ejected under pressure of steam. Third, the valve leading from the water tank should be closed, thus shutting off further supply. Fourth, the drip cocks should be open, allowing the residue of moisture to escape, and the boiler allowed to cool and dry. Fifth, no cold water, either for feed or cleaning, should be introduced into the boiler until it is perfectly cool. Not to observe this rule involves cracking or uneven contraction of plates or tubes and may cause leaking.

In filling the gasoline tank, the operation must be preceded by closing all valves leading to the boiler. The tank should never be filled higher than a level between two and three inches below the top, in order to allow space for air pressure, which is used to force the gasoline into the tubes leading to the burner. In starting the engine, it is desirable to observe several conditions. After the steam has reached 100 pounds pressure, as shown by the gage, it should be slowly admitted to the cylinder, in order to allow the parts to become thoroughly

warm before opening the valves full. Many steam carriage engine cylinders are equipped with automatic relief cocks, which eject the condensed steam formed in the cylinders at this time; others have hand cocks attached to the cylinders for the purpose of draining off any condensation in the same way. It is exceedingly essential that there should be no water in the cylinders, but since most steam carriage engines are equipped with drain cocks, automatic or otherwise, it is not necessary to worry about this condition, or to attempt to remedy it, unless special and explicit directions are furnished by competent authorities on the particular engine in use. The presence of water in the cylinder may be recognized by the familiar clicking or pounding, produced in running the engine.

Operating a Gasoline Vehicle. The first consideration previous to starting a gasoline motor-car is to see that the water and gasoline tanks are properly filled. The first important consideration involved in preparing the carriage for a run is to see that the moving parts are properly lubricated. The principal parts which it is particularly necessary to keep thoroughly oiled are the cylinder pistons, the bearings of the crank shafts and fly-wheels, the differential gear drum, and the change speed gearing. Another consideration of importance in this particular is that before replenishing the supply of oil to such parts as the crank case or the differential gear, the old lubricant should be thoroughly evacuated by means of the vent cocks supplied in each case. The reason for this is that after a run of from twenty or thirty miles, the oil in the moving parts is apt to be largely contaminated with dust and other impurities, which tend to interfere with its usefulness as a lubricant. When all reasonable preparations have been made, and it is evident that the motor and running parts are in working order, the next important step is to open the cock leading from the gasoline tank to the carbureter, and also to close the sparking circuit by means of the designated switch or plug provided for that purpose. The method of starting is by turning a handle on the crank shaft, as already mentioned, until the engine has taken up its cycle and proceeds to run, by the force of the explosions produced within the cylinder. As a usual thing, it is necessary to turn the crank through no more than two complete revolutions; but if the motor fails to operate at that point, and cannot be readily started, the fault usually lies either in a defective fuel mixture or else in some derangement of the sparking circuit.

When the motor is running properly and the driver wishes to start the carriage, the first operation is to throw in the clutch with a speed adjusted to low gear; this is very essential in order that the start should not be too sudden, which would result in discomfort to the occupants of the carriage and strain on the parts. After the carriage has once fairly started, the second speed may be thrown in as soon as desired. It is very essential, particularly for an unskilled driver, to recognize the fact that with any variety of change speed gearing, the changing of speed ratios must always be preceded by throwing out the main clutch. In changing from a lower to a higher speed, it is important that the operation should be performed on as level a roadway as possible and should be consummated before the carriage has lost its momentum. On the other hand, in changing from a high speed to a lower one, it is exceedingly desirable, if not imperative, that the momentum of the carriage should be allowed to fall as near as possible to the desired speed before the new gear is thrown in.

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Encyclopedia of General Information

EMBODYING

FACTS, FIGURES, AND STATISTICS.

Aeronautics.

THE history of aeronautics is marked with bloody traces, sad accidents relieved by few successful attempts. An adverse fortune seems to pursue the aeronaut; as if the jealous gods had fixed a boundary line over which human genius could not step. The schemes for fitting wings to man to enable him to fly or soar like a bird, have, since the time of the ill-fated Icarus, been as varied as they are numberless; the earliest appearing in France about 1660. Then a tight-rope performer named Allard made a few short flights and ended up with a bad fall while exhibiting before Louis XIV. The last of experiments in this branch of aeronauts was made by Lilienthal, who was killed during a trial of wings at Berlin, in 1896. Lilienthal was not the first to point out the impossibility of a serviceable balloon nor the first to study the bird wings to learn the secret of their suspension in the air; but he was the first to give the architecture of the wings of soaring birds any serious attention. He discovered that the secret lay in the arched or vaulted wing and made a machine by which he actually did succeed in flying a short distance.

Modern ballooning dates from 1783 when the Montgolfiers, two brothers, astonished Europe by the successful ascension of their hot-air balloon near Lyons, France. In the subsequent history of balloons, hydrogen figures more and more exclusively as the ascensional element; although little improvement has been made. The same year the first ascent was made in America. Rittenhause and Hopkins constructed a machine having 47 small hydrogen balloons attached to a car. Having first experimented with cats and dogs they finally found a man who was brave enough to make the attempt. However, when the queer-looking contrivance began to sail away the occupant became frightened and punctured the balloon, making a rapid descent.

Nearly all the attempts to construct an airship made before the last ten years was based on the principle of the dirigible balloon. The machinery was lifted and maintained in the air by means of an immense gas bag. The inventions made along this line left the machine utterly at the mercy of the wind and all attempts to steer the balloons in their original form proved singular failures. For almost a century after the invention of the balloon the progress made in aeronautics was very slight, but it was along practical lines, and even in its limited field proved remarkably useful. For instance, ascensions were made without number in the prosecution of scientific investigations and for reconnaissance in military operations. During the siege of Paris in the Franco-Prussian War use was made of these machines to escape from beleaguered places. For war purposes the United States was practically the first to employ the balloon, a corps of aeronauts being attached to the Union Army during the Civil War. The British used the service in the Transvaal War. In both Germany and Russia, the military balloons are at the command of recognized scientists.

During the last decade a marked change is noticeable in the sentiment toward the airship idea. Scientists of reputation have become interested and Professor Langley of the Smithsonian Institute is experimenting for the Government. The problem of aerial navigation cannot be solved through the balloon idea but must be by some machine heavier than the air, resembling the bird. Scientists say that artificial flight is a question of speed of the horizontal motion. They look for the solution of the difficulty through the aeroplane to be propelled by means of a light, powerful motor.

As long ago as 1842 Nenson devised the first aeroplane — a thin fixed surface slightly inclined to the line of motion and deriving its support from the upward action of air pressure due to speed. The motion was derived from some separate propelling arrangement. The aeroplane fell into oblivion until about fifteen years ago when Professor Langley began to seriously consider the subject, and since then he has done surprising work in the employment of this kind of machine. Dr. Langley's flying-machine has made successful flights over considerable distances and at great speed. This is built

with the aeroplanes extending on either side like wings and is driven by revolving fans operated by a small steam engine. It weighs many times more than the volume of atmosphere which it displaces, and comparatively it is far heavier than a ship of solid lead would be in the water, yet it sails through the air like a bird at a speed of from twenty to thirty miles per hour. It owes its support to the rapidity with which it runs over the air beneath it, the force of the air under the aeroplanes, developed by the high rate of speed, serving to uphold it. For the initial development of speed it is necessary to project the machine into the air from a launching device.

During the year 1901 M. Alberto Santos-Dumont aroused people to a new interest in the subject of aeronautics. On July 12, he made a successful trip through the air from the Longechamps race-course near Paris to the Eiffel Tower some miles distant, encircling the tower and returning to the starting point. M. Santos-Dumont has satisfactorily demonstrated that his aerostat can be steered and managed under ordinary weather conditions. Dirigible balloons of practically the same type were on exhibition as early as 1877. The envelope containing the gas was a cylindrical form pointed at each end. A rod was suspended beneath this and to the rod was attached the revolving fans for raising and propelling the machine and the saddle for the operator who worked the fans by the means of pedals. Such machines were experimented with in England in 1883 but proved to be absolute failures. Santos-Dumont is the first who has ever succeeded in making a safe aerial flight, turning and landing wherever he wished; his machine appears to illustrate the most advanced ideas connected with the construction of the airship.

In Sept., 1902, a still more successful flight as far as distance is concerned was made by Stanley Spencer in a machine differing in a few particulars from that used by Santos-Dumont. Some scientists who still believe that the problem of aerial navigation can be successfully solved look in the direction of mechanics and to an adaptation of the principle of the flight of birds, and of the capability of the aeroplane. Something of the principles of mechanics and the aeroplane entered into the success of the Santos-Dumont airship. This did not depend upon the buoyancy of the craft but upon the action of the wind on the under surface just as the wind operates on such an aeroplane as the kite; the airship is forced against the wind by its propelling machine and the air striking it obliquely from beneath forces it to rise.

The coming aerial tournament to compete for the $100,000 prize is doing a great deal to interest inventors in problems of aerial navigation and we may expect substantial advances in that line.

Spencer's airship for 1903 consists of the balloon or gas bag with the deck suspended below. The gas bag measures 87 feet from tip to tip, the greatest diameter being 21 feet 9 inches and at no two points is the diameter the same. The capacity of the balloon, which is made of varnished silk, is 24,000 cubic feet, which with hydrogen gas will give it a lifting power of 1680 pounds. The car is a frame work structure of bamboo — which has been proved the most suitable for the purpose, owing to its lightness and strength, and to its springy nature that gives with the shock without any permanent injury. The car is about fifty feet in length. At the bow of the vessel is placed the propeller which imparts the traveling motion to the car. The Spencer airship is drawn instead of being forced through the air. The propeller, which is of the two-bladed form, will make three hundred revolutions per minute. The petrol motor which is placed about 17 feet distant from the bow of the keel is exactly the same as those employed for motor cars. About thirty-four feet from the bow is the car that contains the aeronauts. The rudder at the rear of the keel consists of balloon fabric stretched on a frame from 15 to 20 feet. Two lines lead from it to the car. The motor and all its driving parts can be perfectly controlled from the car by means of Bowden wires attached to levers. The inflater is also placed in the car and actuated by hand, due precaution against danger, in case the balloon should burst, has been taken.

Some Models for the St. Louis Exposition.

First Model: Maching 30 feet in diameter and 150 feet long when fully rigged. Aluminium will be the material used in construction but no gas bag will be used as in other flying-machines.

Second Model: Safety appliances is the chief feature of this machine. Canvas flaps, 3 feet wide, extend entirely around the balloon. In case of sudden descent they open out like umbrellas or parachutes, and check the fall to a degree that does away with all danger if the gas bag fail completely. The motive power is furnished by a storage battery. The frame work is made of aluminium and light steel tubing, and will weigh with the battery, motor, and propellers 300 pounds.

Third Model: Consists of a balloon pointed at both ends and lying in a horizontal position. Around the balloon are strips of aluminium strong enough to make a substantial frame-work, at each end are propellers, six in all, to be used in raising and lowering the machine and to assist in guiding it. A six horse power gasoline motor will provide the motive power and the balloon will be filled with hydrogen gas and hermetically sealed. Large fans will provide a safety device which will permit the ship to slowly descend in case the balloon should collapse.

Professor Langley's experiments are conducted at a secluded spot on the Potomac River, in the interests of the War Department, Congress appropriating the money used in his work. The machine has been named by Langley the "aerodrome" because it is literally what the word implies — an air runner. This eminent scientist has studied carefully the action of soaring birds and he proved by his experiments that, if horizontal flight was insured without friction, about 200 pounds weight could be moved through the air at the speed of an express train and sustained upon it with the expenditure of one horse power. He is satisfied that boilers and engines can be constructed to weigh less than twenty pounds to the horse power and that one horse power would support nearly ten times that much if flight were horizontal. Great things were expected from the big aeroplane that the professor built with so much trouble and expense; and though it proved an utter failure when tried this last year (1903) the scientist himself is far from being discouraged.

While 1903 was prolific in aeronaut experiments it cannot be said that any practical advance was made toward the solution of the problem. The dirigible balloon of M. Santos-Dumont and the aerodrome of Professor Langley remain up to this time the types of the most nearly successful experiments along this line.

Agriculture in the United States.

State or Territory.	Value of Domestic Animals.	Value of Live Stock.	Value of Fowl.	Value of Bees.	Value of Wheat Crop.	Value of Corn Crop.	Value of Oats Crop.	Value of Barley Crop.
Alabama	$ 34,408,932	$ 36,105,799	$ 1,409,269	$ 287,598	$ 502,240	$ 17,082,751	$ 797,684	$ 1,582
Alaska	1,880	2,196	166					
Arizona	15,375,286	15,458,717	80,798	66,603	276,639	151,564	21,141	223,985
Arkansas	35,739,425	37,483,771	1,540,006	204,340	1,383,926	17,572,170	1,263,101	1,278
California	65,000,738	67,303,325	1,877,489	363,885	20,179,044	7,894	1,700,397	10,645,723
Colorado	49,359,781	49,954,311	393,219	195,096	2,809,370	508,488	1,121,745	246,510
Connecticut	10,247,634	10,932,212	644,050	40,528	6,080	994,885	103,459	1,856
Delaware	3,733,335	4,111,054	357,475	20,244	1,247,055	1,725,452	43,337	30
District of Columbia	122,019	125,326	3,108	199	349	6,322	206	
Florida	10,697,632	11,166,016	394,557	83,827	601	2,669,509	143,028	318
Georgia	33,499,683	35,200,507	1,458,055	242,769	1,547,773	17,155,868	1,383,758	2,048
Hawaii	2,523,479	2,570,142	38,237	8,426		65,938		
Idaho	21,389,853	21,657,974	203,127	64,994	2,131,953	55,880	702,955	312,730
Illinois	186,856,02[illegible]	193,758,037	6,415,033	486,164	11,937,458	115,092,567	36,990,019	242,834
Indiana	105,048,528	109,550,761	4,222,409	278,864	22,228,619	51,752,946	7,458,682	100,480
Indian Territory	40,824,886	41,378,695	515,384	38,425	1,121,259	6,999,018	889,053	1,010
Iowa	271,844,034	278,830,096	6,535,464	443,923	11,457,808	97,297,707	33,254,987	5,342,363
Kansas	186,317,248	190,956,936	4,356,997	277,967	19,132,455	58,079,738	4,915,896	383,709
Kentucky	70,488,187	73,739,106	2,723,221	527,098	8,923,760	29,423,996	1,247,928	8,157
Louisiana	27,757,301	28,869,506	1,057,889	54,316	1,888	10,327,723	117,312	61
Maine	16,298,422	17,106,634	756,153	51,459	107,396	326,824	1,374,573	137,448
Maryland	19,636,844	20,855,877	1,158,020	61,013	6,484,088	7,462,594	340,475	18,776
Massachusetts	14,730,169	15,798,464	1,018,119	35,751	1,515	771,277	84,850	9,264
Michigan	75,997,051	79,042,644	2,685,829	352,460	12,921,925	17,798,011	9,264,385	494,994
Minnesota	86,620,643	89,063,097	2,274,649	167,280	50,601,948	11,337,105	15,829,804	7,220,739
Mississippi	40,843,300	42,657,222	1,655,319	158,603	263,351	18,873,934	383,633	203
Missouri	154,295,363	160,540,336	5,720,359	508,217	30,743	61,246,305	4,669,185	11,232
Montana	51,724,113	52,161,833	296,806	8,139	13,520,012	41,626	1,790,938	341,308
Nebraska	142,769,629	145,349,587	2,374,930	199,563	1,077,210	51,251,213	11,333,393	545,432
Nevada	12,193,608	12,169,565	55,826	20,131	263,351	11,736	67,160	126,748
New Hampshire	10,062,877	10,554,646	467,104	24,665	3,428	538,738	184,025	25,189
New Jersey	16,269,548	17,612,620	1,300,853	39,219	1,347,650	4,533,473	492,341	2,301
New Mexico	31,644,179	31,727,400	62,419	20,802	390,616	419,936	154,347	24,107
New York	120,673,101	125,583,715	4,310,755	593,784	7,332,597	9,181,791	12,929,092	1,402,184
North Carolina	28,242,147	30,106,173	1,434,158	429,868	3,463,726	17,304,407	991,516	2,335
North Dakota	41,951,659	14,055,560	477,358	1,474	31,733,763	397,278	5,852,615	1,996,082
Ohio	120,673,101	125,954,134	5,085,921	402,561	32,855,834	48,037,895	10,236,251	462,977
Oklahoma	53,921,827	54,829,568	900,743	6,998	8,989,416	8,699,271	1,079,862	80,153
Oregon	33,172,342	33,917,048	582,524	160,382	6,358,395	155,693	2,078,950	606,945
Pennsylvania	97,424,119	102,439,183	4,483,486	531,578	13,712,976	21,896,795	11,093,893	89,163
Rhode Island	2,281,817	2,593,659	305,047	6,795	245	164,138	16,631	3,465
South Carolina	19,167,229	20,199,859	889,953	142,677	958,158	9,149,808	1,226,575	2,899
South Dakota	64,287,578	65,173,432	856,966	10,088	20,957,917	7,263,127	4,114,456	2,003,540
Tennessee	58,043,895	60,818,605	2,275,864	486,536	7,882,697	28,059,508	887,940	11,273
Texas	236,227,934	240,576,655	3,595,243	794,483	7,051,477	34,424,871	5,240,791	33,354
Utah	21,175,867	21,474,241	186,922	111,452	1,575,064	121,872	553,847	121,826
Vermont	17,373,169	17,841,317	421,195	46,453	29,078	1,180,505	941,711	187,004
Virginia	39,831,552	42,026,737	1,886,768	308,417	6,161,000	16,233,756	1,103,616	25,007
Washington	21,437,528	22,159,207	614,838	106,841	9,028,209	104,263	1,765,547	1,268,480
West Virginia	29,231,832	30,571,259	963,805	375,622	3,040,314	7,698,335	637,176	1,832
Wisconsin	93,521,430	96,327,649	2,410,714	377,105	5,115,346	15,905,822	17,931,685	17,931,685
Wyoming	39,080,158	39,145,877	60,397	5,322	191,195	19,569	292,630	15,375
Total	$2,981,722,945	$1,578,018,890	$85,794,996	$10,186,513	$373,948,863	$750,394,912	$198,972,533	$50,446,674

Agricultural Products of the United States.

Product.	1902.		1903.	Product.	1902.		1903.
Indian Corn	2,523,648,312	Bushels	2,244,176,925	Rice	285,750,000	Pounds	
Wheat	670,063,008	"	637,821,835	Hop	208,000	Bales of 180 pounds	
Oats	987,842,712	"	784,094,199				
Barley	134,954,023	"	133,861,391	Flaxseed	29,284,880	Bushels	27,300,570
Rye	33,630,592	"	29,363,416	Hemp	11,750,630	Pounds	
Buckwheat	14,529,770	"	14,243,644	Peanuts	11,964,957	Bushels	
Tobacco	821,823,963	Pounds	815,972,425	Sweet Potatoes	42,526,696	"	
Cotton	11,078,882	Bales		Apples	175,397,626	"	
Wool	287,450,000	Pounds		Peaches	15,433,623	"	
Hay	59,857,576	Tons	61,305,940	Pears	6,625,417	"	
Potatoes	284,632,787	Bushels	247,127,880				

Alcoholic Percentage of Liquors.

LIQUOR tests made under favorable conditions of purity and laboratory experience show the following average percentages of alcohol in each 100 parts tested:

Scotch whiskey	54%
Rum	53%
Brandy	52¾%
Irish whiskey	52½%
Rye whiskey	52%
Corn whiskey	51½%
Gin	51%
Madeira wine	22¼%
Port wine	22%
Currant wine	20½%
Sherry wine	19%
Claret wine	15%
Burgundy	14%
Champagne (still)	13¾%
Champagne (sparkling)	12½%
Gooseberry wine	11½%
Elderberry wine	8¾%
Dandelion wine	8%
Ale	7%
Beer	6¾%
Cider	5 to 9%
Porter	4%
Small Beer	1%

America.

AMERICA, so called after Amerigo Vespucci, who claimed to have first discovered and explored the coast of the mainland in 1497–1498. The name probably originated from a little publication entitled *Cosmographiae Introductio*, edited and issued by two scholars, Ringmann and Waldseemüller, at the little College of St. Dié in the Vosges Country. Ringmann is said to have been an ardent admirer of Vespucci, and to have inserted in his publications the four voyages of Vespucius. Tross, a book-seller of Paris, produced in 1881 a map dating as far back as 1517, on which the name "America" appears. It is also found on Schoner's globe of 1515, and seems to have been generally adopted from these.

American Wars, Length and Cost.

		LENGTH.	COST.
1.	War of the Revolution	7 years - 1775 - 1782	$ 135,193,703
2.	Indian War in Ohio Territory	1790	
3.	War with the Barbary States	1803 - 1804	
4.	Tecumseh Indian War	1811	
5.	War with Great Britain	3 years - 1812 - 1815	107,159,003
6.	Algerine War	1815	
7.	First Seminole War	1817	
8.	Black Hawk War	1832	
9.	Second Seminole War	1845	
10.	Mexican War	2 years - 1846 - 1848	66,000,000
11.	Mormon War	1856	
12.	Civil War	4 years - 1861 - 1865	6,500,000,000
13.	Spanish-American War	113 days - 1898	150,000,000
14.	Philippine War	2 years - 1899 - 1902	169,000,000

Antarctic Exploration.

CAPTAIN WILKES, of the United States Navy, in 1839 conducted an exploring expedition toward the South Pole. He discovered in January, 1840, a portion of a large continent in latitude 61 degrees and 30 minutes south, and longitude 161 degrees east. He traced the coast westward to longitude 101 east but was prevented from landing by the ice. In 1900–1901, an English expedition under Captain Borchgrevinck, reached a latitude of 78 degrees 50 minutes south.

The history of exploration is growing larger each year, and 1903 added an interesting chapter. The most important work done was by the English expedition under command of Captain R. F. Scott R. N., which left England in August, 1901, on the ship *Discovery*. The expedition left New Zealand in December of that same year and entered the ice pack two days before Christmas. According to Captain Scott's report, they entered the ice pack in latitude 67 degrees. In September of 1902 exploration by sledges was begun, and Captain Scott himself traveled southward till he reached latitude 80 degrees 17 minutes, longitude 163 degrees, the farthest south recorded up to the present time.

Captain Scott's report proved almost conclusively that the greater part of the Antarctic region is one vast continent. This theory was strengthened by the report of the German expedition sent out by the government in 1903, and the discovery of hitherto unknown land in the latitude 66 degrees 2 minutes, longitude 89 degrees 48 minutes west, which they called Emperor William II. Land.

Antiquity of Man in America.

THERE seems to be good reason to believe that man existed in America as early as the glacial period. Evidences of this are the many implements found in the Drift of the Delaware and other river beds. A conservative estimate of this date in solar years would put it 13,000 years before the present date.

Arbitration.

THE arbitration treaties and conventions of the United States have been chiefly with Great Britain. The policy began with the Jay Treaty in 1794. The two appointed commissioners were authorized to elect a third. The system of two or four commissioners authorized to appoint a third or fifth, who should act as umpire, has been the usual mode of deciding disputes, especially such as involved the estimation of damages. Sometimes the umpire has been appointed by a foreign ruler or minister. Such a commission adjusted outstanding claims between the United States and Great Britain in 1851–1857; designated the reserved fisheries under the Reciprocity Treaty of 1854; decided the amount of compensation to Great Britain for the fishing privileges accorded the United States in 1877. The same method was used to estimate the Spanish Spoliations in 1795; the damages due from Spain in the case of the "Colonel Lloyd Aspinwall" in 1871; and damages arising from the Cuban Insurrection of 1868 and 1878. With France the method was used to adjust claims arising out of the Civil War, the French invasion of Mexico, and the Franco-German War; and many disputes with the South and Central American States have been settled in this way, especially with Mexico in 1839. In 1818 the Emperor of

Russia arbitrated the question of compensation for slaves carried off during the War of 1812; the King of the Netherlands did similar service in a question of the Maine boundary in 1831 but his award satisfied neither party and the matter was finally adjusted by the Ashburton Treaty; and the final determination of the Northwestern boundary was made by the Emperor of Germany in the San Juan Question in 1872. Louis Napoleon arbitrated between the United States and Portugal in 1852 in the matter of the "General Armstrong." But it was in the Geneva Arbitration in 1871 that the policy of arbitration reached its full development. The precedent of that arbitration was followed in the Behring Sea Question in 1892; and again in 1896–1897. In the Venezuelan Arbitration, although the dispute was between Great Britain and Venezuela, the United States virtually assumed a protectorate over Venezuela and negotiated in her behalf. This last negotiation led to the signing of a permanent treaty between Great Britain and the United States, but it was rejected by the Senate in 1897. In 1889 the United States participated in The Hague Conference where a treaty providing for a general court of arbitration was signed. The Alaska Boundary dispute was amicably settled by this method.

Arbor Day.

A DAY set apart by most of the States and Territories for planting trees. Arbor Day was inaugurated by the Nebraska State Board of Agriculture in 1874, the second Wednesday in April being the day set.

Arctic Discoveries.

DR. KANE conducted the first American expedition in Arctic Regions, sailing from New York in the *Advance*, May 30, 1853. He penetrated Smith Strait as far as Cape George Russell, and then returned to Van Rensselaer Harbor for the Winter. Frequent excursions were made from this place, 125 miles of coast being traced to the north and east. Morton and another of Kane's company penetrated to Washington Land in the latitude of 82 degrees and 27 minutes, discovering an open channel which they named Kennedy. Kane returned in 1855, having been further north than any other explorer. He had to abandon his ship and go overland through the Danish settlements to the South, where he was met by a relief party. During 1860 Dr. Isaac Hayes, one of Kane's party, advanced as far as 81 degrees and 35 minutes north latitude, but was obliged to return without having made any important discovery. Dr. Charles F. Hall of Connecticut led an expedition the same year in search of Sir John Franklin. He lost his boat and was obliged to return. He made, however, some important discoveries of Frobisher's expedition three hundred years before. Under Hall, the same year, another party found actual relics of Franklin's party, and learned from the natives that he had discovered a northwest passage before abandoning his ships. Hall spent five years among the Esquimaux. He then returned and organized a third party, which reached 82 degrees, where Hall died. In 1881 Lieutenant Greely, of the U. S. Army, was sent to take charge of the American Signal Service Bureau at Lady Franklin Bay, it having been arranged that a relief expedition should be sent to him the following year. The first relief party under Lieutenant Beebe, sailed in June, 1882, but could get no further than latitude 71 degrees 20 minutes. The second, under Lieutenant Garlington, 1883, was equally unsuccessful. In 1883, a third relief party was dispatched under Captain Winfield Schley, commanding the *Thetis* and the *Bear*. The few survivors of the Greely party were found Oct. 21, 1883, in an almost dying condition. Greely had reached in his explorations 83 degrees and 24 minutes north latitude, then the highest ever reached.

In 1891, Lieutenant Peary conducted an expedition to Greenland under the auspices of the Academy of Natural Sciences of Philadelphia. He reached latitude 82 degrees, and showed the northern bounds of Greenland. In 1898 Peary started on another expedition which remained a continuing one for several years. In July, 1902, the relief ship *Windward* started north to find him. He returned in the Fall of 1902, having failed to reach the pole, but attained a latitude of 84 degrees and 17 minutes. Commander Peary's announcement that in 1904 he will make another effort to reach the North Pole has aroused great interest. Mr. Peary's present plan is very much like those of other pole seekers, and does not differ materially from that followed in his prior efforts, save that this year he hopes to avoid the former mistake of having his base too far south. This time he plans to establish his headquarters on the northern shore of Grant Land, thence making his dash for the Pole and saving the preliminary travel from Cape Sabine or Etah to Grant Land, which operated against his success in past endeavors. Mr. Peary hopes to reach Cape Joseph Henry, Grant Land, with his vessel next autumn, and to make his dash in 1905. In case he is unable to get his ship to the cape, he will sledge his supplies forward during 1905 and make his dash in the Spring of 1906. Experienced Arctic travelers believe Mr. Peary will have an excellent chance to attain the Pole, especially if he be fortunate enough to work his ship as far north as Cape Joseph Henry, enabling him to get an early start on his dash with full equipment.

Two polar expeditions are at this time in the field, one of these headed by Baron Toll, the Russian. Little is expected of this expedition in the way of extension of geographical knowledge. The object of the expedition is to determine if possible, the location of the Earth's magnetic North Pole.

The other Arctic expedition of the year was the second party sent out by William Ziegler, of New York. The first Ziegler expedition, under Evelyn Baldwin, which had been in Franz Josef Land from the Summer of 1901 to 1902, had accomplished so little that Mr. Ziegler deposed Baldwin as leader and appointed as his field commander Anthony Fiala, a young photographer who had been a member of Baldwin's party. Mr. Ziegler again supplied ample funds, and the National Geographic Society of Washington was induced to formulate the scientific plans for the expedition and to send a competent scientist, W. J. Peters, of Washington, as the representative of the Society.

The plan of the Ziegler expedition is the same as that of all parties who set out with the hope of reaching the North Pole — to winter on the land at the most northerly point attainable by ship and to make a "dash for the Pole" during the season favorable to sledging, which is from the return of the light at the end of February to the middle of May, when the surface of the frozen sea becomes too soft and slushy and the ice too much broken up for effective travel. Mr. Fiala's party will use Siberian dogs and also Siberian ponies in hauling the sledges, and plans to reach the Pole and return in the

Spring of 1904. The ship *America* on which the expedition set sail from Russia, will be retained in Franz Josef Land till the party is ready to return.

The following is a record of the highest north made in Arctic explorations during the past three hundred years, in the Eastern and Western Hemispheres, and by both land and sea:

Eastern Hemisphere.

COMMANDER.	DATE.	N. LAT.	LOCALITY.
William Barents	July, 1594.	77° 20′	Novaya Zemlya.
Ryp Heermskerck	June, 1596.	79° 49′	Spitzbergen Sea.
Henry Hudson	July, 1607.	80° 23′	Spitzbergen Sea.
J. C. Phipps	July, 1773.	80° 48′	Spitzbergen Sea.
William Scoresby	May, 1806.	81° 30′	Spitzbergen Sea.
W. E. Parry	July, 1827.	82° 45′	Spitzbergen Sea.
Nordenskiold	Sept., 1868.	81° 42′	Spitzbergen Sea.
Julius Payer	April, 1874.	82° 05′	Franz Josef Land.
Frederick Jackson	May, 1896.	81° 20′	Franz Josef Land.
Frithjof Nansen	April, 1896.	86° 14′	North of Franz Josef Land.
Walter Wellman	March, 1899.	82° 00′	Franz Josef Land.
Duke of Abruzzi	April, 1900.	86° 34′	North of Franz Josef Land.
Evelyn Baldwin	April, 1902.	81° 35′	Franz Josef Land.

Western Hemisphere.

COMMANDER.	DATE.	N. LAT.	LOCALITY.
John Davis	June, 1587.	72° 12′	West Greenland.
Henry Hudson	June, 1607.	73° 00′	Opposite East Greenland.
William Baffin	July, 1616.	77° 45′	Smith Sound.
E. K. Kane	June, 1854.	80° 10′	Smith Sound.
C. F. Hall	Aug., 1870.	82° 11′	Greenland Waters.
G. S. Nares	May, 1876.	83° 20′	Grinnell Land.
A. W. Greely	May, 1882.	83° 24′	North Greenland.
Robert E. Peary	April, 1902.	84° 17′	North of Grinnell Land.

Record of the Farthest South.

COMMANDER.	DATE.	S. LAT.	LONGITUDE FROM GREENWICH.	MEANS.
Captain Cook	1773	67° 31′	142° 54′ W.	Sailing vessels.
Captain Larsen	1893	68° 10′	60° 00′ W.	Sailing vessels.
Captain Evenson	1894	69° 10′	79° 00′ W.	Sailing vessels.
Captain Cook	1774	71° 10′	106° 54′ W.	Sailing vessels.
Captain Ross	1843	71° 30′	15° 00′ W.	Sailing vessels.
Lieutenant de Gerlache	1899	71° 36′	87° 39′ W.	Steamer.
Captain Weddell	1823	74° 15′	34° 17′ W.	Sailing vessels.
Captain Ross	1842	78° 10′	161° 27′ W.	Sailing vessels.
Captain Borchgrevinck	1900	78° 50′	165° 00′ W.	Sledging from steamer.
Captain Scott	1902	80° 17′	163° 00′ W.	Sledging from steamer.

Area of each State and Territory. Dates of Organization and Admission into the Union.

STATES AND TERRITORIES.	TOTAL SQUARE MILES.	DATE OF ORGANIZATION AND ADMISSION.
ORIGINAL STATES.		
New Hampshire	9,305	
Massachusetts	8,315	
Rhode Island	1,250	
Connecticut	4,990	
New York	49,170	
New Jersey	7,815	
Pennsylvania	45,215	
Delaware	2,050	
Maryland	12,210	
Virginia	42,450	
North Carolina	52,250	
South Carolina	30,570	
Georgia	59,475	
STATES ADMITTED.		
Kentucky	40,400	February 4, 1791.
Vermont	9,565	February 18, 1791.
Tennessee	42,050	June 1, 1796.
Maine	33,040	March 3, 1820.
Texas	265,780	December 29, 1845.
West Virginia	24,780	December 31, 1862.
PUBLIC LAND STATES ADMITTED.		
Ohio ..... State	41,060	April 30, 1802.
Louisiana ..... Territory	48,720	March 3, 1805.
Louisiana ..... State		April 8, 1812.

STATES AND TERRITORIES.		TOTAL SQUARE MILES.	DATE OF ORGANIZATION AND ADMISSION.
PUBLIC LAND STATES ADMIT'D.			
Indiana	Territory	36,350	May 7, 1800.
	State		December 11, 1816.
Mississippi	Territory	46,810	April 7, 1798.
	State		December 10, 1817.
Illinois	Territory	56,650	February 3, 1809.
	State		December 3, 1818.
Alabama	Territory	52,250	March 3, 1817.
	State		December 14, 1819.
Missouri	Territory	69,415	June 4, 1812.
	State		March 2, 1821.
Arkansas	Territory	53,850	March 2, 1819.
	State		June 15, 1836.
Michigan	Territory	58,915	January 11, 1805.
	State		January 26, 1837.
Florida	Territory	58,680	March 30, 1822.
	State		March 3, 1845.
Iowa	Territory	56,025	June 12, 1838.
	State		March 3, 1845.
Wisconsin	Territory	56,040	April 20, 1836.
	State		May 29, 1848.
California	State	158,360	September 9, 1850.
Minnesota	Territory	83,365	March 3, 1849.
	State		May 11, 1858.
Oregon	Territory	96,030	August 14, 1848.
	State		February 14, 1859.
Kansas	Territory	82,080	May 30, 1854.
	State		January 29, 1861.
Nevada	Territory	110,700	March 2, 1861.
	State		March 21, 1864.
Nebraska	Territory	77,510	May 30, 1854.
	State		February 9, 1867.
Colorado	Territory	103,925	February 28, 1861.
	State		March 3, 1875.
North Dakota	Territory	70,795	March 2, 1861.
	State		February 22, 1889.
South Dakota	Territory	77,650	March 2, 1861.
	State		February 22, 1889.
Montana	Territory	146,080	May 26, 1864.
	State		February 22, 1889.
Washington	Territory	69,180	March 2, 1853.
	State		February 22, 1889.
Idaho	Territory	84,800	March 3, 1863.
	State		July 3, 1890.
Wyoming	Territory	97,890	July 25, 1868.
	State		July 10, 1890.
Utah	Territory	84,970	September 9, 1850.
	State		July 16, 1894.
PUBLIC LAND TERRITORIES.			
New Mexico	Territory	122,580	September 9, 1850.
Arizona	Territory	113,020	February 24, 1863.
Alaska	District	590,884	July 27, 1868.
Indian Territory		31,400	
Dist. of Columbia	Territory		July 16, 1790.
	District	70	March 3, 1791.
Oklahoma	Territory	39,030	May 2, 1890.
Hawaii	Territory	6,449	June 14, 1900.
Total		3,622,933	

Area of the United States,

Exclusive of Alaska and Hawaii, at Each Census, 1790–1903.

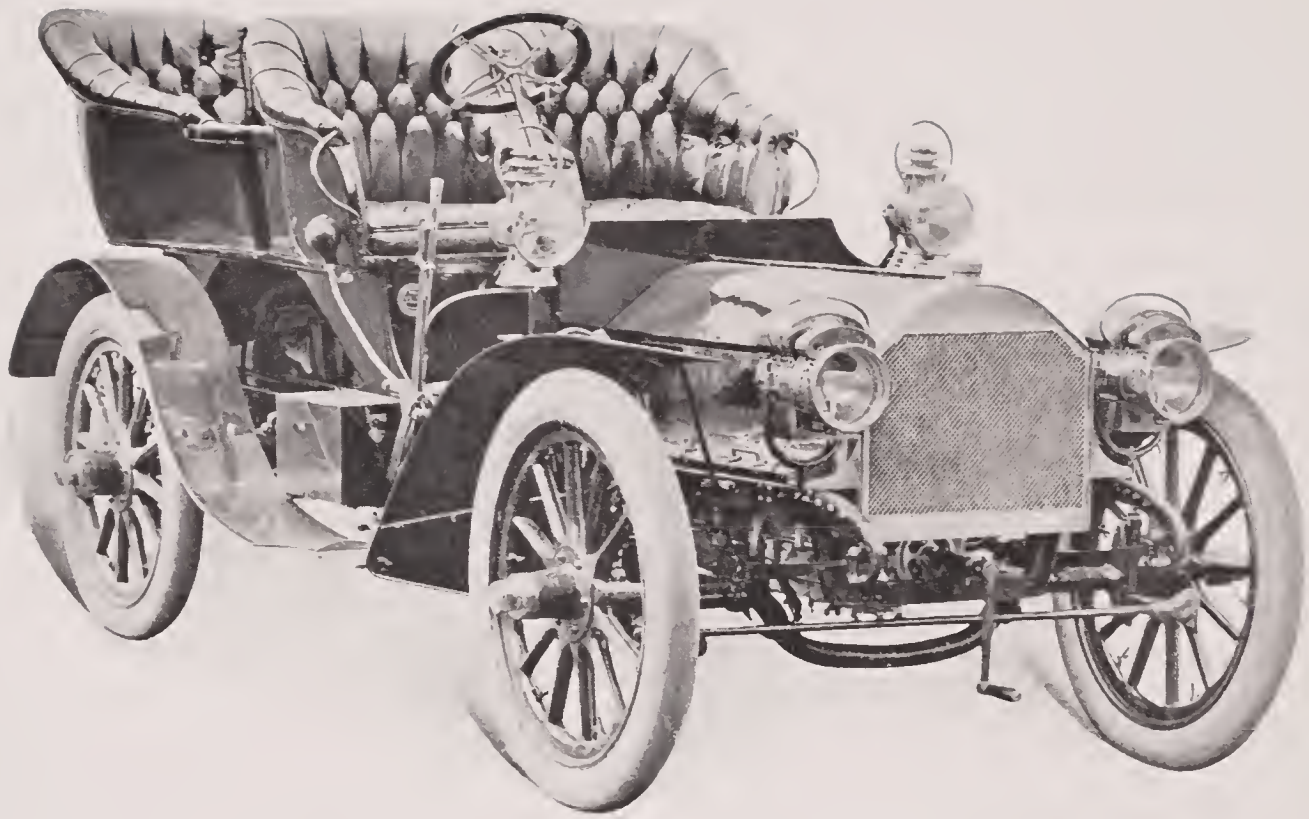
CENSUS YEARS.	GROSS AREA IN SQUARE MILES.
1790	827,844
1800	827,844
1810	1,999,775
1820	2,059,043
1830	2,059,043
1840	2,059,043
1850	2,080,959
1860	3,025,600
1870	3,025,600
1880	3,025,600
1890	3,025,600
1900	3,025,600
1901	3,025,600
1902	3,025,600
1903	3,025,600

Asphalt.

THE asphalt paving industry in this country is a new one. Thirty years ago there was not a yard of asphalt pavement in the United States; to-day there are about 38,000,000 square yards of sheet asphalt and 2,000,000 square yards of block asphalt, representing an investment by over 200 different municipalities of more than $100,000,000. The asphalt pavement, as laid in the United States, gets its name from the material which forms only ten per cent. of the mass. An asphalt pavement is ninety per cent. sand and other mineral matter; the asphalt merely cements the grains of sand together. These pavements are also called bituminous pavements, as bitumen is the largest constituent of the asphalt, running sometimes as high as ninety-five per cent., and in other asphalts fifty-five per cent.

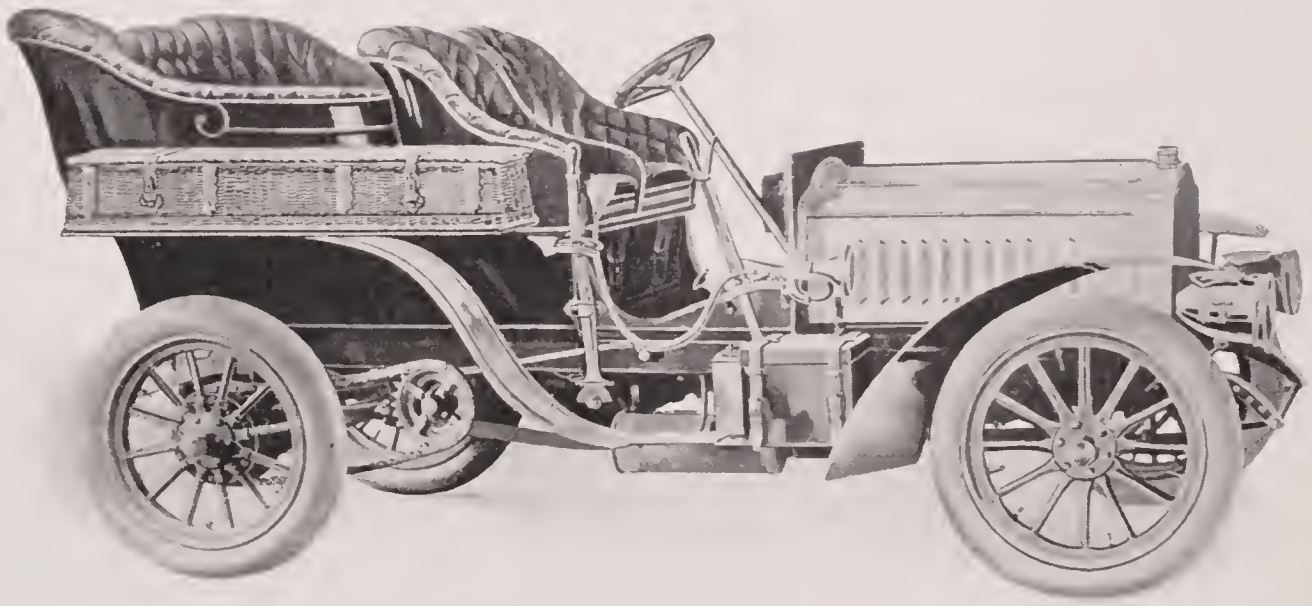
As an illustration of the rapid development of the industry, it may be noted that the number of square yards of sheet asphalt pavements laid up to 1880 was 300,000; in 1885, 1,800,000; in 1890, 8,100,000; in 1895, 21,500,000; and in 1900, 38,000,000 square yards. After twenty-four years of practical use the value of asphalt as a paving material has been demonstrated, and the laying of these pavements is now a substantial business, employing thousands of men and using millions of capital.

The deposit which has furnished over eighty-five per cent. of the asphalt used in the United States is the famous Pitch Lake of Trinidad, B. W. I., just off the coast of Venezuela, and which Charles Kingsley has in his nursery literature described as one of the "Wonders of the World." This deposit occupies a bowl-like depression, probably the center of an extinct mud volcano, some of which are found in other parts of the Island. It covers about 114 acres, is nearly circular in outline and a little less than half a mile in diameter. The center of the deposit is about three-quarters of a mile from the shores of the Gulf of Paria, and about 135 feet above the level of the sea, making it easy of access and simplifying the question of shipping. The surface is hard enough, except in irregular patches in the center, to bear the weight of carts and mules. It is necessary, however, for one to keep moving, otherwise he soon sinks in the material, which under the hot rays of the sun becomes quite mobile, although not sticky, owing to the large amount of water which it contains. When asphalt is dug from any portion of the deposit, in the course of a few days the hole is filled by new material coming from below; but the entire area of the lake, 114 acres, is lowered in consequence, showing that the mass acts as a liquid, of less mobility, however, than water. The composition of the asphalt is of remarkable uniformity, no matter from which portion of the lake it is taken. Samples taken 135 feet deep at the center do not differ in composition from those taken on the surface a few feet from the shore, showing the homogeneousness of the entire mass. Then, too, the surface is in constant motion. There are on the surface of the lake half a dozen or more islands, from fifty to one hundred and fifty feet in diameter, composed of floating vegetation, with trees thirty or forty feet high and dense undergrowth. From accurate surveys it was found that one of these islands in one year moved over twenty-five feet. It has been found that the removal of about 18,000 tons of asphalt will lower the level one inch, and as the output is about 100,000 tons per year the level is lowered from five to six inches per year. From the borings, however, it is evi-



PEERLESS, 24 H. P. 4 CYLINDER UPRIGHT—DIRECT DRIVE

PRICE $4,000.00



30 H. P. 4 CYLINDER UPRIGHT

PRICE $4,000.00

dent that for several generations to come there will be no shortage.

The crude Trinidad Lake asphalt is an emulsion of water, bitumen, mineral matter, and some organic matter not soluble in carbon disulphide (which is the solvent for bitumen), the relative quantities being as follows:

Bitumen	40 per cent.
Water	28 " "
Mineral Matter	25 " "
Organic, not soluble	7 " "
	100 per cent.

From this analysis it appears that less than one-half of the crude asphalt as it comes from the lake is bitumen, and that a large percentage is mineral matter.

Next to the Trinidad Pitch Lake, Venezuela has furnished the largest amount of asphalt used in the paving industry, about 2,500,000 square yards of pavement having been laid with this material. Across the Gulf of Paria, about 105 miles due west of the Trinidad Pitch Lake, lies the Bermudez Asphalt Lake, situated in the State of Bermudez, Venezuela. The lake covers an area of about 1,000 acres, being nine times the area of the Trinidad Lake.

Associated Press.

AN association organized in 1848–1849 by a number of New York newspapers, for the purpose of conveniently and inexpensively collecting and transmitting news. Its organization was suggested subsequently to the establishment of the first telegraph line between Washington and Wilmington, Del., and because of the delay in receiving dispatches, owing to the limited lines. The first members of the association were The New York *Sun*, The *Herald*, The *Tribune*, The *Journal of Commerce*, The *Courier* and *Enquirer*, and The *Express*. Contracts for lower telegraph rates were arranged with the companies and other newspapers were admitted to the association. In 1880, 355 newspapers were served by this association and a total number of 611,199,630 words were transmitted. This service has increased until it embraces a large proportion of the leading newspapers of the country.

Automobiles.

AUTOMOBILES are no longer a luxury, they have become a necessity. In the wide field of general utility, in business of all kinds they are indispensable. Public conveyances of every description, delivery wagons, trucks for the transportation of heavy goods, patrol wagons, and fire engines are built on the automobile plan. An immense number of self-propelling machines is in use in every portion of the civilized world, including a great number of powerful racing machines but vastly many more touring cars and the cars for pleasure riding and general running about for which a horse and carriage were formerly used.

The New York *Sun* collected statistics for 1962 and reported that during the first eight months of that year 19,000 vehicles were manufactured valued at $20,000,000. There were 300 automobile factories actually engaged in building complete machines in the United States and about 2,000 manufacturers who, in addition to their other business, made component parts and accessories for automobiles. At the close of the year 1902 it was estimated that there were 40,000 vehicles in the United States including foreign importations. In England there were 40,000 at the close of the year.

In 1903 there were 160 *bona fide* manufactories of complete automobiles actually engaged in the industry. There has been a slight increase in price of all classes so that the average price would be $1,100. There is also noticed a notable decrease in the production of steam vehicles. The output of electrical vehicles is steadily increasing; and the production of gasoline motor cars has doubled. There are probably 50,000 automobiles in use in the United States including those imported from France and Germany.

Average Length of Life in Various Occupations.

OCCUPATIONS.	YEARS.
Farmers	65.19
Millers	57.43
Sawyers	56.67
Physicians	55.08
Hatters	54.55
Clock and Watchmakers	54.43
Carpenters and Joiners	53.31
Blacksmiths	53.31
Sailmakers	52.84
Woodturners	52.55
Combmakers	51.38
Masons	50.48
Butchers	50.29
Tanners	50.05
Cabinetmakers	48.65
Guusmiths	48.57
Carriagemakers	48.38
Harnessmakers	48.36
Brickmakers	47.99
Woolsorters	47.55
Leatherdressers	47.41
Laborers	47.39
Musical Instrument makers	47.32
Tailors	47.19
Architects	47.15
Bakers	46.76
Dressmakers (women)	46.49
Seaman	46.33
Stonecutters	46.30
Coppersmiths	46.07
Silver and goldsmiths	45.46
Dyers	45.35
Mechanics	45.13
Painters	45.05
Weavers	44.65
Artists	44.56
Shoemakers	44.45
Brushmakers	43.40
Furnace men	43.05
Founders	42.73
Shoecutters	42.62
Pianofortemakers	42.50
Glass cutters	42.39
Civil Engineers	42.34
Cigarmakers	41.59
Engineers	41.57
Musicians	41.19
Tinsmiths	40.96
Expressmen	40.94
Nailmakers	40.80
Machinists	40.80
Jewelers	40.29

Occupations.	Years.
Servants (women)	40.19
Teamsters	40.13
Bookbinders	39 94
Upholsterers	39.78
Barbers	39.77
Pail and Tubmakers	39.50
Cutlers	39.23
Operatives	38.92
Printers	38.57
Engineers and Firemen	38.21
Drivers	38.16
Milliners	37.30
Glassblowers	37.81
Plumbers	35.43
Carvers	33.84
Operatives (women)	27.98

Ballot.

THE first instance of the use of the ballot in American elections was in the choice of a pastor by the Salem church on July 20, 1629. In 1634 it began to be used in elections of Governor for Massachusetts. In 1639 a ballot with some restrictions was instituted in the fundamental orders of Connecticut. In 1629 the ballot was used in some municipal and ecclesiastical elections in The Netherlands, and seems not to have been used in England. It may, therefore, have been introduced by imitation of the Dutch, but this is not yet proved. Voting by ballot was made obligatory by the Constitutions of Pennsylvania, New Jersey, and North Carolina, adopted in 1776. Open voting long prevailed in some of the Southern States, but the ballot system has long been generally in vogue except in Kentucky, where the *viva voce* method prevailed till 1890 for local and State elections. Representatives in Congress are elected by ballot under the provisions of an act of Congress of 1875. In Alabama, Florida, Indiana, Kansas, Kentucky, Louisiana, Nevada, North Carolina, Pennsylvania, Tennessee, and Texas there is a constitutional provision requiring the Legislature to vote *viva voce*. In 1888 the Australian ballot system was adopted at Louisville, Kentucky, and in Massachusetts. With more or less variation, nearly all the States follow this form of voting.

Banks.

NEARLY all the colonies emitted paper money (bills of credit), and frequently these bills were issued under the forms of banking. The English government opposed the schemes. In 1781 the Continental Congress chartered the Bank of North America, but its power to do so was doubted and the bank was chartered by Pennsylvania in 1783. Up to 1791 the only banks in the United States were this and two others, one in Boston and one in New York. In 1791, at the instance of Alexander Hamilton, Secretary of the Treasury, Congress, against considerable opposition, incorporated the Bank of the United States, with a capital of $10,000,000. The United States was to subscribe $2,000,000 of this. The charter was to run twenty years. The bills of the bank were to be receivable in payment of dues to the government, and it had the power to establish branch banks. The power of Congress to incorporate such a bank was denied by Jefferson and others; but Hamilton argued that such powers were implied in the very nature of a sovereign government, and were conferred by the clause in the Constitution giving Congress power to pass "all laws necessary and proper for carrying into execution" the enumerated powers. This view was upheld by the Supreme Court in the case of McCulloch vs. Maryland, which established the constitutionality of the Bank Act. The first bank of the United States led a prosperous and useful existence till 1811, when its charter expired, Congress refusing to recharter it. During the crisis of the War of 1812 only State banks, mostly ill-regulated, existed. In 1816 the second Bank of the United States was chartered, with a charter running twenty years and a capital of $35,000,000, four-fifths of it in government stocks. The government was to have the appointment of five of the twenty-five directors, and the Bank was to have the custody of the public funds. In 1829, President Jackson, angered by the Bank's refusing a political favor, began a series of attacks upon it. In 1832, Congress passed an act renewing its charter. Jackson vetoed it. In the election of 1832 Jackson was victorious over the Whigs and the Bank which he considered and had indeed forced to be dangerously implicated in politics. In September, 1833, by his orders, the Secretary of the Treasury caused the government deposits to be diverted from the bank, and lodged in State Banks (called "pet banks"). The Senate's protests were unavailing. In 1836 the Bank's charter expired. Tyler, in 1841, vetoed two bills to revive it and in 1846 the Independent Treasury system, already tried in 1840–1841, was permanently established. From 1836 to 1863 State Banks alone existed. In the earlier part of this period they were often uncontrolled by the State governments and quite unsound, banks being established and bills issued by adventurers possessing no capital to sustain them. New York provided a system of State supervision, which was in part the germ of the national system of 1863. In that year, Feb. 25, the National Bank Act was passed. It permits any five persons to establish a National Bank, and on depositing United States bonds with the Comptroller of the Currency, to issue bank notes to an amount not exceeding 90 per cent. of the par value of these bonds. By the law of March 14, 1900, national banks are allowed to issue notes to the full amount of the par value of the bonds deposited if that is not above the market value. The notes so issued are guaranteed by the government, which inspects the banks from time to time, and are receivable in payment of taxes. On March 3, 1865, an act was passed imposing a tax of 10 per cent. on the circulation of State Banks. On Sept. 30, 1892, there were 3,773 National Banks in the United States, and 3,191 State Banks. On June 30, 1899, there were 3,585 National and 4,191 State Banks. From Sept., 1900, to Dec., 1901, national banks increased in number from 3,871 to 4,221, with resources of $5,722,730,635, and deposits of $2,964,417,965. By 1903 they had increased in number to 5,042 with resourses of $6,310,400,000, and deposits amounting to $3,200,993,509.

Bankruptcy.

THE Constitution of the United States gives Congress power to establish uniform laws on the subject of bankruptcy throughout the United States. This power has been exercised but four times. On April 4, 1800, a bankrupt act was passed by Congress, which remained in force until repealed in December, 1803. Another was passed in August 19, 1841, and repealed in 1843. The third, called the Lowell Act, was passed on March 2, 1867, and repealed in 1878. On July 1,

1898, another law was passed which was the outcome of several years' agitation for a uniform system. This law was amended by an act of Feb. 5, 1903; other than the above, bankruptcy has been under the control of State laws.

Beginning of Famous Universities.

THE University of Oxford has the reputation of having been founded by King Alfred in 872.

The first college of the University of Cambridge was founded by Hugo, Bishop of Ely, in 1257.

The University of Paris was founded by King Phillip II. about 1200.

The first University in the German Empire was at Prague, Bohemia, 1348.

Czar Alexander I. founded the Universities of St. Petersburg and Moscow in 1802.

The oldest Spanish University is that of Salamanca, founded in 1240.

The University of Copenhagen, Denmark, was founded in 1479.

The oldest Italian Universities are Bologna, founded 1200; Padua, 1222; Naples, 1224; Genoa, 1243; Perugia, 1276; Macerata, 1290. There were nine more founded between 1300 and 1550. Italy was the greatest resort of students for the higher education in the middle ages.

Trinity College, Dublin, was incorporated by royal charter in 1591.

The University of Edinburgh was founded in 1582 by a charter granted by King James VI. of Scotland.

Harvard University had its beginning at Newton, afterward Cambridge, Mass., in 1636.

Yale University had its beginning at Saybrook, Ct., in 1700, and was removed to New Haven in 1716.

Columbia University was chartered as King's College in 1754. The name was changed to Columbia College in 1784 and Columbia University in 1896.

Princeton University, founded in 1746, was chartered as the College of New Jersey, and did not assume its present name officially until its one hundred and fiftieth anniversary in 1896.

William and Mary College (first steps taken toward establishing it in 1617) erected at Williamsburg, Va., and charter granted in 1693.

The first common schools established by legislation in America were in Massachusetts, 1645; but the first town school was opened at Hartford, Ct., prior to 1642.

The Bible, Some Interesting Facts.

THE Bible contains 66 books, 1,189 chapters, 31,173 verses, 773,693 words, and 3,586,489 letters. The longest verse is the ninth verse of the eighth chapter of Esther, while the shortest is the thirty-fifth verse of the eleventh chapter of St. John.

The money mentioned in the Bible would possess about the following equivalents to-day; a shekel of silver, 32 cents; a shekel of gold, $10; a talent of silver, $2,000; a talent of gold, $30,000; a piece of silver, or penny, 17 cents; a gerah, three cents; a farthing, one cent; a mite, less than a farthing.

On the invitation of the British committee for the revision of the Bible, a committee of United States scholars and divines was organized in 1871 and began active work in October, 1872. This committee was composed of twenty-seven members, who met each month in the Bible House, New York. Their intention was to adapt King James' version to the present state of the language. The revised New Testament was published in 1881. The revised Old Testament appeared in 1885.

The circulation of this book is increasing every year. In 1903 the American Bible Society alone issued more than 1,500,000 Bibles; while the British and Foreign Bible Society turned out more than 5,000,000 copies. This latter society prints the book in 400 languages and dialects. A little more than one-half of the Bibles published in this country are sold within the United States. The American Bible Society puts a publication on the market which can be sold as low as fifteen cents; the Oxford University Press publishes the most popular and finest edition.

Bridges

In and about the City of New York.

THE territory included within the limits of what is known as Greater New York is cut and intersected by waterways great and small, which are crossed by a network of bridges, facilitating transportation of its some three million souls to any point of the 35,975 square miles embraced by the city limits. The building of some of these bridges entailed intricate technical problems that taxed the ingenuity of the greatest civil engineers of the country, and resulted in remarkable feats of engineering and magnificent specimens of architecture.

The New York and Brooklyn Bridge.

The suspension bridge over the East River connecting Manhattan and Brooklyn Boroughs is one of the engineering triumphs of the age. The work of construction was begun as far back as 1870; the bridge was opened to traffic in the spring of 1883; and the cost when completed was approximately $20,000,000. Built of steel, it is supported by two towers of solid masonry. The central span measures 1,595½ feet and the two land spans 930 feet each, giving to the bridge a total length of 5,989 feet or considerably over a mile. The anchorage at each end is a solid cubical structure of stone, 119 feet by 132 feet, rising to the height of 90 feet above high water mark. The towers are 276 feet high.

The bridge is suspended from four cables 15¾ inches in diameter; each cable containing 5,296 parallel galvanized steel oil-coated wires; the strength of each cable is estimated at 12,000 tons. The bridge is 85 feet wide; the two outmost avenues are devoted to vehicles; the central avenue is for foot passengers, and on the two intermediate avenues are laid tramways for car traffic.

Williamsburg Bridge.

If the carrying capacity of a bridge is any criterion of its size and importance, the new East River Bridge, officially known as the Williamsburg Bridge, is the greatest structure of its kind in the world. It is the second to be built between the boroughs of Manhattan and Brooklyn. Actual work was begun October 28, 1896, and it was opened to the public January, 1904. The East River Bridge has the distinction of being the largest suspension bridge in the world and the heaviest; and of providing a width and capacity of roadway which is so great that the structure stands in a class by itself.

There are no terminal stations as in the Brooklyn Bridge which, especially at the Manhattan terminus, so seriously impede traffic. Provision was made for two carriage ways, four trolley-car tracks, two footwalks, and two bicycle paths. The entire bridge measures in length 7,200 feet, being somewhat over a mile and a third. The extreme width is 118 feet, while the height of the cables at the top of the towers above high water, reaches 333 feet. The cost of building was estimated at $12,000,000.

On the afternoon of November 10, 1902, a fire broke out in the Manhattan tower which burned for six hours, creating considerable havoc. The damage, at first greatly overestimated, amounted really to about $60,000 and the loss of some two months' work.

Manhattan Bridge.

The bridge which crosses East River between the Brooklyn Bridge and the Williamsburg Bridge is officially known as the Manhattan Bridge. Work on it was begun in August, 1901, and the entire structure is expected to be completed in the summer of 1906 at a cost of $16,000,000.

The approaches, which are carried on viaducts from terminals to anchorage, are 1,940 feet and 4,230 feet respectively in length, the longer one being on the Brooklyn side. The main span and the two symmetrical side spans of the bridge proper are suspension structures, the entire length amounting to 9,135. The general design consists of four cables supported by steel towers; suspended from each pair of cables is a double-tracked, double-decked steel structure.

On the platform of the lower deck are two promenades 11¾ feet wide; adjacent to each are two street-car tracks; and between these two sets of tracks is a 35½ foot roadway. The four tracks for elevated railways are carried on two separate upper decks above the street-car tracks, and there is no structure of any kind above the promenades or driveway.

The bridge is fire-proof throughout and combines simplicity of construction with architectural beauty of outline.

Blackwell's Island Bridge.

Yet another bridge over the East River, located in a line between 59th and 60th streets in Manhattan, connects Manhattan Borough with Queens. The East River, which is really an estuary connecting Long Island Sound with Upper New York Bay, is at this point divided by Blackwell's Island into two navigable arms. The total length of the bridge structure, including approaches, is 7,449 feet. It is double-decked throughout; the masonry is of granite; and the superstructure of steel. On the upper decks are two elevated railroad tracks and two promenades. On the lower deck are four trolley tracks; and a beautiful roadway in the center 36 feet wide. Blackwell's Island, which is crossed by the bridge at the height of 125 feet, is reached by means of elevators located in the four towers of the two island piers.

Bureau of Manufactures.

THE Bureau of Manufactures was established to promote, foster, and develop the various manufacturing industries of the United States and markets for their products at home and abroad, by gathering, compiling, publishing, and supplying all valuable and useful information concerning such industries and such markets as shall best promote the industries of the American manufacturer.

An attempt was made to create a Bureau of Insurance, but it failed. The following clause, however, was tacked to the Bureau of Corporations provision: "It shall also be the province and duty of said Bureau —— to gather, compile, publish, and supply useful information concerning corporations —— including corporations engaged in insurance."

It is also anticipated that the mobilization of the various offices into the Department of Congress and Labor will enable their work to be carried on with more unity and with more benefit to the country in general.

The principal officials created by the institution of the new department are George B. Cortelyou, Secretary of Commerce and Labor; E. E. Clark, Assistant Secretary of the Department, and James B. Garfield, Chief of the Bureau of Corporations.

Cabinet.

THE Constitution, without providing distinctly for a Cabinet, authorizes the President to consult the heads of the departments. Washington thus consulted his Secretary of State, Secretary of the Treasury, Secretary of War, and Attorney-General. The Secretaryship of the Navy was instituted in 1798, and its incumbent was at once treated as a member of the Cabinet, the Postmasters-General before 1829 were not; the Secretary of the Interior became such at once upon his institution, in 1849, the Secretary of Agriculture similarly in 1889.

Cables.

THE Atlantic Cable was projected by Cyrus W. Field in 1854. In that year he obtained a charter from the Legislature of Newfoundland for a fifty years' exclusive right to lay a cable from Newfoundland to Great Britain and from the Continent of America to Newfoundland. The New York, Newfoundland, and London Telegraph Company was occupied two years in completing the connection between America and Cape Breton, and Newfoundland. In 1856 Field organized the Atlantic Telegraph Company. The first two attempts at connecting the two continents, in 1857 and the first time in 1858 failed. The third attempt late in 1858 was successful, but lasted only a few months; then the Civil War suspended operation. In 1865 the "Great Eastern" laid 1,200 miles, when the cable snapped. In 1866 two thousand miles were safely covered and the Atlantic Cable was established. At the present time the submarine telegraphs of the world number 1,750. Their aggregate length is nearly 225,000 miles; their total cost is estimated at $300,000,000, and the number of messages annually transmitted over them at more than 6,000,000. All the grand divisions of the earth are now connected by their wires, and from country to country and island to island the thoughts and words of mankind are instantaneously transmitted.

Every body of water lying between the inhabited portions of the earth has been crossed and recrossed by submarine telegraph lines, including the Pacific Ocean, which was the last great body of water to be spanned by the electric current. The year of 1903 witnessed the completion of two successful trans-Pacific cable systems, one of them an all-American line, connecting the United States with the Philippines and completing at those islands, by means of the restored cable which Admiral Dewey cut during the Spanish-American War, a telegraphic circuit of the entire globe, which includes sub-marine lines under both of the great oceans, together with the vast land

WILLIAMSBURG, OR NEW EAST RIVER BRIDGE

systems of the two hemispheres. Of equal importance to the British Empire, while it is at the same time of vast benefit to the commercial interests of the entire world, was the completion in 1903 of the all-British cable between Australia and Vancouver, British Columbia, at the joint expense of Great Britain, Canada, and Australia. This marks a signal triumph for the British Cable System, since by the laying of the cable from Vancouver to Australia, which includes one length of 4,000 statute miles — the longest stretch of cable in the world, a complete telegraphic connection around the world is achieved. As a result all parts of the widely scattered British Empire is put into direct telegraphic communication. At the same time the islands of the Pacific Ocean are thus brought into closer connection with the rest of the civilized world.

The cable is about 7,755 miles long and consists of four sections, viz.,

From Vancouver, British Columbia, to Fanning Island. 3,455 miles
From Fanning Island to Suva, in the Figi Islands ..... 2,100 miles
From the Figi Islands to Norfolk Island ..... 1,200 miles
From Norfolk Island to Brisbane, Australia..... 1,000 miles

Commercially considered, this is perhaps the most important civil engineering feat of years. The great question of the success of the cable was over the one enormous stretch; but this has already undergone a series of tests and proved entirely equal to expectations.

A new Atlantic Cable, the completion of which is expected this year, belongs to the North German Sea Cable Company.

The cable systems of the world include, in addition to the score or more of Atlantic cables and the two under the Pacific, three wires which span the comparatively short distance between South America and the African and South European coastlines; those under the Indian Ocean, which connect the Far East with Europe and America by way of the Red Sea and the Mediterranean, which covers a perfect network of cables; those traversing the Gulf of Mexico and the Caribbean Sea in all directions, connecting the islands with the North and South American continents, and those along the eastern coast of Asia and the entire coasts of Africa and South America. By means of telegraphic communication all portions of the globe where modern civilization has made a foothold are now in such close touch that the occurrences of any moment in any part of the world can be made known within an hour to every community.

Cables Operated by Private Companies.

COMPANY.	NUMBER OF CABLES.	LENGTH OF CABLES IN NAUTICAL MILES.
African Direct Telegraph Company	8	2,943
Anglo-American Telegraph Company...	14	9,554
Trans-Atlantic System — Valentia, Ireland, to Heart's Content, Newfoundland.		
Minon, near Brest, France, to St. Pierre, Miquelon.		
Black Sea Telegraph Company....	1	337
Compagnie Francaise des Cables Telegraphiques.	32	12,102
Brest, France, to Cape Cod, Mass.		
Brest, France, to St. Pierre, Miquelon.		
St. Pierre to Cape Cod, Mass.		
Cape Cod, Mass., to New York.		
Central and South American Telegraph Company	14	7,500
Commercial Cable Company — German system...	2	4,141
Borkum, Germany, to Horta, Azores.		
Horta, Azores, to New York.		
Commercial Cable Company — Transatlantic system.....	11	13,212
Havre, France, to Waterville, Ireland.		
Waterville, Ireland, to Weston-super-Mare, near Bristol.		
Waterville, Ireland, to Horta, Fayal, Azores Islands.		
Waterville, Ireland, to Canso, Nova Scotia.		
Horta, Fayal, the Azores, to Canso, Nova Scotia.		
Canso, Nova Scotia, to Rockport, Mass.		
Canso, Nova Scotia, to New York.		
Commercial Cable Company — Pacific system.....	4	7,846
Manila to Guam.		
Guam to Midway.		
Midway to Honolulu.		
Honolulu to San Francisco.		
Compagnie Allemande des Cables	3	5,253
Compania Telegrafico-Telefonica del Plata.....	1	28
Cuba Submarine Telegraph Company.	10	1,143
Direct Spanish Telegraph Company.....	4	716
Direct West India Cable Company..... ..	2	1,265
Bermuda-Turks Island and Turks Island — Jamaica.		
Direct United States Cable Company.....	2	3,100
Ballinskelligs Bay, Ireland, to Halifax, Nova Scotia.		
Halifax, Nova Scotia, to Rye Beach, N. H.		
Eastern and South African Telegraph Company..	15	9,077
Eastern Extension Australasia and China Telegraph Company..... ...	34	18,153
Eastern Telegraph Company.....	93	39,473
Anglo-Spanish-Portuguese system.		
System west of Malta.		
Italo-Greek system.		
Austro-Greek system.		
Greek system.		
Turko-Greek system.		
Turkish system.		
Egypto-European system.		
Egyptian system.		
Egypto-Indian system.		
Cape Town to St. Helena; St. Helena to Ascension Island; Ascension Island to St. Vincent.		
Europe and Azores Telegraph Company.....	2	1,053
Great Northern Telegraph Company	30	7,946
Cables in Europe and Asia.		
Halifax and Bermuda Cable Company	1	849
India Rubber, Gutta Percha and Telegraph Works Company....	3	145
Indo-European Telegraph Company.....	3	23
Intercolonial system.....	5	7,836
Vancouver to Fanning Island.		
Fanning Island to Fiji.		
Fiji to Norfolk Island.		
Norfolk to Queensland.		
Norfolk to New Zealand.		
Mexican Telegraph Company.	3	1,528
River Plate Telegraph Company	1	1,528
South American Cable Company.....	2	2,049
United States and Haiti Telegraph and Cable Company	1	1,391
West African Telegraph Company.....	11	3,000
West Coast of America Telegraph Company.	7	1,979
West India and Panama Telegraph Company.....	24	4,639
Western Telegraph Company	27	17,260
Carcavellos, near Lisbon, Portugal, to Maderia; to St. Vincent, Cape Verde Island; to Pernambuco, Rio de Janerio, Santos Montevideo.		
Western Union Telegraph Company.....	13	7,478
Trans-Atlantic system — Sennen Cove, near Penzance, England, to Dover Bay, near Canso, Nova Scotia.		
Dover Bay, Nova Scotia, to New York.		
Gulf of Mexico system.		
GRAND TOTALS....	383	193,547

Cables Owned by Nations.

	Number of Cables.	Length of Cables in Nautical Miles.
Austria	44	217
Belgium	2	54
Denmark	86	288
France	67	7,082
Germany	70	2,887
Great Britain and Ireland	173	2,074
Greece	46	54
Holland	32	241
Italy	39	1,060
Norway	536	543
Portugal	4	115
Russia	10	319
Spain	15	1,743
Sweden	16	209
Switzerlaud	2	9
Turkey	23	344
Egypt	1	187
Argentine Republic and Brazil	40	99
Australia and New Zealand	35	2,484
Bahama Islands	1	213
British America	1	199
British India	9	2,002
Cochin China aud Touquin	3	1,699
Japan	118	2,022
Macao	1	2
Nouvelle Caledonie	1	1
Netherlands Indies	10	1,820
Senegal, Africa	1	3
Siam	3	13
Nouvelle Galles du Sud	4	31
Pacific Cable Boards (cables in the Pacific, between British America and Australia)	5	7,267
Total	1,398	35,281

The Calendar.

There have been various methods of computing time since, early in the history of mankind, the calendar was devised; for example, the Athenians began their year in June, the Macedonians in September, the Persians in August, the ancient Mexicans in February, etc.

The ancient Greek Calendar is as follows with the approximate corresponding date in our own calendar:

Ga me′ lion.....Jan.	Hek″ a tom′ bai on.....July
An″ thes te′ rion.....Feb.	Mat′ a geit′ nion.....Aug.
El″ a phe bo′ lion.....March	Bo″ e dro′ mion.....Sept.
Mu nych′ ion .....April	Py″ a nep′ sion .....Oct.
Thar ge′ lion.....May	Ma″ i mak ter′ ion.....Nov.
Skir″ o phor′ ion .....June	Po sei′ deon .....Dec.

The Old Roman Calendar, attributed to Romulus, is based upon a year of 10 months, or 304 days:

Martius,	Sextilis,
Aprilis,	September,
Maius,	October,
Junius,	November,
Quintilis,	December.

Numa intercalated a month called Mercedinus, and also added February and January which he inserted between December and March.

Julius Cæsar (100–44 B. C.) ordained the Julian Calendar, by which time was measured by most civilized nations till the accumulation of error necessitated the establishment of the Gregorian Calendar. By this calendar 3 years each of 365 days were followed by one of 366. The months after some change made by Augustus had the same length now adopted in Europe and America. This calendar is now 12 days behind the Gregorian Calendar.

The Mohammedans reckon time from the flight of Mohammed from Mecca to Medina (called the Hegira), which occurred July 16, 622 A. D.:

Mu har′ ram	Raj′ ab
Sa phar′	Sha ban′
Ra biul′-Aw wal″	Ram″ a zan′
Ra biul′-A Khir″	Shaw′ wal
Ju″ ma dal′-U la″	Zul″-Ka dah′
Ju″ ma dal-U khra″	Zul-Hij jah′

After the French Revolution had swept away all existing institutions as far as possible, the 1st French Republic instituted the Revolutionary Calendar, Oct. 5, 1793. It was abolished in 1805. The month was here divided into 3 decades, every 10 days being a day of rest, Sundays being ignored.

Vendemiaire....Sept. 22–Oct. 21	Germinal.....Mar. 21–Apr. 19
Brumaire.....Oct. 22–Nov. 20	Floreal .....Apr. 20–May 19
Frimaire.....Nov. 21–Dec. 20	Prairial .....May 20–June 18
Nivose.....Dec. 21–Jan. 19	Messidor.....June 19–July 18
Pluviose.....Jan. 20–Feb. 18	Thermidor.....July 19–Aug. 17
Ventose.....Feb. 19–Mar. 20	Fructidor .....Aug. 18–Sept. 16

Sanculottides.....Sept. 17–Sept. 21.

The Hebrew Calendar is the Calendar of the Jews, dating back to the 2nd century A. D., and reckoning from the assumed date of creation or 3,760 years and 3 months before the birth of Christ:

Tisri or Ethanim.....Oct.	Veadar.....
Hesvan or Bul .....Nov.	Nisan or Abib.....April
Kisleu or Chisleu.. .....Dec.	Iyyar of Zif... .....May
Tebet or Tebeth..... ....Jan.	Sivan..... ....June
Sebat.....Feb.	Tammuz or Tamuz .....July
Adar ....M'rch	Ab.....Aug.

Elul.....Sept.

The Gregorian Calendar is the calendar prescribed by Pope Gregory XIII. by which the Julian Calendar was modified and corrected. It is the one we are all familiar with and is in use in all Christian countries except Russia and Greece.

Capitol.

The corner-stone of the Capitol building at Washington was laid by President Washington, Sept. 18, 1793. The north wing was completed Nov. 17, 1800. The south wing was completed in 1808, and the interior of both was burned by the British, Aug. 24, 1814. Reconstruction was begun in 1815. The foundation of the main building was laid March 24, 1818, and the whole was completed in 1827. The Act of Sept. 30, 1850, provided for an extension. President Fillmore laid the corner-stone of the extension July 4, 1851, and Daniel Webster delivered the address. It was finished in 1857.

Capitals of the States and Territories.

Alabama	Montgomery.
Alaska Territory	Sitka, soon Juneau.
Arizona Territory	Phœnix.
Arkansas	Little Rock.
California	Sacramento.
Colorado	Denver.
Connecticut	Hartford.
Delaware	Dover.
District of Columbia	Washington.
Florida	Tallahassee.
Georgia	Atlanta.
Guam	San Luis d'Apra.
Hawaii	Honolulu.
Idaho	Boise.
Illinois	Springfield.
Indiana	Indianapolis.
Indian Territory	Tahelequah.
Iowa	Des Moines.
Kansas	Topeka.
Kentucky	Frankfort.
Louisiana	Baton Rouge.
Maine	Augusta.

Maryland	Annapolis.
Massachusetts	Boston.
Michigan	Lansing.
Minnesota	St. Paul.
Mississippi	Jackson.
Missouri	Jefferson City.
Montana	Helena.
Nebraska	Lincoln.
Nevada	Carson City.
New Hampshire	Concord.
New Jersey	Trenton.
New Mexico Territory	Santa Fe.
New York	Albany.
North Carolina	Raleigh.
North Dakota	Bismarck.
Ohio	Columbus.
Oklahoma Territory	Guthrie.
Oregon	Salem.
Pennsylvania	Harrisburg.
Philippine Islands	Manila.
Porto Rico	San Juan.
Rhode Island	Providence.
South Carolina	Columbia.
South Dakota	Pierre.
Tennessee	Nashville.
Texas	Austin.
Utah	Salt Lake City.
Vermont	Montpelier.
Virginia	Richmond.
Washington	Olympia.
West Virginia	Charleston.
Wisconsin	Madison.
Wyoming	Cheyenne.

Causes of Death in the Census Year 1900.

Causes of Death.	Number.
Consumption*	111,059
Pneumonia	105,971
Heart disease †	69,315
Diarrhœal disease ‡	46,907
Unknown causes	40,539
Diseases of the kidneys §	36,724
Typhoid fever	35,379
Cancer	29,475
Old age	29,222
Apoplexy	26,901
Inflammation of the brain and meniugitis	25,664
Cholera infantum	25,576
Paralysis ‖	23,865
Bronchitis	20,223
Debility and atrophy	17,282
Influenza	16,645
Diphtheria	16,475
Convulsions	15,505
Malarial fever	14,874
Premature birth	14,720
Diseases of the stomach ¶	13,484
Measles	12,866
Croup	12,484
Diseases of the liver**	12,249
Diseases of the brain	11,469
Inanition	11,382
Dropsy	11,264
Whooping cough	9,958
Peritonitis	7,501
Railroad accidents	6,930
Septicæmia	6,776
Burns and scalds	6,772
Scarlet fever	6,333
Suicide	5,498
Drowning	5,387
Appendicitis	5,111
Rheumatism	5,067
Diabetes	4,672
Hydrocephalus	4,302
Cerebro-spinal fever	4,174
Gunshot wounds	4,060

* Including general tuberculosis.
† Including pericarditis.
‡ Including cholera morbus, colitis, diarrhœa, dysentery, and entertis.
§ Including Bright's disease.
‖ Including general paralysis of the insane.
¶ Including gastritis.
** Including jaundice, and inflammation and abscess of the liver.

Cereals.

THE leading cereals of the United States, in the order of their acreage are: corn, wheat, oats, barley, rye, buckwheat, rice, and Kaffir corn. The total improved farm area in the United States was, according to the census of 1900, 414,793,191 acres, of which 289,821,549 acres were in crops of all kinds. The area in cereals was 184,994,588 acres. The total valuation of all crops was $2,910,138,663, while that of the cereals was $1,484,231,038, or 51 per cent. of the total.

Christian Science.

THE Christian Scientists reported in July, 1903, that there were 769 churches and societies of the denomination in the United States, and since that date additional churches have been built and the number of adherents has increased.

Mrs. Laura Lathrop, C. S. D., of New York, has stated:

"This church is emphatically a healing church, and many cases of restoration to health have been testified to during the past few years, brought about by attendance on one of these meetings. Christian Science is demonstrable Christianity. Through the spiritual understanding of the teachings of Christ Jesus, its followers are enabled to obey His command to 'heal the sick' and do the works He and His disciples did. The omnipotence, omnipresence, and omniscience of God are proved to be true. Christian Science is not mind-cure, as that is popularly understood, because it recognizes but one mind, God. It is not faith-cure, because it does not perform its wonderful works through blind faith in a personal god, but through the understanding of man's relation to God. It is not mesmerism or hypnotism, because it denies absolutely the power of the human mind and human will, and claims no will but God's. Through recognizing the one mind and man as the reflection of that mind, it forever establishes the brotherhood of man. It is the perfect salvation from sin, disease, and death, Jesus Christ came to bring." Mrs. Eddy defines Christian Science as "the law of God, the law of good, interpreting and demonstrating the principle and rule of eternal harmony."

Civil Service.

AN ACT regulating and improving the Civil Service of the United States was passed January 16, 1883. It provides for open, competitive, practical examination for testing the fitness of applicants for the classified service; for the filling of all vacancies by selections from among those graded the highest; for the apportionment of appointments at Washington among the states and territories upon the basis of population; for a probationary period before absolute appointment; it also provides that no person in the public service shall be obliged to contribute service or money for political purposes and that no person in said service has any right to use his official authority or influence to coerce the political action of any person or body; that there shall be non-competitive examinations when competent persons do not compete and that notices of changes shall be furnished to the commission to be recorded.

There are about 123,000 positions in the classified civil service of which number 110,000 are subject to competitive examination. Something less than 20,000 of these positions are in Washington, D. C. Examinations for civil service are held in every state and territory at fixed times and places. No one is qualified for appointment whose standing in any examina-

tion is less than 70% except soldiers and sailors who need obtain but 65%. The term of eligibility is one year after registration but this may be extended under certain circumstances at the discretion of the Commission. A manual of examination is published in which all necessary information is given regarding examination, methods, etc.

Prior to establishing a system of examinations to ascertain the fitness of the applicants for the performance of public duties which they desire to assume, appointments to positions in the public service had been based on official favor and influence, and those so appointed were liable to be removed on occasion of the slightest change in political conditions. By this new method all positions are open to any citizen of the United States regardless of color, or religious or political opinions, subject only to certain limitations as to age, character, etc.; and patronage counts but little.

Whenever a vacancy occurs in any position classified under the Civil Service Act, the nominating officer asks for list of eligibles and the Commission hands over the three names which stand at the head of the list. From these three the nominating officer selects one. The person so selected is notified of appointment and if he accepts is taken on probation for a period of six months. At the end of this period if he is retained it is equivalent to an absolute appointment.

Fitness for promotions is established by competitive tests or examinations and while promotions may be made from one class to another upon any appropriate test of fitness, such promotion cannot be made if the duties of the new position differ sufficiently to demand an examination.

No removal can possibly be made from the competitive classified service except for JUST CAUSE.

Certain special rules and regulations and detailed accounts of methods are easily obtainable by application to the Civil Service Commission at Washington.

Coal.

AREA OF THE WORLD'S COAL-FIELDS, IN SQUARE MILES.

China and Japan	200,000
United States	194,000
India	35,000
Russia	27,000
Great Britain	9,000
Germany	3,600
France	1,800
Belgium, Spain, and other countries	1,400
TOTAL	471,800

The coal-fields of China, Japan, and Great Britain, Germany, Russia, and India contain apparently 303,000,000,000 tons, which is enough for 450 years at present rate of consumption. If to the above be added the coal-fields in the United States and Canada, and other countries, the supply will be found ample for 1,000 years. Improved machinery has greatly increased the yield per miner, and thus produced a fall in price to the advantage of all industries.

The production of the principal countries in 1901 in metric tons was:

United States	266,078,668
United Kingdom	222,614,981
Germany	152,628,931
Austria-Hungary	40,746,704
France	32,325,302
Belgium	22,213,410
Russia	16,156,038
Japan	8,945,939
Australasia	6,700,000
India	6,742,176
Canada	4,649,316
Spain	2,651,857
Mexico	409,125
Sweden	271,509
Italy	425,614
All other countries	2,500,000
TOTAL, PARTLY ESTIMATED	787,179,967

Coal Production in the United States, Latest Estimate.

TONS OF 2,000 POUNDS.

STATES.	TONS.	VALUE AT MINE. TOTAL.	VALUE AT MINE. PER TON.
Bituminous.			
Alabama	10,329,479	$ 12,498,669	$1.21
Arkansas	2,125,700	2,338,270	1.10
California	88,460	248,622	2.81
Colorado*	7,455,156	8,349,768	1.12
Georgia	375,000	450,000	1.20
Illinois	30,031,300	28,289,485	.94
Indiana	8,300,000	7,885,000	.95
Indian Territory	2,741,797	4,386,875	1.60
Iowa	5,407,144	7,908,004	1.46
Kansas	5,229,767	7,321,674	1.40
Kentucky	6,429,419	6,107,948	.95
Maryland	5,525,785	6,225,639	1.13
Michigan	869,228	1,173,458	1.35
Missouri	4,067,166	5,324,788	1.31
Montana	1,707,109	2,389,953	1.40
New Mexico†	1,090,373	1,537,426	1.41
North Dakota‡	296,800	371,000	1.25
Ohio	23,929,267	24,843,608	1.08
Oregon	*60,000	150,000	2.50
Pennsylvania	98,946,203	106,861,899	1.08
Tennessee	4,232,332	5,278,921	1.25
Texas§	*850,000	1,360,000	1.60
Utah	1,641,436	2,068,209	1.26
Virginia	3,070,104	3,223,609	1.05
Washington†	2,690,789	5,300,854	1.97
West Virginia	26,162,173	27,208,660	1.04
Wyoming	4,720,000	6,472,000	1.35
Total bituminous { Sh. tons	258,371,987	$285,574,339	$1.11
Total bituminous { Met. tons	234,393,529		1.22
Anthracite.			
Colorado	67,767	$ 203,301	$3.00
New Mexico	42,571	117,070	2.75
Pennsylvania	41,340,929	82,681,858	2.00
Total anthracite { Sh. tons	41,451,267	$83,002,229	$2.00
Total anthracite { Met. tons	37,604,343		2.20
Grand total coal { Sh. tons	299,823,254	$368,576,568	$1.23
Grand total coal { Met. tons	271,997,872		1.35

* Estimated.

† One-half lignite.

‡ All lignite.

§ One-third lignite.

Owing to the protracted strike in the Pennsylvania anthracite region and the abnormal conditions which resulted in the trade, the value of anthracite at the mine can be fixed only approximately.

Imports of coal into the United States in 1902 in long tons: anthracite, 73,006; bituminous, 2,478,375.

Coffee Statistics.

THE coffee tree originated in Abyssinia and derives its name from the city of Kuffa. It was introduced into Europe in 1573, and although it did not at first meet with much favor, it soon was largely consumed. Its growth was started

in Martinique in 1723. Its cultivation spread to other islands of the West Indies, and then to Brazil, whence now comes the greater part of the coffee consumed in this country.

Naturalists reduce the trees which produce the numerous varieties to three great types, which can be easily recognized by those who are conversant with the cultivation of the coffee. The plants from Arabia have not many leaves and are slender in appearance, but they have great vitality, which condenses and gives to the beans a perfume which has not been equalled as yet by any artificial method of cultivation. The second type, the "African" coffee, is distinguished by its different appearance, due to the marshy plains from which it comes. Its leaves are broad and abundant, and the planter is recompensed by the weight, though not by the quality of the product, because African coffee yields a liquor of poor quality. Finally, the third type, which may be of great importance in the future, is the coffee discovered some years ago in Brazil, and which was called Maragojipe. It is distinguished by the abundant crop which it produces, besides which the bean is very much larger and has a surface of a silk-like and polished appearance, with excellent aromatic qualities.

The principal coffee-producing countries are now Mexico, Costa Rica, Salvador, Guatemala, Hondurus, Nicaragua, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, Venezuela, the West Indies, Asia, Oceanica, Polynesia, and Australia. The world's supply for 1902–1903 was, July, 11,261,331 and Jan., 13,212,775; and for 1903–1904, July, 11,900,173. (Calculations in bags of 130 pounds.)

Coins and Coinage of the United States.

1793–1900.

NAMES OF COINS.	WHEN COINAGE AUTHORIZED.	TOTAL AM'T COINED TO JUNE 30, 1900.	COINAGE STOPPED.
GOLD.		*Dollars.*	
Double eagle	March 3, 1849	1,538,826,000.00	.....
Eagle	April 2, 1792	319,061,160.00	.....
Half eagle	April 2, 1792	259,066,545.00	.....
Quarter eagle	April 2, 1792	29,015,635.00	.....
Three-dollar piece	Feb. 21, 1853	1,619,376.00	Sept. 26, 1890
One dollar	March 3, 1849	19,499,337.00	Sept. 26, 1890
SILVER.			
Dollar[1]	April 2, 1792	506,527,453.00	Feb. 12, 1873
Trade dollar	Feb. 12, 1873	35,965,924.00	Feb. 19, 1887
Half dollar	April 2, 1792	144,988,509.00	.....
Columbian half dollar	Aug. 5, 1892	2,501,052.50	Immediat'y
Quarter dollar	April 2, 1792	63,763,021.50	.....
Columbian quarter dollar	March 3, 1893	10,005.75	Immediat'y
Twenty-cent piece	March 3, 1875	271,000.00	May 2, 1878
Dime	April 2, 1792	35,931,861.20	.....
Half dime	April 2, 1792	4,880,219.40	Feb. 12, 1873
Three-cent piece	March 3, 1851	1,282,087.20	Feb. 12, 1873
MINOR COINS.			
Nickel five-cent	May 16, 1866	17,967,308.10	.....
Nickel three-cent	March 3, 1865	941,349.48	Sept. 26, 1890
Two-cent (bronze)	April 22, 1864	912,020.00	Feb. 12, 1873
Cent (bronze)	April 22, 1864	10,072,758.59	.....
Cent (nickel)	Feb. 21, 1857	2,007,720.00	April 22, 1864
Cent (copper)	April 2, 1792	1,562,887.00	Feb. 21, 1857
Half cent (copper)	April 2, 1792	39,926.11	Feb. 21, 1857

[1] Coinage reauthorized, February 28, 1878, and rediscontinued, except for certain purposes, July 1, 1891.

TOTAL COINAGE.		COINAGE OF 1900.	
Gold	$2,167,088,113.00	Gold	$107,937,110.00
Silver	796,171,159.55	Silver	31,171,833.15
Minor	33,503,969.72	Minor	2,243,017.21
TOTAL	$2,996,763,242.27	TOTAL	$141,351,960.36

Colonies

of the Principal Countries with their Populations and Areas in Square Miles.

NAME.	NUMBER.	AREA.	POPULATION.
United Kingdom	54	12,043,806	351,254,076
France	29	4,317,826	62,270,560
Netherlands	8	782,862	33,408,014
Belgium	1	900,000	30,000,000
China	5	2,881,560	16,680,000
Germany	12	1,027,370	14,679,160
Turkey	5	840,486	14,701,221
United States	6	729,272	9,184,636
Portugal	10	804,004	10,115,804
Japan	2	13,543	2,797,400
Russia	3	114,320	3,300,000
Austria Hungary	1	23,262	1,568,092
Italy	2	142,000	729,516
Spain	4	246,698	475,611
Denmark	4	87,148	127,184

The Colonies of the United States with Areas and Population.

NAME.	AREA.	POPULATION.
Philippines	119,542	8,000,000
Alaska	599,446	63,592
Porto Rico	3,606	953,243
Guam	150	9,000
Samoan Islands	79	5,800
Hawaii	6,449	154,001

Commerce.

THE foreign commerce of the United States in the year 1903 was the largest in the history of the country. The imports and exports combined aggregated $2,445,860,916, against $2,285,040,349 in 1902, $2,310,937,156 in 1901, and $2,244,424,266 in 1900. Prior to 1900 the aggregate of imports and exports had never reached two billions, and it was not until 1872 that the aggregate of imports and exports reached as much as one billion dollars.

It is estimated that the Internal Commerce of the United States now annually amounts in value to at least $20,000,000,000. This estimate is based on one transaction in each of the leading classes of commodities produced in the several different divisions of national industry. On the bases of the figures of the 12th census the products of agriculture are valued at nearly $4,000,000,000; manufactures, $13,000,000,000; minerals, $1,000,000,000. To these the products of the forests, of fisheries, and other minor forms of industry should be added at a valuation of certainly not less than $3,000,000,000. Including also the growth of Commerce since 1900, there can be no doubt as to the aggregate for 1902 being fully $20,000,000,000.

Composition of Metals.

Bath metal is composed of copper and tin.
Bell metal is composed of copper and zinc.
Britannia metal is composed of antimony, copper, bismuth, and tin.
Cannon metal is composed of copper and tin.
Copper (white) is composed of arsenic and copper.
Dutch gold is composed of copper and zinc.
German Silver is composed of copper, nickel, tin, and zinc.
Gold (standard) is composed of gold and copper.
Gun metal is composed of copper and tin.
Pewter is composed of lead and tin.
Silver (standard) is composed of silver and copper.
Solder is composed of lead and tin.
Type metal is composed of lead and antimony.

Copper.

THE United States is by far the largest producer of copper in the world, and possesses at least two of the greatest copper-mines in the world, the Anaconda of Montana being the first in size and the Calumet and Hecla of Lake Superior, the third in size and importance in the world. The second place is held by the Rio Tinto mines of Southern Spain.

Of the United States ores, the richest in quality are those of Arizona, being oxides yielding about 10 per cent. of metallic copper, and are easily reduced. The Montana ores yield about 7 per cent. of copper and a large amount of both silver and gold. The Lake Superior ores are chiefly of native copper, and nearly pure, and the cost of production is not materially less than the Arizona or Montana ores.

The chief demand for copper is for electrical uses and appliances; but, besides this, there has been an increased demand for the brass and yellow-metal trade, as well as for the manufacture of weapons and cartridges, and in ship-building.

The production of copper in the world in 1902, stated in long tons, was as follows:

United States	272,685
Spain and Portugal	49,790
Chile	28,930
Japan	29,775
Germany	21,605
Mexico	40,000
Australasia	28,640
South Africa	4,450
Other countries	49,482
TOTAL	525,357

The copper production of the United States in 1900, in pounds, was distributed as follows:

Arizona	115,403,846
California	29,639,987
Colorado	7,826,949
Michigan	144,227,340
Montana	254,460,713
Utah	18,504,726
Eastern and Southern States	6,918,122
All others	12,536,850
Copper in Sulphate*	11,313,962

*Including only the copper in sulphate obtained as a by-product.

Cost of the British Royal Family.

THE annuities paid by the British people to the royal family for its support are as follows:

The King and Queen	$2,350,000
Prince of Wales	50,000
Princess Christian	30,000
Princess Louise (Dutchess of Argyll)	30,000
Duke of Connaught	125,000
Princess Beatrice	30,000
Duke of Cambridge	60,000
Dutchess of Albany	30,000
Dutchess of Mecklenburg-Strelitz	15,000
TOTAL	$2,820,000

The King also receives the revenues of the Duchy of Lancaster. During recent years these have amounted to about $500,000 per annum. The Prince of Wales has an income also from the revenues of the Duchy of Cornwall amounting to about $300,000 per annum. When the royal children marry, dowries are usually provided for them. The last of the children of the late Queen Victoria to marry, Princess Beatrice, received $150,000 as dowry from the British by Parliamentary grant.

Cotton.

THE cotton plant was found growing in a wild state by the first settlers of the southwestern portion of this country, but 1621 is generally regarded as the first year of cotton culture in the United States. Its cultivation was for a long time limited to small patches for domestic uses. In 1733 cotton seed was brought into Carolina, and in 1734 cotton was planted in Georgia from seed sent to the trustees from England. About 1770 Southern planters began turning their attention to the cultivation of cotton as a staple crop. In 1775 the first manufactory for cotton was established in Philadelphia, it also manufactured goods from flax and wool. In 1787 the first regular cotton factory in the United States was built at Beverly, Mass. The Legislature made a grant of $500 to assist the new enterprise. The year 1793 was made memorable by Eli Whitney's invention of the saw-gin. Previous to this time the only method of separating the lint from the seed was by hand, and a large number of slaves were kept on the southern plantations for this work alone. Cotton picking is still done entirely by hand. There have been many attempts to perfect a machine for this work, but so far nothing has been offered that will remove the cotton as cleanly or as thoroughly from the boll as the fingers. Cotton picking is a work that men, women, and children can engage in, and during the season on the southern plantations every negro not engaged in some other occupation is set to picking cotton. This work is paid for by the "piece." An able-bodied man can pick from 150 to 200 pounds between daylight and dark, and he is paid on an average of forty cents a hundred pounds. In 1795 the second cotton mill in the United States was erected in Rhode Island. From that time the business increased, having its center in New England, but within the past few years the South has entered largely into manufacturing, many mills having been built in the various States, most of which are now in successful operation. The operatives in the Southern cotton factories are obtained chiefly from the mountaineer and "sandhill" classes of whites, who make good unskilled workmen. Attempts have been made to run factories with negro operatives, but these have been generally

unsuccessful, owing to the difficulty in persuading the negro to keep at regular employment of this kind at a stated salary. The opening of cotton factories in the South has brought up the question of child labor in that section and several states have recently passed laws forbidding the employment of children in factories except under certain restrictions as to age and hours of work. The exacting work taxes a child's mental and physical vigor.

The Cotton Crop of the United States by States.

States.	1900.	1901.	1902.
	Bales.	Bales.	Bales.
North Carolina	509,341	451,441	568,884
South Carolina	780,782	732,719	948,200
Georgia	1,270,597	1,405,092	1,509,199
Florida	55,696	57,144	67,287
Alabama	1,061,687	1,156,812	1,011,325
Mississippi	1,055,968	1,275,439	1,451,626
Louisiana	714,073	860,848	911,953
Texas	3,536,506	2,594,442	2,587,299
Arkansas	828,820	738,080	999,629
Tennessee	227,601	204,538	328,019
Virginia	11,833	14,009	16,575
All others	433,253	464,381	678,886
Total Crop	10,486,157	9,954,945	11,078,882

Crimes and Criminals.

The United States, according to the last census, supports a population composed of criminals, paupers, and insane, amounting to over 340,996. That is saying that out of every 222 souls in our nation, one is an inmate of a prison, a reformatory, a public almshouse, or a benevolent institution. This whole vast and wretched mass of humanity must be clothed, fed, cured, educated, and reformed by the United States; and the burden is becoming greater every year.

Over one-half of our criminals are either foreign or colored. The foreign-born is one and a half times as criminal as the the native white; and the colored citizen is three times as criminal. The colored element is more criminal than any other in our population, far more addicted to crime than the white citizen, and it is due to this class largely that the question of prevention of crime is becoming one of the greatest problems of modern life.

The following authentic statistics are according to the last census:

Penal Statistics of the United States.

State or Territory.	Male.	Female.	White.	Colored.	Native.	Foreign.
Alabama	1,605	104	221	1,588	.....	.....
Arizona	278	3	255	8	148	133
Arkansas	708	19	201	525	.....	.....
California	2,315	22	2,147	190	1,699	638
Colorado	606	16	562	60	503	119
Connecticut	459	14	427	46	331	142
Delaware	.....	.....	.....	.....	.....	.....
Florida	454	15	36	413	437	12
Georgia	2,200	85	257	2,058	.....	.....
Idaho	139	1	132	8	109	31
Illinois	1,546	48	1,234	325	1,294	300
Indiana	260	.....	217	43	244	13
Iowa	.....	.....	.....	.....	.....	.....
Kansas	1,047	42	784	299	1,017	72
Kentucky	1,755	69	711	1,113	.....	.....
Louisiana	1,102	40	159	983	.....	.....
Maine	.....	.....	.....	.....	.....	.....
Maryland	885	44	354	575	.....	.....
Massachusetts	635	231	.....	.....	306	569
Michigan	441	.....	401	30	367	74
Minnesota	480	6	456	30	339	147
Mississippi	1,006	29	107	928	1,033	2
Missouri	1,604	70	1,123	551	1,581	93
Montana	456	11	.....	.....	340	127
Nebraska	287	8	254	32	249	37
Nevada	57	.....	.....	.....	41	16
New Hampshire	151	2	.....	.....	105	48
New Jersey	989	31	765	255	766	255
New Mexico	229	5	215	12	225	10
New York	3,177	107	2,958	311	2,343	938
North Carolina	769	47	145	669	590	1
North Dakota	137	.....	134	3	77	60
Ohio	1,650	31	.....	.....	.....	.....
Oregon	299	1	.....	.....	251	49
Pennsylvania	1,479	15	1,222	272	1,293	201
Rhode Island	182	5	166	21	126	61
South Carolina	666	35	78	621	.....	.....
South Dakota	193	3	182	3	146	49
Tennessee	1,493	50	453	1,090	.....	.....
Texas	3,756	109	1,224	2,192	3,439	426
Utah	197	1	187	10	168	30
Vermont	141	8	140	9	122	27
Virginia	510	33	135	408	540	3
Washington	573	7	536	34	413	168
West Virginia	827	31	400	458	829	29
Wisconsin	569	13	556	20	159	58
Wyoming	282	2	245	25	240	44
Hawaii	2,680	86	.....	.....	.....	.....

Dairy Industry of the United States.

In order to present the dairy industry of the United States as a whole, there are here brought together certain statistics of agriculture and of manufactures. The totals for the census year 1900, thus combined, are as follows:

Cows kept for milk, on farms, number	17,139,674
Cows kept for milk, not on farms, number	973,033
Total number of cows kept for milk	18,112,707
Milk produced, on farms, gallons	7,266,392,674
Milk produced, not on farms, gallons	642,190,676
Total gallons of milk produced	7,908,583,350
Butter, made on farms, pounds	1,071,745,127
Butter, made in factory creameries, pounds	420,126,546
Butter, made in urban dairy establishments, pounds	827,470
Totals pounds of butter made	1,492,699,143
Cheese, made on farms, pounds	16,372,330
Cheese, made in factories, pounds	281,972,324
Cheese, made in urban dairy establishments, pounds	662,164
Total pounds of cheese made	299,006,818
Condensed milk, produced, pounds	186,921,787
Value of total butter made, at 18 cents	$ 268,685,845
Value of total cheese, at 9 cents	26,910,614
Value of total condensed milk	11,888,792
Value of total cream sold	4,435,444
Value of total sundry factory products	1,261,359
Value of total milk consumed	277,645,100
Aggregate value of dairy products United States	$ 590,827,154

Decoration Day.

KNOWN as "Memorial Day" in southern States. The custom that led up to it originated in the South before the close of the Civil War. Early in the Spring of each year the Southern women were in the habit of decorating the graves of their dead soldiers with flowers, and thus an unwritten law fixed May 30th as the day of observance. Similar observances had been inaugurated in the North with no especial unanimity. May 5, 1868, General John A. Logan, then Commander-in-Chief of the Grand Army of the Republic, issued an order fixing May 30 of that year for strewing with flowers the graves of dead soldiers. There has been no Federal legislation regarding Decoration Day, but many States have made it a legal holiday. The Confederate Memorial Day is now celebrated in the different Southern States at various dates from April 6 to May 14.

Diamonds as Famous Jewels.

FOLLOWING is an accurate list of the most famous diamonds in the world:

CARATS. (Uncut.)	(Cut.)	NAME.	POSSESSOR.
1680	.....	Braganza.....	King of Portugal.
	367	.....	Rajah of Mattan. (Borneo.)
	254	Star of the South..	.....
	194	Orloff.....	Czar of Russia.
	139½.....	Florentine.....	Empress of Austria.
	138½.....	.....	King of Portugal.
410	136¾.....	Pitt.....	King of Prussia.
793⅝	106 1-10...	Koh-i-noor.....	King of England.
	86	Shah.....	Czar of Russia.
	82¼.....	Pigott.....	Messrs. Rundell and Bridge.
	78	Nassac	L'd. Westminster.
112	67⅛.....	Blue.....	.....
	53	Sancy	Czar of Russia.
88½	44½.....	Dudley.....	Earl of Dudley.
	40	Pasha of Egypt....	Khedive of Egypt.

Difference of Time Between Washington and Other Cities.

Washington, 12 o'Clock, Noon.

New York	12:12 P. M.	Buffalo	11:52 A. M.
Boston	12:24 P. M.	Chicago	11:18 A. M.
Portland	12:27 P. M.	New Orleans	11:08 A. M.
St. John's, N'F.	1:37 P. M.	Salt Lake	9:40 A. M.
Lisbon	4:31 P. M.	San Francisco	8:58 A. M.
London	5:07 P. M.	Melbourne	2:48 A. M.
Paris	5:17 P. M.	Pekin	12:54 A. M.
Berlin	6:02 P. M.	Calcutta	11:01 P. M.
Vienna	6:14 P. M.	Constantinople	7:04 P. M.
Cape Town	6:22 P. M.		

Disasters.

Disasters of History Due to Volcanic Disturbances.

Pompeii and Herculaneum, destroyed by eruption of Mount Vesuvius; A. D. 79.

Earthquake in Constantinople, thousands killed; 557.

Catania, Sicily, 15,000 persons killed by earthquake; 1137.

Syria, 20,000 killed by earthquake; 1158.

Cilicia, 20,000 killed by earthquake; 1268.

Palermo, earthquakes, 6,000 lost; 1726.

Canton, China, 100,000 lost by earthquake; November 30, 1731.

Kuchan, North Persia, 40,000 lost, earthquake; 1755.

Lisbon, city ruined by earthquake, 25,000 killed; November, 1755.

Aleppo, destroyed by earthquake, thousands killed; 1822.

Canton, earthquake, 6,000 lost; May 27, 1830.

Calabria, earthquake, 10,000 lost; 1857.

Island of Krakatoa, volcanic eruption, 36,380 lives lost; May 27, 1883.

Isle of Ischia, earthquake, 2,000 lost; 1883.

Eruption of Mauna Loa, Hawaii, 79 killed; 1880.

Bandaisan, volcanic eruption, 1,000 killed; July, 1888.

Island of Hondo, Japan, earthquake, 10,000 killed; October, 1891.

Venezuela, earthquake, 3,000 killed; April 24, 1894.

Charleston, S. C., earthquake, 41 lives lost; August 30, 1886.

Guatemala, earthquake, 1,000 lives lost; April, 1902.

Mont Pelee, 30,000 lives lost; May 8, 1902.

Mont Pelee, 2nd eruption, 1,000 lives lost; June 8, 1902.

Greatest Fires in the United States.

	Loss.
New York City — 1835 — Dec. 16, 674 buildings.....	$ 19,000,000
Charleston, S. C., — 1838 — Apr. 27, nearly half a city,	3,500,000
Pittsburg, Pa. —1845 — April 19, 1,100 buildings.....	11,000,000
New York City — 1845 — July 19, 450 buildings.....	5,500,000
Albany, N. Y.— 1848 — Aug. 17, 600 buildings.....	3,500,000
St. Louis, Mo.— 1849 — May 17, nearly half of city.....	3,500,000
San Francisco — 1851 — May 3, 2,200 buildings.....	3,000,000
San Francisco — 1851 — June 22, 500 buildings.....	2,500,000
Portland, Me.—1866 — July 4, 1,500 buildings.....	12,000,000
Chicago, Ill.— 1871 — Oct. 8-9, 23,000 buildings.....	275,000,000
Boston, Mass. — 1872 — Nov. 9-11, 900 buildings.....	80,000,000
Chicago, Ill. — 1874 — July 14, 350 buildings.....	5,000,000
Oshkosh, Wis. — 1875 — April 28, one square mile.....	3,000,000
Virginia City, Nev. — 1875 — Oct. 26, large part of city..	3,500,000
Jacksonville, Fla. — 1901 — large part of city.....	12,000,000
Patterson, N. J. — 1902 — 500 buildings.....	9,000,000
Charleston, S. C. — 1856 — Feb. 17, most of city.....	7,000,000
Chicago, Ill. — 1903 — Dec. 30, Iriquois Theater, 600 lives.	
Baltimore — 1904 — Feb. 7, heart of city.....	100,000,000

Eagle as an Emblem.

IN ANCIENT mythology the eagle was believed to carry the souls of the dying to their abode on Mount Olympus, and was called the Bird of Jove. The eagle was first taken as a symbol of royal power by the ancient Etruscans, who bore its image upon their standards. In the year 87 B. C. a silver eagle, with expanded wings, poised on the top of a spear with a thunderbolt held in its claws, was adopted as the military standard to be borne at the head of their legions by the Romans. At the time of Hadrian a golden eagle was substituted for the silver one. A two-headed eagle was adopted by the Byzantine Emperors as a symbol of their control of both the East and West. The double-headed eagle of Russia was adopted on the marriage of Ivan I. with a Grecian princess of the Eastern Empire; that of Austria was first used when the Emperor of Germany took the title of the Roman Emperor. The national standard of Prussia bears a black eagle, that of Poland a white one. Napoleon I. took a golden eagle for his standard, modeled of pure gold, and bearing a thunderbolt after the pattern of the eagle of the Romans. This standard was disused under the Bourbons, but was restored by the decree of Louis Napoleon in 1852. The eagle was first used on American coins in 1788,

on cents and half-cents issued from the Massachusetts mint. It was adopted in the plan of the national coinage as a design upon all gold coins, and on the silver dollar, half-dollar, and quarter dollar. The design of an eagle was at one time suggested for the national flag, but was abandoned.

Earth and Its People.

Some Interesting Facts.

THE Earth is the third planet in the solar system, counting from the Sun, and its mean distance from that central body is 93,000,000 miles, varying from 94,524,000 in summer to 91,406,000 in winter. It is hotter in summer than in winter because the rays of the Sun which reach the Earth are then more nearly vertical. The Sun's diameter is 867,000 miles, and it turns on its axis in 25 days and 8 hours. The Moon is distant from the Earth about 238,840 miles, and has a diameter of 2,160 miles. Its period of rotation is 27 days, 7 hours, and 43 minutes, the same time in which it takes her to revolve around the Earth, which accounts for the fact that we never see the other side. The diameter of the Earth at the equator is 7,926.29+ miles, and at the poles it measures 7,901.47+ miles. The Earth's mass is 6,000,000,000,000,000,000,000 tons, an unnamable weight and not to be compared with anything known, except, perhaps, another world. The surface area is estimated at 196,971,984 miles, and the cubic contents at 259,944,035,515 cubic miles. Mercury is the planet nearest the Sun, and has a diameter of 2,957 miles. It is seen only on rare occasions, just before dawn, or just after sunset, or during a total eclipse of the Sun. Venus comes next in point of distance, and is seen just after sunset or just before dawn. Venus is the evening star in summer. She is 67,000,000 miles from the Sun. Beyond the Earth comes Mars, the Planetoids, Jupiter, Saturn, Uranus, and Neptune. Neptune is 2,794,000,000 miles from the Sun.

The magnitude of the work involved in making these estimates as perfectly as they are made can scarcely be imagined. The regularity of rotation of the Earth or its constancy as a time-keeper is no less surprising when expressed in numbers. The variation from day to day in time of rotation is probably less than the one-hundredth part of a second. Our best clocks and chronometers, marvels of mechanical perfection, fall far short of this. Besides this with equal regularity the axis of rotation describes a slightly fluted cone in the heavens, making one complete revolution in the very leisurely interval of 26 thousand years and thus rendering it essential for us to change our Pole Star from time to time.

We are not able, and may never be able, to assign the age of the Earth in years, but we may say that the age of the Earth must be reckoned in millions of years. Probably some hundred of millions of years have elapsed since the Earth became inhabitable to organic forms. Nature has plenty of time for her operations. The newly established time scale in Geology stretches out the age of the Earth enormously beyond the generally accepted biblical period. From 6,000 years the geologists' best estimates are for more than 25,000,000 years for the stratified rocks alone.

The Pacific Ocean is the largest body of water on the Earth with a surface of 50,309,000 square miles; 30,000 feet being its deepest point. Next is the Southern, or Antarctic Ocean that covers 30,592,000 square miles of the Earth's surface. The Atlantic Ocean is less than one-half the size of the Pacific, having but 24,536,000 square miles. About two-thirds as large as the Atlantic is the Indian Ocean, with 17,084,000 square miles; and the Arctic Ocean, pushed into a small place by the great continents, covers about 4,781,000 square miles.

By race the world's population is divided approximately, as follows:

Indo-Germanic, or Aryan	545,500,000
Mongolian, or Turanian	630,000,000
Semitic, or Hamitic	65,000,000
Negro and Bantu	150,000,000
Hottentot and Bush	150,000
Malay and Polynesian	35,000,000
American Indian (North & South America)	15,000,000

Classified by form of government, the population might be divided much like this:

Absolute monarchies	873,016,114
Limited monarchies	504,369,507
Republics	191,181,411

The Absolute Monarchies are:

China, Morocco, Persia, Russia, Siam, Turkey.

The Limited Monarchies are:

Austria-Hungary, Belgium, British Empire, Germany, Denmark, Greece, Spain, Roumania, Servia, Sweden, Norway, Italy, Japan, Netherlands, Portugal.

Republics are:

Argentine Republic, Bolivia, Brazil, Chili, Colombia, Costa Rica, Cuba, Ecuador, France, Guatemala, Haiti, Honduras, Liberia, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, San Domingo, Switzerland, United States of America, Uruguay, Venezuela.

Besides these there are a number of undefined despotisms in Africa and several small independent states. It is of interest that the republican form of government obtains in all the states of North and South America, with the exception of Canada.

In point of population Russia in Europe leads the six great world powers, though China has, of course, the largest population of any nation on the Earth.

China	399,680,000
Russia in Europe including Poland and Finland (1897),	106,159,141
United States (1900),	76,303,387
Germany, exclusive of colonies	56,356,246
Austria-Hungary	45,310,835
United Kingdom, Great Britain and Ireland, (exclusive of colonies, India, and South Africa)	41,605,220
France (1901),	38,641,333

Weight and Dimensions, Round Numbers.

Equatorial diameter (miles)	7,925
Polar diameter (miles)	7,899
Circumference on Equator (miles)	24,899
Surface in square miles	196,900,000
Volume in cubic miles	259,400,000,000
Specific gravity	5.46
Weight in tons	6,000,000,000,000,000,000,000

Earth's Surface.

The area of the entire surface of the globe is estimated at nearly 200,000,000 square miles, of which a little more than 50,000,000 miles are land, and somewhat less than 150,000,000 are water.

Land Surface.

	Square Miles Area.
Eastern Continent	31,634,880
Western Continent	15,606,066
Oceanica	4,828,365
Total	52,069,311

Water Surface.

	Square Miles Area.
Pacific Ocean	72,000,000
Atlantic Ocean	35,000,000
Indian Ocean	28,000,000
Antarctic Ocean	8,500,000
Arctic Ocean	4,500,000
Total	148,000,000

Areas of Principal Islands.

Europe.	Square Miles Area.
Great Britain	89,000
Ireland	32,500
Sicily	11,300
Sardinia	9,300
Africa.	
Madagascar	228,500
America.	
Greenland	838,000
Cuba	45,900
Newfoundland	42,700
Iceland	40,500
Hayti	30,000
Vancouver	16,000
Chiloë	4,800
Jamaica	4,250
Asia.	
Hondo	86,800
Saghalin	47,000
Yezo	34,500
Ceylon	24,500
Kinshiu	15,000
Formosa	15,000
Hainan	14,000
Shikoku	7,000

Electoral College, The

Based on the New Apportionment Under Census of 1900.

State.	Electoral Vote.	State.	Electoral Vote.
Alabama	11	Nevada	3
Arkansas	9	New Hampshire	4
California	10	New Jersey	12
Colorado	5	New York	39
Connecticut	7	North Carolina	12
Delaware	3	North Dakota	4
Florida	5	Ohio	23
Georgia	13	Oregon	4
Idaho	3	Pennsylvania	34
Illinois	27	Rhode Island	4
Indiana	15	South Carolina	9
Iowa	13	South Dakota	4
Kansas	10	Tennessee	12
Kentucky	13	Texas	18
Louisiana	10	Utah	3
Maine	6	Vermont	4
Maryland	8	Virginia	12
Massachusetts	16	Washington	5
Michigan	14	West Virginia	7
Minnesota	11	Wisconsin	13
Mississippi	10	Wyoming	3
Missouri	18		
Montana	3	Total	476
Nebraska	8	Necessary to choice	239.

Farms in the United States Classified by Acreage.

Farms Classified by Acreage.	Total Acres.	Improved.	Per Cent. Improved.	Average Acreage. All Land.	Average Acreage. Improved Land.
Under three acres	79,508	69,590	87.5	1.9	1.7
Three and under ten acres	1,402,391	1,266,671	90.3	6.2	5.6
Ten and under twenty acres	5,708,458	5,112,046	89.6	14.0	12.6
Twenty and under fifty acres	41,544,644	33,006,401	79.4	33.0	26.2
Fifty and under one hundred acres	98,600,285	67,348,377	68.3	72.2	49.3
One hundred and under one hundred and seventy-five acres	192,688,074	118,393,656	61.4	135.5	83.2
One hundred and seventy-five and under two hundred and sixty acres	103,289,564	63,203,138	61.2	210.8	129.0
Two hundred and sixty and under five hundred acres	129,686,228	72,331,457	55.8	343.1	191.4
Five hundred and under one thousand acres	67,878,349	29,478,047	43.4	661.9	287.5
One thousand acres and over	200,324,045	24,583,808	12.3	4,237.3	520.0
Totals	841,201,546	414,793,191	49.3		

Expositions of the United States.

The first American World's Fair was held in New York City in what is known as Bryant Park. A huge building of pleasing architectural design, and constructed largely of glass and iron, was erected, and was given the name of Crystal Palace. Here the first World's Fair in America was opened with grand ceremony by Franklin Pierce, President of the United States, on July 14, 1853.

The next World's Fair was a stupendous enterprise, undertaken in commemoration of the centennial anniversary of the Declaration of Independence. It was held in Philadelphia during the year 1876, aided by a large appropriation from the Congress of the United States and the co-operation of the various State governments, a number of which erected buildings of their own upon the grounds in Fairmount Park. The exhibition was generously aided by foreign governments also in the same way. American industries were, naturally, represented in all their varieties, and the exhibition grounds, with their avenues, gardens, beautiful buildings, and other attractive features, were, in effect, a small ever-popular city.

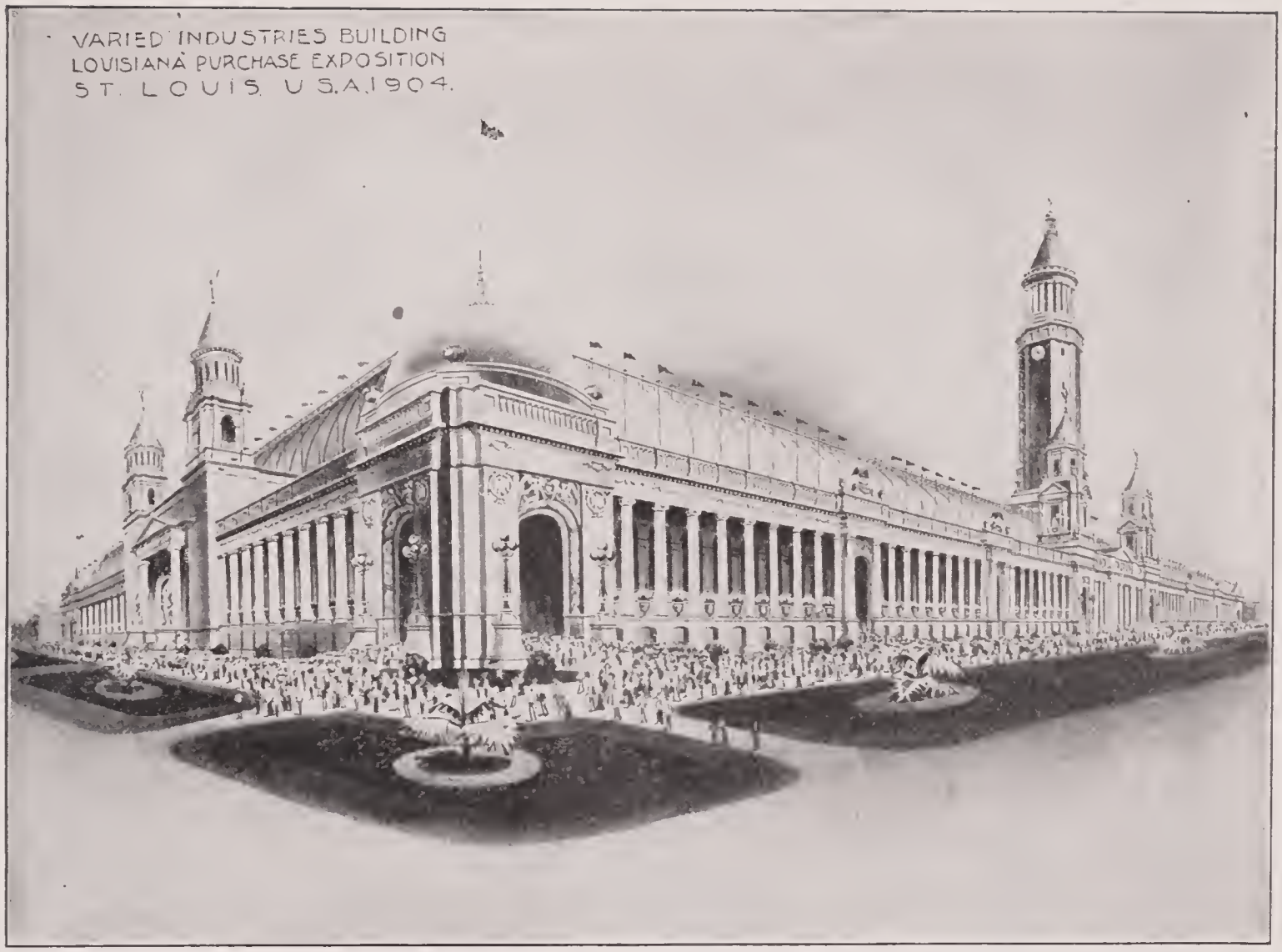
Atlanta, Ga., had a fair in 1881, which, while it was not a World's Fair, inasmuch as it was designed mainly to illustrate the progress and magnitude of the cotton industry, was of a size and importance to rank with such. It was participated in by all the cotton-producing States, and was known as the Cotton States' Exposition.

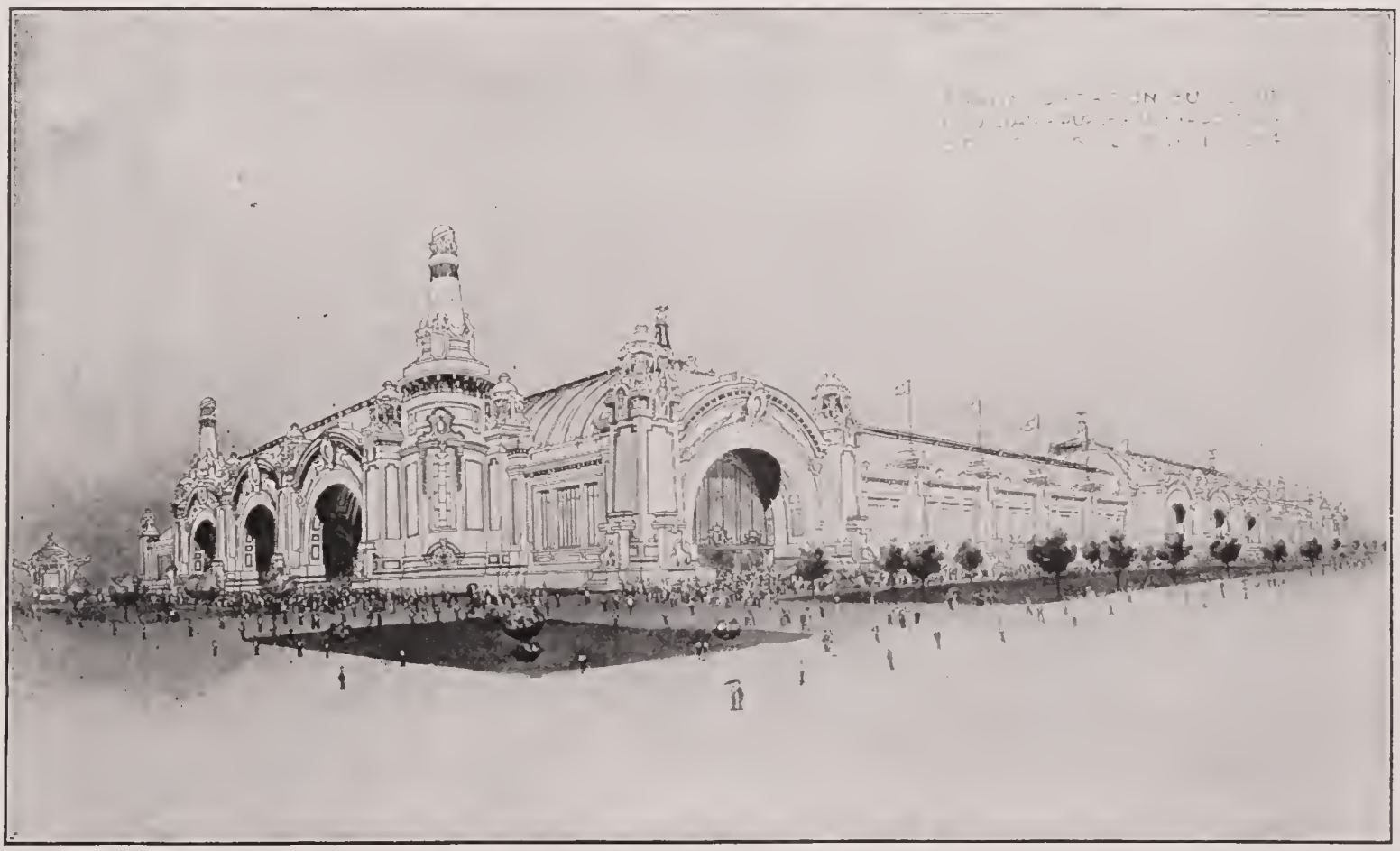
Another exhibition of much importance, though not characterized as a World's Fair, was the Southern States' Exposition, held in Louisville, Ky., in 1883.

The World's Industrial and Cotton Centennial Exposition was held in New Orleans, La., in 1884.

The Columbian Exposition, held in Chicago in 1893, to commemorate the 400th anniversary of the discovery of America, was another magnificent enterprise on the scale of the Philadelphia Centennial, which it naturally excelled by the

VARIED INDUSTRIES BUILDING
LOUISIANA PURCHASE EXPOSITION
ST. LOUIS. U.S.A. 1904.





aid of many elements, including the immense progress made in practical science during the seventeen years intervening between the two. The "White City" built on the shore of Lake Michigan, was the marvel of the period, and the exposition was in the fullest respect a World's Fair, enlisting the interest of nearly every race on earth, exemplifying every phase of human progress at the time and drawing visitors from every land.

The California Mid-Winter International Exposition was held with gratifying success in San Francisco in 1894.

Atlanta, Ga., had a second exposition of Southern industries in 1895.

The Tennessee Centennial and International Exposition was held in Nashville, Tenn., in 1897.

Omaha, Neb., was the scene of the Trans-Mississippi and International Exposition in 1898.

Ranking with the Philadelphia Centennial and the Chicago Columbian Expositions, the Pan-American Exposition, held in Buffalo, N. Y., in 1901, was in some respects superior to either of them. Marvelous progress especially in application of electricity to the uses of mankind, had been made, even in the brief period of seven years following the Chicago exhibition, and in spite of the fact that the growing frequency of world's fairs had taken the edge from interest in such enterprises, Buffalo was the objective point for tourists from all parts of the world while the exhibition remained open. It was made sadly memorable, however, by the assassination of President McKinley, who was fatally shot while holding a public reception in one of the buildings.

The Louisiana Purchase Exposition will go down in history as a one-hundred-million-dollar World's Fair. The company which has direct control of the organization and equipment of this mammoth display is a $15,000,000 corporation, having under its control for the year 1904 products and revenues which even the most conservative must admit have a value of $85,000,000.

Familiar Poems and Who Wrote Them.

Elegy Written in a Country Church Yard...Thomas Grey (1710–71)
The Minstrel.....James Beattie (1735–1803)
Rock of Ages.....Augustus M. Toplady (1740–78)
The Farmer's Boy.....Robert Bloomfield (1766–1823)
The Burial of Sir John Moore.....Charles Wolfe (1791–1823)
Woodman, Spare that Tree.....George P. Morris (1802–64)
The Buccaneer.....Richard Henry Dana (1789–1879)
The Star Spangled Banner.....Francis Scott Key (1790–1843)
La Marseillaise.....Rouget de L'Isle (1760–1836)
Home Sweet Home.....John Howard Payne (1792–1852)
From Greenland's Icy Mountains.....Reginald Heber (1783–1826)
Battle Hymn of the Republic.....Julia Ward Howe (1819)
Ben Bolt.....Tho. D. English (1819)
Rocked in the Cradle of the Deep.....Emma C. Willard (1847–70)
Hail Columbia.....Joseph Hopkinson (1770–1842)

Farms.

Year.	Number of Farms.	Total Number of Acres in Farms.
1850	1,449,073	293,560,614
1860	2,044,077	407,212,538
1870	2,659,985	407,735,041
1880	4,008,907	536,081,835
1890	4,564,641	623,218,619
1900	5,737,372	838,591,774

Number and Acreage of Farms in 1900.

State or Territory.	Number of Farms.	Total Number of Acres in Farms.
Alabama	223,220	20,685,427
Arizona	5,809	1,935,327
Arkansas	178,694	16,636,719
California	72,542	28,828,951
Colorado	24,700	9,474,588
Connecticut	26,948	2,312,083
Delaware	9,687	1,066,228
District of Columbia	269	8,489
Florida	40,814	4,363,891
Georgia	224,691	26,392,057
Idaho	17,471	3,204,903
Illinois	264,151	32,794,728
Indiana	221,897	21,619,623
Indiau Territory	45,505	7,269,081
Iowa	228,662	34,574,337
Kansas	173,098	41,662,970
Kentucky	234,567	21,979,422
Louisiana	115,969	11,059,127
Maine	59,299	6,299,946
Maryland	46,012	5,170,075
Massachusetts	37,715	3,147,064
Michigan	203,261	17,561,698
Minnesota	154,659	26,248,498
Mississippi	220,803	18,240,736
Missouri	284,886	33,997,873
Montana	13,370	11,844,454
Nebraska	121,525	29,911,779
Nevada	2,184	2,565,647
New Hampshire	29,324	3,609,864
New Jersey	34,650	2,840,966
New Mexico	12,311	5,130,878
New York	226,720	22,648,109
North Carolina	224,637	22,749,356
North Dakota	45,332	15,542,640
Ohio	276,719	24,501,985
Oklahoma	62,495	15,719,258
Oregon	35,837	10,071,328
Pennsylvania	224,248	19,371,015
Rhode Island	5,498	455,602
South Carolina	155,355	13,985,014
South Dakota	52,622	19,070,616
Tennessee	224,623	20,342,058
Texas	352,190	125,807,017
Utah	19,387	4,116,951
Vermont	33,104	4,724,440
Virginia	167,886	19,907,883
Washington	33,202	8,499,297
West Virginia	92,874	10,654,513
Wisconsin	169,795	19,862,727
Wyoming	6,095	8,124,536
Total	5,737,372	838,591,774
Alaska	12	159
Hawaii	2,273	2,609,613
Grand Total	5,739,657	841,201,546

Foods and Their Digestion.

Kinds of Food.	Form of Preparation.	Time Required for Digestion.
Apples—mellow	Raw.	2 hours.
Apples—sour, hard	Raw.	2 hours, 50 min.
Apples—sweet, mellow	Raw.	1 hour, 50 min.
Barley	Boiled.	2 hours.
Bass—fresh	Broiled.	3 hours.
Beans—pod	Boiled.	2 hours, 30 min.
Beans and green corn	Boiled.	3 hours, 45 min.
Beef—fresh, lean, rare	Roasted.	3 hours.
Beef—fresh, lean, dry	Roasted.	3 hours, 30 min.
Beef—fresh steak	Broiled.	3 hours.
Beef—with salt only	Broiled.	2 hours, 45 min.
Beef—with mustard, etc	Broiled.	3 hours, 30 min.
Beef	Fried.	4 hours.
Beef—old, hard, salted	Boiled.	4 hours, 15 min.
Beets	Boiled.	3 hours, 45 min.

Foods and Their Digestion.—*Continued.*

Kinds of Food.	Form of Preparation.	Time Required for Digestion.
Brains—animal	Boiled.	1 hour, 45 min.
Bread—corn	Baked.	3 hours, 15 min.
Bread—wheat, fresh	Baked.	3 hours, 30 min.
Butter	Melted.	3 hours, 30 min.
Cabbage—head	Raw.	2 hours, 30 min.
Cabbage—with vinegar	Raw.	2 hours, 30 min.
Cabbage	Boiled.	2 hours.
Cake—corn	Baked.	4 hours, 30 min.
Cake—sponge	Baked.	3 hours.
Carrot	Boiled.	2 hours, 30 min.
Cartilage	Boiled.	3 hours, 15 min.
Catfish—fresh	Fried.	4 hours, 15 min.
Cheese—old, strong	Raw.	3 hours, 30 min.
Chicken	Fricasee.	3 hours, 30 min.
Codfish—cured, dry	Boiled.	2 hours, 45 min.
Corn (green) and beans	Boiled.	2 hours.
Custard	Baked.	3 hours, 45 min.
Duck—domesticated	Roasted.	2 hours, 45 min.
Duck—wild	Roasted.	4 hours.
Dumpling—apple	Boiled.	4 hours, 30 min.
Eggs—fresh	Hard boiled.	3 hours.
Eggs—fresh	Soft boiled.	3 hours, 30 min.
Eggs—fresh	Fried.	3 hours, 30 min.
Eggs—fresh	Roasted.	2 hours, 15 min.
Eggs—fresh	Raw.	2 hours.
Eggs—fresh	Whipped.	1 hour, 30 min.
Flounder—fresh	Fried.	3 hours, 30 min.
Fowls—domestic	Boiled.	4 hours.
Fowls—domestic	Roasted.	4 hours.
Gelatin	Boiled.	2 hours, 30 min.
Goose—wild	Roasted.	2 hours, 30 min.
Heart—animal	Fried.	4 hours.
Lamb—fresh	Boiled.	2 hours, 30 min.
Liver—beef's, fresh	Boiled.	2 hours.
Marrow—animal, spinal	Boiled.	2 hours, 40 min.
Meat and vegetables	Hashed.	2 hours, 30 min.
Milk	Boiled.	2 hours.
Milk	Raw.	2 hours, 15 min.
Mutton—fresh	Roasted.	3 hours, 15 min.
Mutton—fresh	Broiled.	3 hours.
Oysters—fresh	Raw.	2 hours, 55 min.
Oysters—fresh	Roasted.	3 hours, 15 min.
Oysters—fresh	Stewed.	3 hours, 30 min.
Parsnips	Boiled.	2 hours, 30 min.
Pig—sucking	Roasted.	2 hours, 30 min.
Pig's feet—soused	Boiled.	1 hour.
Pork—fat and lean	Roasted.	5 hours, 15 min.
Pork—recently salted	Boiled.	4 hours, 30 min.
Pork—recently salted	Fried.	4 hours, 15 min.
Pork—recently salted	Broiled.	3 hours, 15 min.
Pork—recently salted	Raw.	3 hours.
Pork—recently salted	Stewed.	3 hours.
Potatoes—Irish	Boiled.	3 hours, 30 min.
Potatoes—Irish	Roasted.	2 hours, 30 min.
Potatoes—Irish	Baked.	3 hours, 20 min.
Rice	Boiled.	1 hour.
Sago	Boiled.	1 hour, 45 min.
Salmon—salted	Boiled.	4 hours.
Sausage—fresh	Broiled.	3 hours, 20 min.
Soup—barley	Boiled.	1 hour, 30 min.
Soup—bean	Boiled.	3 hours.
Soup, beef, vegetables and bread	Boiled.	4 hours.
Soup—chicken	Boiled.	3 hours.
Soup—marrow bones	Boiled.	4 hours, 15 min.
Soup—mutton	Boiled.	3 hours, 20 min.
Soup—oyster	Boiled.	3 hours, 30 min.
Suet—beef, fresh	Boiled.	5 hours, 30 min.
Suet—mutton	Boiled.	4 hours, 30 min.
Tapioca	Boiled.	2 hours.
Tendon—boiled	Boiled.	5 hours, 30 min.
Tripe—soused	Boiled.	1 hour.
Trout—salmon, fresh	Boiled.	1 hour, 30 min.
Trout—salmon, fresh	Fried.	1 hour, 30 min.
Turkey—domestic	Roasted.	2 hours, 30 min.
Turkey—domestic	Boiled.	2 hours, 25 min.
Turkey—wild	Roasted.	2 hours, 18 min.
Turnips	Boiled.	3 hours, 30 min.
Veal—fresh	Broiled.	4 hours.
Veal—fresh	Fried.	4 hours, 30 min.
Vegetables and meat—hashed	Warmed.	2 hours, 30 min.
Venison—steak	Broiled.	1 hour, 35 min.

Foreign Trade of the United States.

Exports.

Article.	Value.
Agricultural implements	$ 21,006,622
Animals	34,781,193
Books, maps, engravings, etc	4,442,653
Brass and its manufactures	2,000,432
Breadstuffs — Corn, bu	40,540,637
Oats, bu	1,850,728
Barley, bu	4,662,544
Rye, bu	3,143,910
Wheat, bu	87,795,104
Wheat, flour, bbls	73,756,404
Carriages, Cars and parts of, and other vehicles	10,499,195
Chemicals, drugs, medicines, dyes, etc	13,967,601
Clocks and Watches	2 133,529
Coal — Anthracite, tons	6,732,571
Bituminous, tons	14,473,927
Copper and manufactures of	39,667,196
Cottou — Unmanufactured pounds	316,180,429
Manufactured	32,216,304
Earthen, stone and china ware	583,059
Eggs, dozen	325,571
Fertilizers, tons	6,724,301
Fibers, vegetable, aud textile grasses, manu'f of	5,290,948
Fish	6,717,274
Fruits aud nuts	18,057,677
Furs and fur skins	6,181,115
Glass and glassware	2,150,699
Glucose, or grape sugar, pounds	2,460,022
Gunpowder and explosives	2,454,510
Grease and soap stocks	2,926,565
Hay, tons	828,483
Hides and skins	1,224,409
Hops, pounds	1,909,951
India rubber, manufactures of	4,176,351
Instruments and apparatus for scientific purposes	7,130,508
Iron and steel, manufactures of	96,642,467
Jewelry and manufactures of gold and silver	1,293,021
Leather and manufactures of	31,617,389
Marble and stoue, and mauufactures of	1,565,244
Musical instrumeuts	3,281,509
Naval stores	12,918,708
Oilcake and oilcake meal, pounds	19,743,711
Oils — Animal, gallons	856,564
Mineral, crude, gallous	6,329,899
Mineral, refined, gallons	60,357,519
Vegetable	16,234,362
Paints, pigments and colors	2,350,937
Paper and manufactures of	7,180,014
Paraffin aud Paraffiu wax, pounds	9,411,294
Provisions — Beef prod., pounds	38,470,958
Hog prod., pounds	110,740,915
Oleomargarine, pounds	12,780,161
Other meat, pr	11,703,411
Daily products	4,775,582
Seeds — Flaxseed, bu	5,698,492
All other	3,756,791
Soap	2,452,777
Spirits — Malt Liquors	1,178,740
Distilled, proof, gallou	2,442,983
Wines	315,176
Starch, pouuds	832,943
Sugar and molasses, gallons	2,210,704
Sugar, refiued, pouuds	358,537
Tobacco — Unmanufactured, pounds	35,250,893
Manufactured	5,193,796
Varnish, gallons	667,475
Vegetables	2,543,488
Whalebone, pounds	507,552
Wood aud manufacturers of	57,743,535
Wool aud manufacturers of	1,722,128
Zinc and manufacturers of	1.672,367
All other articles	7,695,739
Total exports domestic merchandise	$1,392,231,637
Exports foreign merchandise	27,906,377
Specie — Gold, domestic	44,584,640
Gold, foreigu	2,505,955
Silver, domestic	40,121,497
Silver, foreign	4,128,762

Foreign Trade of the United States.

Imports.

Merchandise and specie imported into the United States during the fiscal year ended June 30, 1903.

ARTICLE.	VALUE.
Animals	$ 4,531,345
Art works	4,310,315
Books and other printed matter	4,323,938
Breadstuffs	3,023,195
Bristles, lbs	2,654,604
Cement, Roman, Portland, and other hydraulic, lbs	3,547,914
Chemicals, drugs, and dyes	64,347,535
Clocks and watches, and parts of	2,672,310
Clays or earths, tons	1,285,097
Coal, bituminous, tons	10,562,005
Cocoa or cacao, pounds	7,820,087
Coffee, lbs	59,200,749
Copper and manufactures of	17,505,247
Corkwood and manufactures of	2,567,580
Cotton — Manufactures of	52,462,684
Unmanufactured, lbs	10,970,671
Earthen, stone and china ware	10,512,052
Feathers, flowers, etc	5,164,901
Fertilizers	3,100,279
Fibers — Vegetable, unmanufactured, tons	34,462,513
Vegetable, manufactured	39,334,521
Fish	8,514,934
Fruits, including nuts	23,726,636
Furs and manufactures of	15,301,912
Glass and glassware	7,038,282
Hair and manufactures of	2,775,084
Hats, bonnets, and materials for	3,871,263
Hides and skins, other than fur	58,031,613
Hay, tons	2,238,109
Hops, lbs	1,808,491
Household and personal effects	2,855,814
India rubber and gutta percha, crude, lbs	30,997,232
India rubber, manufactured	891,170
Iron and steel, and manufactures	51,617,312
Ivory	1,396,721
Jewelry and precious stones	33,492,580
Lead, lbs	4,125,675
Leather and manufactures of	11,294,167
Marble and stone, and manufactures of	1,753,780
Matting, straw, etc., square yards	3,780,052
Metals and metal compositions	7,056,654
Musical instruments	1,125,283
Oils	12,283,957
Paints, pigments, colors	1,827,110
Paper stock, crude	3,015,084
Paper and manufactures of	4,733,036
Provisions, meat and dairy products	4,703,536
Rice, lbs	3,061,473
Seeds	2,831,279
Silk — Unmanufactured	50,011,819
Manufactured	35,962,854
Spices, lbs	4,815,125
Spirits — Malt liquors, gals	2,087,741
Distilled, gals	4,834,580
Wines	10,249,296
Sugar, lbs	72,114,291
Tea, lbs	15,659,229
Tin, in bars, blocks or pigs, lbs	23,618,802
Tobacco — Unmanufactured, lbs	17,234,449
Manufactured	3,344,671
Toys	4,232,074
Vegetables	4,581,355
Wood and manufactures of	28,744,040
Wool — Unmanufactured, lbs	22,155,096
Manufactures of	19,545,721
Total merchandise	$1,025,751,538
Specie — Gold	44,982,027
Silver	24,163,491
Total imports	$1,094,897,056

Foreign Coin Values in United States Money.

COUNTRY.	STANDARD.	MONETARY UNIT.	VALUE IN U.S. GOLD DOLLAR.
Argentine Republic	Gold	Peso	$0.965
Austria-Hungary	Gold	Crown	.203
Belgium	Gold	Franc	.193
Bolivia	Silver	Boliviano	.408
Brazil	Gold	Milreis	.546
Canada	Gold	Dollar	1.000
Central America	Silver	Peso	.408
Chile	Gold	Peso	.365
China	Silver	Tael — Shangh'i	.568
		Tael — Haikwan	.683
		Tael — Tientsin	.603
		Tael — Canton	.620
Colombia	Silver	Peso	.428
Costa Rica	Gold	Colon	.465
Cuba	Gold	Peso	.926
Denmark	Gold	Crown	.268
Ecuador	Silver	Sucre	.487
Egypt	Gold	Pound (100 piasters	4.943
Finland	Gold	Mark	.193
France	Gold	Franc	.193
Germany	Gold	Mark	.238
Great Britain	Gold	Pound Sterling	4.866½
Greece	Gold	Drachma	.193
Hayti	Gold	Gourde	.965
India	Gold	Pound Sterling	4.866½
Italy	Gold	Lira	.193
Japan	Gold	Yen	.498
Mexico	Silver	Dollar	.464
Netherlands	Gold	Florin	.402
Newfoundland	Gold	Dollar	1.014
Norway	Gold	Crown	.268
Peru	Gold	Sol	.487
Portugal	Gold	Milreis	1.08
Russia	Gold	Ruble	.515
Spain	Gold	Peseta	.193
Sweden	Gold	Crown	.268
Switzerland	Gold	Franc	.193
Turkey	Gold	Piaster	.044
Uruguay	Gold	Peso	1.034
Venezuela	Gold	Bolivar	.193

Forestry.

THE total woodland area in the United States is estimated at about 699,500,000 acres, 36½ per cent. of the total land area. This does not include Alaska. In the year 1900 the lumber industry of the United States was the fourth in number of the great manufacturing industries of the country. The forest land of the United States, at the present rate of cutting, cannot long meet the tremendous demand made upon it. The greater part by far of the white-pine has been cut and tremendous inroads have been made into the supply of valuable timber. In a large section of the country more timber falls by fire than by the axe; the annual loss from fire being not less than $20,000,000.

It was long since made evident to the national and state governments that it was necessary to take means toward preserving the forests. New York was the first state to take active measures for forest preservations; it established a forest reserve in 1885. In 1897 provision was made for the state to gain control of as much of the Adirondack region as was deemed advisable; and the acquisition has been continued until in 1903 the total state holdings were estimated at 1,436,686 acres. Pennsylvania has been the most active in

taking measures for the preservation of its forests. Land has been rapidly acquired until at present Pennsylvania holdings amount to 600,000 acres. It also took vigorous action with reference to the forest fire problem. Minnesota, Maine, and New Hampshire easily take the lead among the States in excellence of their forest fire laws.

The Bureau of Forestry, the United States Department of Agriculture, gives advice and assistance to private owners in the management of their woodland, and introduces better methods for handling forest land. Connecticut, Iowa, Kansas, Maine, Maryland, Michigan, Minnesota, New Hampshire, and New Jersey, New York, North Carolina, Oregon, Pennsylvania, West Virginia, and Wisconsin all have state officers for forest work. There is a national organization called the American Forestry Association which meets annually at Washington, D. C. The first College of Forestry was established at Cornell University. Since then similar colleges have been established at Yale, Harvard, and Michigan Universities.

By the act of March 3, 1891, the President is authorized to make public forest reserves. Fifteen reserves amounting to 13,457,080 acres were established under President Harrison. President Cleveland created reserves during his administration amounting to 25,891,200 acres. President McKinley created reserves which amounted to a total area of 7,050,089 acres. The forest reserves created by President Roosevelt amount up to this year (1904) to 15,995,196 acres.

The National Parks were created during the period from 1872 to 1903. They have a total area of about 3,654,196 acres. The more important are the Yellowstone National Park in Wyoming and Montana; Sequoia National Park, General Grant National Park, and Yosemite National Park in California; Mount Rainer National Park in Washington, and Crater National Park in Oregon.

Individual States in order to encourage tree planting have appointed a certain day in the year to be known as Arbor Day for the planting of trees by the people. All the states and territories except Delaware and the Indian Territory have established an annual Arbor Day by legislative enactment.

Fraternal Societies Organized in the United States.

Freemasonry.
Royal Arch Masons.
Knights Templar.
Ancient and Accepted Scottish Rite of Freemasonry.
Nobles of the Mystic Shrine.
Sovereign College of Allied Masonic and Christian Degrees of America.
Royal Order of Scotland.
The Cerneau Rite.
Ancient and Primitive Right of Memphis, in and for the continent of America.
Order of the Eastern Star.
Colored Free Masons.
Sons of Jonadab.
Independent Order of Odd Fellows.
Knights of Pythias.
Knights of Pythias Endowment Rank.
The Order of Rathbone Sisters.
The Improved Order of Red Men.
United Ancient Order of Druids.
Brooklyn Britannia Benefit Society.
Sons of St. George.
Daughters of St. George.
United Commercial Travelers of America.
The National Grange.
Benevolent and Protective Order of Elks.

Gerrymander.

GERRYMANDER, an arrangement of the boundaries of election districts so contrived as to secure an unfair advantage to the dominant party. In colonial times elections were by counties or by towns, and the gerrymander has been said to be an arrangement of Patrick Henry's whereby Madison should not be elected to the First Congress. But in reality the districting of Virginia at that time was not clearly unfair. The name arose from a redistricting scheme carried out by the Republicans of Massachusetts in 1811, in accordance with which the Essex District bore a fanciful resemblance to a salamander. Hence the name "gerrymander" was given to it from Governor Elbridge Gerry, under whom the act was passed. The practise has now become well-nigh universal in American politics, with most injurious effects upon public morality.

Glass.

WHERE, when, and how the manufacture of glass originated is one of the secrets that the twentieth century man, with all his genius, has not yet been able to wrest from the past. But one thing is certain, in the matter of antiquity it will antedate almost any of the arts. In Egypt, that land of mysteries, have been discovered representations of glass-blowers — relics of a civilization that dates back 5,700 years ago.

The Romans patterned from the Egyptians and made beautiful glass, both wares and ornaments.

In the thirteenth century, Venice lead the world in the manufacture of fragile and marvelously exquisite wonders of skill in the art. Soon after, however, Bohemia became a formidable rival and eventually excelled the Venetian glass-blowers both in the quality and decoration.

Up to the seventeenth century no glass had been manufactured that would permit of being cut, although countless endeavors toward that end had been made. At last in 1630 the art of making flint glass was discovered which was the first glass suitable for cutting.

In the making of fine glass, the primary material is sand of a peculiar variety, chiefly silica and almost as white as flour. It is found in but two places in the whole world — the Berkshire Hills in America, and one place in Russia. A few other materials are added, such as red lead, saltpetre, potash, etc., in different proportions according to the formula of the expert mixer. The only difference between brilliant transparent glass and the commoner sorts is that resulting from the difference in the quality of the materials used and the relative experience and expertness of the mixer.

This whole mixture is melted, requiring an inimaginable temperature of 2,500 degrees Fahrenheit. When the product

has become a ductile, opaque, rose colored mass, a man who is termed a "gatherer" collects on the end of a long hollow pipe as much of the molten glass as will, according to his judgment, make the desired object. This he passes on to the blower. The blower, by blowing into the pipe, constantly turning and alternately rolling on a smooth iron plate produces in an extraordinarily short space of time a water glass, a vase, or an exquisite specimen of handywork put out by the more expert manipulators. These articles are cooled gradually, and after some days are tempered sufficiently to stand ordinary exposure, and are then sent to the cutters.

The metal wheel that the cutter works with is kept constantly moist with sand and water. The first cutter roughs in the pattern, first dividing the pieces into even sections. He depends entirely upon his eye and memory for the pattern, taking many days of constant grinding to perfect an intricate design. These cutters become wonderfully expert as is shown by the examination of the intricacy and marvelous geometrical perfection of a first-class piece of work.

The next man to take up the work is the "smoother" who works with a moist wheel of sandstone, smoothing away all the roughened places. The polishing is done on a wooden wheel or brushes sprinkled with putty powder.

Gold.

THE first law affecting the coinage of gold into lawful money was enacted April 2, 1792. By this law any person could have gold bullion converted into coin eleven parts pure to one part alloy. Its ratio to silver was 15 to 1, and gold coins were legal tender to any amount. In March, 1795, a charge of four cents per ounce was made for coining gold bullion below the standard. Under the law of April 21, 1800, a sum was retained for coining gold below the standard. January 18, 1837, the standard gold coin was made nine-tenths pure and one-tenth alloy. February 21, 1853, it was enacted that gold coins were to be exchanged for silver coins at par in sums not exceeding $100, and a charge of one-half per cent. was made for refining. February 12, 1873, it was enacted that one-fifth of one per cent. was to be charged for coining standard gold. By the law of January 14, 1875, no charge was to be made for converting standard gold bullion into coin. The law of March 14, 1900, declares that the gold dollar shall be the standard unit of value and directs the Secretary of the Treasury to maintain all forms of money at a parity with this standard.

The largest gold-producing mine in the world is the Homestake in South Dakota. It is one of the poorest, relatively, as the ore only yields about $3.75 a ton, but as against this the costs are only $2.50 a ton. At present the quantity of ore treated a year is over 1,400,000 tons — that is, with 900 stamps. The output from Homestake now is over 20,000 ounces fine gold a month. There are a number of mines which earn better profits than Homestake, but none which approach it in size. The next largest is Alaska Treadwell, on Douglas Island. This mine has 540 stamps, but all of these can only run for part of the year, owing to the scarcity of water. The average yearly output is 600,000 tons. This ore yields barely $2 a ton, which shows Alaska Treadwell to be the lowest grade of the world's gold mines, but owing to exceptional facilities the total working costs are but $1.25 per ton. The largest mines are not necessarily the most profitable.

Largest Gold-Producing Mines in the World.

NAME OF THE MINE.	LOCALITY.	MONTHLY YIELD
1. Homestake	South Dakota	$425,000
2. Simmer and Jack	Transvaal	390,000
3. Boulder Perseverance	West Australia	315,000
4. Robinson	Transvaal	310,000
5. Golden Horseshoe	West Australia	300,000
6. Champion Reef	India	300,000
7. Rose Deep	Transvaal	290,000
8. Mysore	India	275,000
9. Waihi	New Zealand	255,000
10. Geldenhuis Deep	Transvaal	255,000
11. Portland	Colorado	250,000
12. Mount Morgan	Queensland	250,000
13. Great Fingall	West Australia	240,000
14. Crown Reef	Transvaal	235,000
15. Village Main Reef	Transvaal	230,000
16. Crown Deep	Transvaal	230,000
17. City and Suburban	Transvaal	230,000
18. Great Boulder	West Australia	225,000
19. Ferreira	Transvaal	220,000
20. Oroya-Brownhill	West Australia	220,000
21. Ivanhoe	West Australia	220,000
22. Ferreira Deep	Transvaal	210,000
23. Geldenhuis Estate	Transvaal	205,000
24. Angelo	Transvaal	190,000
25. Langlaagte Estate	Transvaal	185,000
26. Robinson Deep	Transvaal	175,000
27. Camp Bird	Colorado	170,000
28. New Primrose	Transvaal	170,000
29. May Consolidated	Transvaal	165,000
30. Glen Deep	Transvaal	160,000

Government of the District of Columbia.

THE government of the District of Columbia is vested, by act of Congress approved June, 11, 1878, in three Commissioners, two of whom are appointed by the President from citizens of the District having had three years' residence therein immediately preceding that appointment, and confirmed by the Senate. The other Commissioner is detailed by the President of the United States from the Corps of Engineers of the United States Army.

Washington had a municipal government from 1802 to 1871. By an act approved February 21, 1871, Congress provided a territorial form of government for the entire District of Columbia, with a Governor, Secretary, Board of Public Works, and Council, appointed by the President of the United States, and a House of Delegates and a delegate in Congress elected by the citizens of said District. This form of government was abolished June 20, 1874, and a temporary government by three Commissioners substituted. The temporary form of government was succeeded by the present form of government July 1, 1878. Congress makes laws for the District, but has intrusted to the Commissioners authority to make police regulations. building regulations, plumbing regulations, and other regulations of a municipal nature.

Grange, The National.

THE difficulty of uniting the farmers has long become proverbial. The business of farming itself encourages individualism, independence, and isolation; as a result the agricultural masses grew into a state of mind unfavorable for organization. The farmers themselves were the first to realize their regrettable condition and to take steps toward a remedy. Many attempts toward co-operation were attempted but failed with singular universality. The spirit, however,

that at first had recognized the need never died but grew steadily, undaunted by discouragements, and at last culminated in the national society called the Grange — the most successful and characteristic of all the efforts toward unity of the agricultural classes. Not only is this organization at the present time exceedingly active but its radius of influence is greater to-day than ever before.

The Grange is the oldest general organization of farmers and owes its origin to a young Boston man, O. H. Kelley, who broached the germ idea of a "secret society of agriculturists as an element to restore kindly feeling among the people" some third of a century ago. The idea met two great existing needs of the farmers: the better education for their business, and the cultivation of a spirit of brotherhood. It was originally intended to minister to the social and educational needs of this class and is not, nor never was intended for a business agency or a political party. During the last ten years there has been a widespread revival in the movement and the outlook is exceedingly promising. The years since 1888 have seen a remarkable growth in membership. At present New York is the largest Grange State with about 60,000 members; Maine has about 35,000 members; Michigan has 32,000; and New Hampshire ranks fourth. In New England especially the order has grown slowly but surely and has gradually taken its place as a recognized social institution. The same kind of growth is evident in New York, Pennsylvania, Ohio, and Michigan.

The official title of the Grange is "Patrons of Husbandry"; of the members, "Patrons"; of the different organizations, "Granges." Membership consists of men and women — only those, however, who are primarily interested in agriculture — and of young people over fourteen years of age. The presiding officer of the Grange is called the "Master." The whole machinery of this organization is strongly centralized. The social work of the Grange is maintained by meetings, assemblies, socials, etc. The County or Pomona Grange meets monthly or quarterly; the State Grange holds an annual meeting. The truly educational work, which is perhaps the strongest feature of the organization, is never for a moment lost sight of. The order takes an active part in Legislature, though always in a non-partizan manner. The National Grange is not a political party in any sense of the word, its endeavor is to keep strictly aloof from partizan politics. The order renders financial aid to its members largely through insurance and co-operative purchases.

The Grange has been the most immediate and potent force in the expansion of American farm life. It has taught the farmers the value of co-operation and the immense power of well-organized effort. It has vastly improved their social opportunities; given them a wider outlook, a broader view; and as an educator has done surprising work.

Greenbacks.

THE popular name for the legal-tender treasury notes which the U. S. Government issued during the Civil War. Although the right of the government to issue "bills of credit," legal-tender notes, was disputed by many, the necessities of the government caused the passage of an act to that effect on February 25, 1862. This authorized the issue of $150,000,000 of such notes. Acts authorizing further issues of the same amount were passed on June 11, 1862, and March 3, 1863. The legal-tender notes rapidly depreciated, the price of gold averaging 220 throughout 1864, and even on one day rising to 285. By Act of 1866 the total amount outstanding was reduced to $356,000,000 within two years. Since 1878 it has been $346,681,016.

Holding Capacity of Cisterns.

THE barrel is here taken to contain 31½ gallons, or 63 gallons to the hogshead, if hogshead denomination is preferred. For total capacity multiply the barrel capacity for given diameter at one foot of depth by the total feet in depth.

CIRCULAR CISTERN.		SQUARE CISTERN.	
Feet in Diameter.	Capacity in barrels for every Foot in Depth.	Feet Square.	Capacity in barrels for every Foot in Depth.
5	4½	5 by 5	6
6	6¾	6 by 6	8½
7	9	7 by 7	11½
8	12	8 by 8	15¼
9	15	9 by 9	19½
10	18½	10 by 10	23¾

Human Body, The

What We Are Made of.

ELEMENTS.	POUNDS.	OUNCES.	GRAINS.
1. Water, which is found in every part of the body, and amounts to	109	0	0
2. Fibrine, and like substances, found in the blood, and forming the chief solid materials of the flesh	15	10	0
3. Phosphate of lime, chiefly in bones and teeth, but in all liquids and tissues	8	12	0
4. Fat, a mixture of three chemical compounds, and distributed all through the body	4	8	0
5. Osseine, the organic framework of bones; boiled, gives gelatine. Weighs	4	7	350
6. Keratine, a nitrogenous substance, forming the greater part of hair, nails and skin. Weighs	4	2	0
7. Cartilagine resembles the osseine or bone, and is a nitrogenous substance, the chief constituent of cartilage, weighing	1	8	0
8. Hemoglobine, gives the red color to the blood and is a nitrogenous substance containing iron, and weighing	1	8	0
9. Albumen is a soluble nitrogenous substance found in the blood, chyle, lymph and muscle, and weighs	1	1	0
10. Carbonate of lime is found in the bones chiefly, and weighs	1	1	0
11. Kephaliu is found in nerves and brain with cerebrine and other compounds	0	13	0
12. Fluoride of calcium is found in teeth and bones, and weighs	0	7	175
13. Phosphate of magnesia is also in teeth and bones, and weighs	0	7	0
14. Cholesterin, glycogen and inosite are compounds, containing hydrogen, oxygen and carbon, found in muscle, liver and brain, and weighing	0	3	0
15. Sulphate, phosphate and salts of sodium, found in all tissues and liquids	0	2	107
16. Sulphate, phosphates and chloride of potassium, are also in all tissues and liquids	0	0	300
17. Silica, found in hair, skin and bone	0	0	30
	154	0	0

1. Famous Peace Pipe.
2-3. Sioux Tobacco Pipes.
4. Tall Bull's Tobacco Pipe, Ornamented with Feathers and Scalp Locks.
5. Tobacco Pipe of the Shoshones or Snakes.
6. War Bonnet of Red Cloud, Principal Chief of the Sioux.
7. Beaded Tobacco Pouch.
8. Sioux War Club.
9. Ute Beaded Tobacco Pouch.
10. Sioux Gourd Rattle.
11. Water Jar Made of Glass and Lined with Pitch.

INDIAN TRAPPINGS

Immigrants by Countries.

COUNTRIES OF NORTHERN AND WESTERN EUROPE.	1902.	1903.	INCREASE.
German Empire	28,304	40,086	11,782
Switzerland	2,344	3,983	1,639
France	3,117	5,578	2,461
Belgium	2,577	3,450	873
Netherlands	2,284	3,998	1,714
Denmark	5,660	7,158	1,498
United Kingdom of Great Britain and Ireland	46,036	68,947	22,911
Norway	17,484	24,461	6,977
Sweden	30,894	46,028	15,134
TOTALS	138,700	203,689	64,989

Ratio of increase, 47 per cent.

COUNTRIES OF EASTERN AND SOUTHERN EUROPE.	1902.	1903.	INCREASE.
Austria Hungary	171,989	206,011	34,022
Italy	178,375	230,622	52,247
Greece	8,104	14,090	5,986
Roumania	7,196	9,310	2,114
Russian Empire and Finland	107,347	136,093	28,746
Spain	975	2,080	1,105
Portugal	5,307	9,317	4,010
Servia, Bulgaria, and Montenegro	851	1,761	910
Turkey	187	1,529	1,342
TOTALS	480,331	610,813	130,482

Ratio of increase, 27 per cent.

ASIA.	1902.	1903.	INCREASE.
China	1,649	2,209	560
Japan	14,270	19,968	5,698
India	93	94	1
Turkey in Asia	6,223	7,118	895
Other Asia	36	577	541
TOTALS	22,271	29,966	7,695

Ratio of increase, 34 per cent.

AFRICA, ETC.	1902.	1903.	INCREASE.
Africa	37	176	139
Australia, Tasmania, and New Zealand	384	1,150	766
Philippine Islands	126	132	6
Pacific Islands, not specified	56	67	11
British North America	636	1,058	422
British Honduras	51	81	30
Other Central America	254	597	343
Mexico	709	528	.....
South America	337	589	252
West Indies	4,711	8,170	3,459
All other countries	103	25	.....
TOTALS	7,404	12,573	5,428

Ratio of increase, 74 per cent.

Important Forest Trees of the United States.

White pine,	Arbor vitae,
Sugar pine,	Big-tree,
Cuban pine,	Swamp white oak,
Balsam fir,	Beech,
Noble fir,	Black walnut,
Hemlock,	Pecan,
Tamarack,	White cedar,
Tulip tree,	Redwood,
Sugar maple,	White oak,
White elm,	Bur oak,
Basswood,	Chestnut,
Cottonwood,	Shag bark hickory,
Long leaf pine,	Locust,
Short leaf pine,	White ash,
Black spruce,	Red maple,
White spruce,	River birch,
Douglas spruce,	Sycamore,
Ball cypress,	White willow,
Western larch,	Red juniper.

Indian Population and Affairs.

THE total Indian population of the United States is approximately 263,233, of which the New York Indians and those known as the Five Civilized Tribes embrace 91,555, leaving 171,678 occupying reservations, having 55,547,750 acres outside of New York and the Indian Territory.

The New York Indians are located on eight small reservations in New York State, of an area of 87,677 acres. They number about 5,290. The Cherokees, Chickasaws, Choctaws, Creeks, and Seminoles comprise the Five Civilized Tribes of the Indian Territory. They number about 84,500, and control about 19,475,614 acres of land. Non-citizen whites to the number of 300,000 live within the boundaries of said tribes.

Indians to the number of 1,500 were (1902) in the employ of the Government in various capacities, and were paid salaries amounting to $319,810. In the Indian School service 627 Indians were employed, and paid salaries amounting to $243,083. The annual report of the agents of the United States Bureau of Indian Affairs in 1900 and 1903 showed that the Indian population was 270,544, and 263,233 respectively, distributed in the several states as follows:

NAME.	1900.	1903.
Arizona	40,189	43,746
California	11,431	14,671
Colorado	995	941
Florida	575	358
Idaho	3,557	3,644
Indian Territory	86,265	76,886
Iowa	385	338
Kansas	1,211	1,262
Michigan	7,557	6,333
Minnesota	8,952	8,960
Montana	10,076	9,911
Nebraska	3,854	3,610
Nevada	8,321	5,343
New Mexico	8,480	9,884
New York	5,334	5,290
North Carolina	1,436	1,457
North Dakota	8,276	8,299
Oklahoma	13,926	13,799
Oregon	4,063	3,924
South Dakota	19,212	19,477
Texas	290	.....
Utah	2,115	2,102
Washington	9,827	10,019
Wisconsin	10,726	10,156
Wyoming	1,642	1,640
Miscellaneous	849	1,183
TOTAL	270,544	263,233

Of the above 98,199 wore citizen's dress, and 32,846 wore a mixture of Indian and civilized clothing. Those who could read numbered 46,044, and 57,975 could carry on an ordinary conversation in English.

The expenditures of the United States, on account of the Indians in the fiscal year ended June 30, 1903, were $12,935,-168. The expenditures from 1789 to 1903, exclusive, were $402,217,528.

Indian Wars.

1676. King Philip's War.
1704. Deerfield, Mass., burned.
1708. Haverhill, Mass., burned. Capture and escape of Mrs. Hannah Dustan.
1713. The Tuscaroras expelled from North Carolina.
1755. Braddock defeated by the French and Indians.
1763. Conspiracy of Pontiac.
1778. Massacre of Wyoming.
1794. Treaty with the Six Nations.
1804. Treaty with the Delawares.
1813. } War with the Creeks in Florida.
1814. }
1817. War with the Seminoles.
1832. War with Black Hawk. Stillman's defeat on Rock River.
1835. } War with the Seminoles.
1842. }
1837. Capture of Osceola.
1855. Defeat of the Rogue River Indians.
1856. War with the Indians in Oregon and Washington Territories.
1862. Indian War and massacres in Minnesota.
1854. (Nov. 29.) "Chivington's massacre" near Fort Lyon; over 500 Indians, men, women, and children put to the sword.
1873. (April 2.) General Canby and Rev. E. Thomas, peace commissioners, treacherously slain by the Modocs.
1873. (Oct. 13.) Execution of the Modoc murderers of Canby and Thomas — Captain Jack, Schonkin, Boston Charley, and Black Jim.
1876. (June 25.) The command of General Custer defeated by the Indians on Big Horn River, and General Custer and his entire force of 313 cavalrymen slain.

India Rubber.

INDIA-RUBBER or caoutchouc consists of the dried coagulated milky juice of various trees and shrubs which are found in a large belt of countries around the globe, including at least 500 miles on each side of the equator. Notwithstanding the large yield, the demand for the best qualities is always in excess of the supply. The varieties which are almost exclusively used when great elasticity and durability are required are the Para, Ceara, and Madagascar rubbers. The milky juice of plants furnishing caoutchouc is contained chiefly in the middle layer of the bark in a network of minute tubes, known to botanists as laticiferous vessels. It possesses the property of a vegetable emulsion, the caoutchouc being suspended in it in the form of minute transparent globules. Caoutchouc when pure is odorless and nearly white and possesses a specific gravity of .915. The best rubber known is obtained by careful evaporation of the recently strained juice at a moderate heat.

India-rubber was not considered a product upon which to base an industry until the beginning of the eighteenth century. The best rubber is obtained from South America. Para rubber comes from a large tree which grows 60 feet in height, branching from the base and having trifoliate leaves. The caoutchouc is collected during the dry season between August and February. The trees are tapped in the evening and the juice is collected on the following morning, each tree yielding about 6 ounces in three days. To obtain the rubber the juice is heated in the following manner: A piece of wood about three feet long, with a flattened clay mold at one end of it, is dipped in the milk, or this is poured over it as evenly as possible. The milk is then carefully dried by turning the mold round and round in a white vapor obtained by heating certain oily palm nuts, those of *Attalea excelsa* being much preferred, and the vapor being confined within certain limits by the narrowness of the neck of the pot in which the nuts are heated. Each layer of rubber is allowed to become firm before adding another; a practised hand can make five or six pounds in an hour. From whatever source, the rubber thus prepared is the finest that can be obtained. The cakes when completed are, in order to remove them from the mold, slit open with a sharp knife, which is kept wet, and are hung up to dry. The flat rounded cakes of rubber made in this manner are known in the London market as "biscuits."

Ceara rubber is considered next to the Para in value, as it is a "dry" rubber, very elastic and free from stickiness. But it often contains a quantity of foreign matter. It is obtained from a tree common in the province of Rio Janeiro, about 30 feet high. The mode of collecting the rubber is as follows: The outer layer of the bark is sliced off to the height of four or five feet; the milk which exudes is allowed to remain on the tree for several days until it becomes dry and solid when it is pulled off in strings, which are either rolled up in balls or put into bags in loose masses; in which form it enters commerce under the name of Ceara "scrap."

Pernambuco or Mangabeira rubber is obtained from a tree common on the South American plateau in Brazil. Cartagena rubber comes from New Granada in the form of black sheets three-fourths of an inch thick. Guayaquil rubber is imported from Ecuador in large flakes or lumps of a whitish color.

In Central America the source of all the principal rubbers exported is a tree which grows abundantly in the basin of the Rio San Juan and is also found in Costa Rica, Guatemala, Honduras, Mexico, Cuba, Hayti, and Panama. In Nicaragua the juice is collected in April; a tree 20 to 30 feet high to its first branches and about four feet in diameter being expected to yield twenty gallons of milk, and each gallon giving about two pounds of rubber. West Indian rubber is the variety usually imported into England but in comparatively small quantities. It is not as its name implies produced in the West Indies but derives its appellation from being brought over in West Indian steamers. It is the best description of Central American rubber known. Honduras rubber is of good quality; that from Guatemala is of a very inferior kind.

Africa, in respect of the large amount exported, may now be considered as taking the second place as an india-rubber producing continent. Mozambique rubber is one of the most important varieties. African rubber as a rule possesses more adhesiveness and less elasticity than Para rubber.

The rubber which enters commerce from Asia includes the Assam, Borneo, Rangoon, Singapore, Penang, and Java kinds.

More than 50,000,000 lbs. of india-rubber valued at more than $30,000,000 was imported into the United States last year. The rapid growth of the importation of crude rubber was due to the increase in its use in manufacturing; manufactures from india-rubber valued at $100,000,000 are turned out from factories every year. So great is its demand that the forests of the East Indies are called upon for several million pounds yearly of a new substitute for india-rubber—gutta percha, known as gutta-joolatong. While at the same time reclaiming plants have been set up and all cast-off rubber articles are gathered up and worked over, and used again.

During the last year the importation of crude rubber was as follows:

50—55,000,000	lbs. crude rubber.
5—15,000,000	" gutta-joolatong.
10—20,000,000	" old and scrap rubber.
500,000	" gutta percha.

The reclaiming business is a comparatively new process, and gutta-joolatong is a comparatively new material which may be utilized as a substitute for india-rubber. It is a product of the East Indies chiefly from the island of Borneo not far from the Philippines. The form in which it is imported is whitish in color looking like marsh mallow candy, smells strongly of petroleum, and becomes hard when exposed to the air; it is used chiefly as a filler in the manufacture of india-rubber gum.

A large portion of the india-rubber imported into the United States comes from Brazil. Large quantities come from the colonies of the United Kingdom and from Belgium, chiefly the product of the Congo Free State which is under the control of the Belgium government and industries of this character are controlled by people from that country. It has been proved that experiments in the East Indies have shown the entire practicability of producing the best Para rubber in the territory immediately adjacent to the Philippines from trees transplanted from South America; and the possibility is suggested that the Philippines may in time supply at least a part of the growing rubber consumption of the United States.

Irrigation.

AN engineering feat of great magnitude has been undertaken by the United States Geological Survey, viz., the reclaiming by artificial irrigation of immense tracts of desert and arid lands in the southwestern states and territories, Congress having appropriated several millions of dollars for the purpose. The object is to divert from their natural channels mountain streams to localities now too arid for agricultural purposes.

For a number of years as the western states and territories have become settled and the cultivated land has been taken up, the subject of irrigation has assumed a most important aspect. All the good lands have been gradually appropriated until only the arid tracts are left open to the public, in some parts of the country even the limits of population have been reached. Naturally the western landholder turns to the great American desert and the possibility occurs to him of making this uninhabitable expanse available for habitation. This great problem has taxed the ingenuity of practical agriculturalists and the theories and knowledge of scientists. Individual and private corporations have again and again attempted to grapple with the problem but their efforts have not met with satisfactory results. At last the government took matters in hand and a law was passed which promises relief from this great obstacle which has stood so long in the way of western progress.

The lands which are to receive attention under the provision of this new law are located in Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming, and aggregate 550,000,000 acres. However only 60,000,000 acres of this immense tract can now be irrigated. Experiments were made in 1903 showing the increase in the yield of crops under irrigation. It has been found that the average in clover hay for instance, on irrigated land over that on unirrigated land has been 2.5 tons per acre; the average increase in the yield of corn has been 26.95 bushels per acre; potatoes, 83.9 bushels, which leaves, discounting the cost of irrigation, a net profit per acre of $20 on hay, $11 on corn, and $73 on potatoes.

The most beneficent civil engineering work of the age is the completion of the great dam at Assouan on the Nile. This structure together with the barrage across the Nile 250 miles above Cairo, was undertaken by the British Government for the improvement of Egypt. The two works together cost $25,000,000. This dam is 600 miles above Cairo, 1¼ miles in length, and 130 feet high. By its completion it has become possible to store 1,000,000,000 tons of water for irrigation during the dry season. It is stated that it will increase the agricultural earning power of Egypt by thirteen million every year and will permit the additional irrigation of 1,600,000 acres.

Irrigation in the United States.

States and Territories.	Acres under Irrigation.	Average Value Land.		Total Cost of Construction.
		Irrigated.	Unirrigated.	
Alabama	89			$ 5,200
Arizona	185,396	$ 43.50	$ 7.73	4,408,158
California	1,446,114			12,855,012
Colorado	1,611,271	31.70	3.26	11,568,137
Connecticut	471			16,113
Florida	1,538			232,388
Georgia	7,856			250,214
Hawaiian Islands	724,609	35,279,116		
Idaho	608,718	31.25	9.51	5,116,227
Kansas	23,620			529,755
Louisiana	201,685			2,529,319
Maine	17			2,170
Massachusetts	134			14,680
Mississippi	40			2,825
Montana	951,054	19.66	3.71	4,683,073
Nebraska	148,538			1,276,978
New Jersey	73			2,831
New Mexico	203,893	29.26	1.66	4,140,319
New York	68			1,872
Nevada	501,168	28.47	2.50	1,533,927
North Carolina	3,283			112,771
North Dakota	4,872			17,980
Oklahoma	2,759			21,872
Oregon	388,111			1,838,782
Pennsylvania	134			33,220
Rhode Island	40			3,000
South Carolina	29,690			851,509
South Dakota	43,676	42.50		284,747
Texas	49,652			1,027,608
Utah	629,293	37.43	9.75	5,722,306
Washington	135,470	48.85	9.81	1,679,319
Wyoming	605,232	16.10	1.67	3,956,692

Labor Organizations.

So far as their social and industrial influence is concerned, Labor Organizations belong for the United States to the last century. Since 1825 their growth and progress have been interesting and their development rapid, almost every industry in the country being involved.

A labor organization *per se* is any association of wage-workers or salary receivers having for its direct purpose the improvement of the condition of its members through educational work, the increase of compensation, and the shortening of hours. Such associations usually take up a great variety of topics belonging to the general, social, and economic conditions in which they are placed. The older form of organization came under the general title of "trades union." The underlying principle of individual associations like trades unions is that men who think alike should act together; so a trades union, primarily, is an organization which takes an active and earnest interest in the welfare of its own individual members, and secondarily, of the members of all unions of persons of like occupation; a trades union being composed of the members of a single trade, like the miners or glass-blowers. Such unions do not, as a rule, undertake to extend their influence to all classes of workers.

Besides the national unions and others of national character, there are many state and local trades unions. Each union has its own government as to strikes, dealings with members, and, in fact, all its own regulations.

After some years of experience as to individual organizations there began to grow a strong desire among the unions for some form of federation. This desire was stimulated by the existence of the order of Knights of Labor, organized in Philadelphia in 1869, which will be described later; but prior to this there was an attempt to organize a national union or federation which should comprehend all the various trades unions, national and international, existing in the United States. The first of such attempts was made in 1866, at Baltimore, when the representatives of the trades unions of New York and Baltimore sent out a call for a national labor congress, which congress met August 20 of the same year.

The American Federation of Labor, as now known, was organized December 8, 1886, at Columbus, Ohio, but it dates its birth from the convention at Pittsburg in November, 1881. At that convention the demand was made for eight hours as a day's work and for the national and state incorporation of trades unions, and the convention favored obligatory education of children and the prohibition of their employment under the age of 14. It also favored the enactment of uniform apprentice laws, and opposed bitterly all contract convict labor and the truck system for payment of wages. It asked that laws giving to workingmen a first lien on property upon which their labor had been expended be enacted; it insisted upon the abrogation of all so-called conspiracy laws; urged the establishment of a national bureau of labor statistics and the prohibition of the importation of foreign labor; opposed government contracts on public work; and favored the adoption by states of an employers' liability act. The American Federation of Labor, of course, represents the trades-union element of the United States. It is not a secret order, nor does it claim the individual allegiance of members, for its membership is made up of national and international trades unions or societies represented in it. It is a democratic and representative organization in every sense, being a federation of the leading trades unions of the country. With the exception of the various railroad brotherhoods, the principal labor unions of the country are affiliated with it. It has about 7,000 orders represented in it, and a membership of over 2,000,000. It undertakes to encourage the formation of local trades and labor unions, and invites the closest federation of all such associations. Its federation is of various orders having dissimilar methods, not only in organization, but in work, and having no constitution or laws, although the federation has a constitution for the general government of the representative body.

The Knights of Labor are organized on a principle widely at variance with that underlying the organizations of the trades unions and the American Federation of Labor. The basis of the organization of the Knights of Labor ignores vocation and seeks the unification of all individual or separate interests in the interest of the whole.

The Noble Order of Knights of Labor, which was born Thanksgiving Day, 1869, in the city of Philadelphia, resulted from the efforts of Uriah S. Stephens, who had associated with him six garment-cutters. The garment-cutters of Philadelphia had been organized as a trades union, but had failed in their attempts to increase the rate of wages in their trade. The dissatisfaction growing out of this disappointment resulted in the disbanding of the Garment-Cutters' Union, and Mr. Stephens, who had foreseen such result, prepared the outlines of a plan which should include in an organization all branches of honorable toil. Stephens was a man of great force of character, a thoroughly trained mechanic, a lover of books, and possessed a strong feeling in favor of secret organizations, having been for many years a member of the Masonic order. It was probably through the experience gained in Masonry that he brought into the ritual of the new order many of the features of speculative Masonry, certainly so far as forms and ceremonies are concerned. He also introduced obligations in the nature of oaths, taken upon the Bible with all solemnity. The members were sworn to the strictest secrecy. Even the name of the order was not divulged for a long time, stars being used in the place of the name *Knights of Labor;* and in circulars, meetings, conversations, etc., the members referred to the order as "Five Stars." Originally the ritual contained many classical expressions taken from the Greek, showing the scholarly attainments of the founder of the order. At a meeting held December 28, 1869, the name of *Knights of Labor* was adopted, and the ritual was adopted at the same time.

Under the original formation, physicians could not become members, because professional confidence might force the societies' secrets into unfriendly ears, but this rule was repealed at Detroit in 1881. Politicians were excluded but men engaged in political work are not now excluded for the cause originally assigned. Lawyers were and still are excluded from membership. Rum-sellers, being non-productive of articles of use, are not included among those who can become members.

The close secrecy adopted in the beginning of the order prevented its growth, but the degrees, which were worked somewhat after the Masonic methods, are not known, there being no degrees in the sense of secret organizations. Strict secrecy was abolished in 1881 and the name and objects of the order made public.

The Knights of Labor as an organization consist of local assemblies, which may be organized anywhere under proper rules established by the higher assemblies; district assemblies, which are composed of delegates from local assemblies; there may also be state and national trade assemblies; then there is the general assembly, which is composed of representatives chosen by the state, national, trade, and district assemblies. Each has its constitution. The present declaration of principles is too long to be reproduced here in full but in the main it declares the purpose of the order to be: to make industrial moral worth, not wealth, the true standard of individual and national greatness, and to secure to the workers the full enjoyment of the wealth they create. The order demands the establishments of bureaus of labor statistics, the reservation of public lands as a heritage of the people, the incorporation of trades unions and all labor organizations, the prohibition of employment of children under 15 years of age, and of all convict labor, a graduated income tax, and various other important demands along the lines of other labor organizations. At one time the organization is said to have had nearly 1,000,000 members. Through various influences the membership has been reduced, although since its foundation over 1,300 local assemblies have been organized. It is quite impossible to give the membership at present but it is supposed to be in the vicinity of 200,000. The headquarters of the Knights of Labor are at Washington, D. C.

Following the lines of the Knights of Labor in some respects is the American Railway Union, for it has sought to bring into one order a large body of employees. The union was organized in Chicago in 1893 and counts a membership in round numbers of 120,000. It differs widely from the Knights of Labor and American Federation of Labor so far as its integral elements are concerned. It was created for the protection of members in all matters relating to wages and their rights as employees, and affirms that railway employees are entitled to a voice in fixing wages and in determining the conditions of employment.

The Independent Order of Knights of Labor is a new organization of a national character. Its declaration of principles is identical with that of the Knights of Labor. It was organized at Columbus in 1895. Its constitution is similar to that of the Knights of Labor except that it eliminates such parts as give general officers great power, and otherwise restricts the possibilities of general officers in directing the affairs of the order. The headquarters are at Tiffin, Ohio.

There are many local orders, societies, and associations not connected with any of the large orders described. The total membership of all labor organizations of all kinds probably reaches at least 1,400,000. They have all been influential in the development of industrial conditions and in securing legislation which relates to labor; in general it may be said that strikes and matters relating to strikes are referred to local organizations in all the great national orders. None of them countenance riots, violence, intimidations, etc., yet they do not provide for the discipline of members when guilty of these things.

List of Labor Organizations.

AMERICAN Federation of Labor is composed of 111 International Unions, with 29 State branches, 542 city central unions, and 1,850 local unions not attached to national or international bodies. The aggregate membership is now estimated at more than 2,000,000.

The following list includes all the international unions that are affiliated with the American Federation:

Actors' National Protective Union.
Allied Metal Mechanics, International Association of.
Bakers' and Confectioners' International, Journeymen.
Barbers' International Union, Journeymen.
Bill Posters and Billers of America, National Alliance.
Blacksmiths, International Brotherhood of.
Blast Furnace Workers and Smelters of America, National Association of.
Boiler Makers and Iron Ship Builders, Brotherhood of.
Bookbinders, International Brotherhood of.
Boot and Shoe Workers' Union.
Brewery Workmen, International Union of United.
Brick, Tile, and Terra Cotta Workers' Alliance, International.
Broom Makers' Union, International.
Carpenters and Joiners of America, United Brotherhood of.
Carpenters and Joiners, Amalgamated Society of.
Carriage and Wagon Workers, International.
Carvers' Association of North America, International Wood.
Carworkers, International Association of.
Chain Makers' National Union of the United States of America.
Cigar Makers' International Union of America.
Clerks' International Protective Association, Retail.
Cloth, Hat, and Cap Makers of North America, United.
Commercial Telegraphers' Union of America, The.
Coopers' International Union of North America.
Curtain Operatives of America, Amalgamated Lace.
Electrical Workers of America, International Brotherhood of.
Elevator Constructors, International Union of.
Engineers, International Union of Steam.
Engineers, National Brotherhood of Coal Hoisting.
Engravers, International Association of Watch Case.
Firemen, International Brotherhood of Stationary.
Flour and Cereal Employes' International Union of.
Freight Handlers and Warehousemen's Union of America, Interior.
Garment Workers of America, United.
Garment Workers' Union, International Ladies'.
Glass Bottle Blowers' Association of the United States and Canada.
Glass-House Employes, International Association.
Glass Snappers' (Window) National Protective Association of America.
Glass Workers, International Association of Amalgamated.
Glove Workers' Union of America, International.
Gold Beaters, National Protective Union of America, United.
Granite Cutters' National Union.
Grinders' National Union, Table Knife.
Hatters of North America, United.
Hod Carriers and Building Laborers' Union of America, International.
Horse Shoers of the United States and Canada, International Union of Journeymen.
Hotel and Restaurant Employes' International Alliance and Bartenders' International League of America.
Iron, Steel, and Tin Workers, Amalgamated Association of.
Jewelry Workers' Union of America, International.
Lathers, International Union of Wood, Wire, and Metal.
Laundry Workers' International Union, Shirt and Waist.
Leather Workers on Horse Goods, United Brotherhood of.
Leather Workers' Union of America, Amalgamated.
Longshoremen's Association, International.
Machinists, International Association of.
Machine Printers and Color Mixers of the United States, National Association of.
Maintenance of Way Employes, International Brotherhood of.

Marble Workers, International Association of.
Meat Cutters and Butcher Workmen of North America, Amalgamated.
Metal Polishers, Buffers, Platers, and Brass Workers' Union of North America.
Metal Workers' International Association, Amalgamated Sheet.
Metal Workers' International Union, United.
Mine Managers and Assistants' Mutual Aid Association, National.
Mine Workers of America, United.
Mine Workers of North America, United Mineral.
Molders' Union of North America, Iron.
Musicians, American Federation of.
Oil and Gas Well Workers, International Brotherhood of.
Painters, Decorators, and Paperhangers of America, Brotherhood of.
Paper Makers of America, United Brotherhood of.
Pattern Makers' League of North America.
Paving Cutters' Union of the United States of America.
Piano and Organ Workers' Union of America, International.
Pilots' Association, International.
Plumbers, Gas Fitters, Steam Fitters, and Steam Fitters' Helpers of the United States and Canada, United Association of.
Plate Printers' Union of North America, International Steel and Copper.
Potters, National Brotherhood of Operative.
Powder and High Explosive Workers of America, United.
Printers' Association of America, Machine Textile.
Printing Pressmen's Union, International.
Print Cutters' Association of America, National.
Quarryworkers' International Union of North America.
Railroad Telegraphers, Order of.
Railway Clerks, International Association of.
Railway Employes of America, Amalgamated Association of Street and Electric.
Railway Expressmen of America, Brotherhood of.
Rubber Workers' Union of America, Amalgamated.
Saw Smiths' National Union.
Seamen's Union, International of America.
Shingle Weavers' Union of America, International.
Shipwright, Joiners, and Caulkers of America, National Union of.
Slate Quarrymen, Splitters, and Cutters, International Union of.
Slate and Tile Roofers' Union of America, International.
Spinners' Association, Cotton Mule.
Stage Employes' International Alliance, Theatrical.
Stereotypers and Electrotypers' Union of North America, International.
Stove Mounters' International Union.
Tailors' Union of America, Journeymen.
Teamsters, International Brotherhood of.
Textile Workers of America, United.
Tile Layers and Helpers' Union, International Ceramic, Mosaic, and Encaustic.
Tin Plate Workers' Protective Association of America, International.
Tip Printers, International Brotherhood of.
Tobacco Workers' International Union.
Trunk and Bag Workers, International Union of America.
Tube Workers, International Association of.
Typographical Union, International.
Upholsterers' International Union of North America.
Weavers' Amalgamated Association, Elastic Goring.
Weavers' Protective Association, American Wire.
Wood Workers' International Union of America, Amalgamated.

Independent Labor Unions.

The National Unions not affiliated with the American Federation of Labor are :

Bricklayers and Masons.
Brotherhood of Locomotive Engineers.
Brotherhood of Locomotive Firemen.
Brotherhood of R. R. Switchmen.
Brotherhood of R. R. Trainmen.
Brotherhood of Operative Plasterers.
National Association of Letter Carriers.
Order of Railroad Conductors.
Post Office Clerks.
Stone Cutters' Association.
Stone Masons' International Union.

Knights of Labor.

This organization has been in existence since 1878. It claims a membership of 200,000.

Lakes of the United States.

Lake Superior.

Lake Superior, the most westerly of the Great Lakes, is the largest body of fresh water in the world. In additions to the rivers Nipigon, St. Louis, and Pigeon, it receives the waters from 200 rivers, draining an aggregate of 84,000 square miles, including its own area of 32,000. Its length is 390 miles, its greatest breadth 160 miles, its mean breadth 80 miles, its depth is 900 feet and its height above sea level 600 feet. Its coast is, for the most part, rock bound. In the northern part especially it is dotted with many islands, rising sheer from deep waters to great heights — some in the form of granite peaks as high as 1,300 feet. In the rocks of the northern shore are found silver, copper, and iron ores. The United States side is much lower and more sandy and is especially rich in deposits of native copper and iron ores. The lake is subject to severe storms and the effect of the waves on the "picture rocks" (sandstone) of Grand Island, presents innumerable and very fantastic forms. The lake never freezes over, but cannot be navigated with safety in winter on account of the shore ice. The St. Mary's river, 55 miles long, is its outlet to Lake Huron. The fall between the two lakes is 22 feet, 18 of which are St. Mary's Falls, or rapids. These are overcome commercially by means of a canal, which renders possible the passage of vessels of 16 feet draft from Lake Superior to Lake Huron.

Lake Michigan.

Lake Michigan is entirely within the territory of the United States. It has a maximum breadth of 8 miles and its length is 345 miles. The depth varies from 700 to 1,800 feet and the altitude above sea level is 578 feet. Its basin is 70,000 square miles in area, of which the lake itself occupies 22,400 square miles. The country around Lake Michigan is for the most part low and sandy. The rocks are of limestone and of sandstone lying in horizontal strata. Along the south shore are beds of clay and sand lying but a few feet above the level of the lake, and indicating that its waters may have found at one time their exit into the valleys of the Illinois and Mississippi Rivers. The harbors of this lake like those of the other Great Lakes are of artificial construction.

Lake Huron.

Lake Huron is 270 miles long, 105 miles broad and has an area of 23,000 square miles, including its drainage area is 74,000 square miles. Its depth is between 700 to 1,000 feet and its altitude above the sea is 574 feet. The north and northeast shores of Lake Huron are mostly of sandstone and

limestone; the southern and southwestern shores are flat and fertile. Its chief tributaries from the United States side are Thunder Bay and River, the Au Sable, and the Saginaw.

Lake Erie.

The peculiar features of Lake Erie are its shallowness and the lowness of its shores which are of a clayey nature. The south shore is bordered by an elevated plateau through which the rivers have cut deep channels. The average depth is 90 feet with a maximum depth of 204 feet. The length is 250 miles, and its greatest breadth is 60 miles. It is the most dangerous of the Great Lakes to navigate. The area is 10,000 square miles. Its waters are 564 feet above the sea level and 330 feet higher than Lake Ontario.

Lake Ontario.

The Niagara drains Lake Erie into Lake Ontario. This river falls 20 feet in a course of 16 miles from Lake Erie; then comes a mile of rapids in which it falls 52 feet. The rapids end at Niagara Falls, the sheer descent of which is 164 feet on the American side. In seven miles below the Falls the river descends 104 feet through a gorge 300 feet deep and from 600 to 1,200 feet wide. The river then suddenly broadens out and at a distance of 57 miles further on flows into Lake Ontario, the most easterly of the Great Lakes. The surface of this lake is 6,700 square miles in area; its greatest length is 190 miles, its width 52 miles, depth 412 feet, and height above the sea 234 feet. Its chief tributaries on the American side are the Genesee and the Oswego.

Largest Combination of Capital in the World.

THE largest combination of capital in the world is the United States Steel Corporation, incorporated under the laws of New Jersey, June, 1901. Its chief organizer was J. Pierpont Morgan. Charles W. Schwab was elected its president. It was capitalized at $1,100,000,000, and absorbed the following companies of the value of capital attached to each:

Carnegie Steel Company	$160,000,000
Federal Steel Company	99,745,000
American Steel and Wire Company	90,000,000
National Tube Company	80,000,000
American Bridge Company	70,000,000
National Steel Company	59,000,000
American Sheet Steel Company	49,000,000
American Tin Plate Company	46,325,000
American Steel Hoop Company	33,000,000
Lake Superior Consolidated Iron Mines Company	30,000,000
Shelby Steel Tube Company	15,000,000

Largest Libraries.

	VOLUMES.		VOLUMES.
Library of Congress	1,000,000	Cincinnati, O.	203,864
Boston Public	772,432	Baltimore, Md.	202,118
Harvard University	560,000	Library Co., Phila.	201,184
New York	500,000	Sutro, San Francisco	200,000
N. Y. Public Library	500,000	Atheneum, Boston	196,000
Albany, N. Y. (State)	423,290	Mercantile, Phila.	185,000
Chicago University	329,778	Cleveland, O.	165,808
Columbia University	295,000	New York Free	163,465
Yale University	285,000	Detroit, Mich.	157,510
Mercantile, N. Y.	262,043	Newberry, Chicago	157,131
Chicago Public	258,498	Buffalo, N. Y.	155,000
Cornell University, N.Y.	225,022	Brooklyn, N. Y.	149,676
Philadelphia, Pa.	207,585	University of Pa.	145,460
Peabody, Baltimore	137,000	Brown University, R. I.	110,000
St. Louis, Mo.	135,000	Mechanics and Tradesmen, N. Y.	109,000
Worcester, Mass.	128,196	Wagner, Free, Phila.	104,844
San Francisco, Cal.	126,274	Carnegie, Pittsburg	104,690
Princeton University	126,149	Mechanics Institute, San Francisco	100,170
Milwaukee, Wis	119,684	Antiquarian, Worcester, Mass.	100,000
Springfield, Mass.	115,091		
Minneapolis, Minn	114,000		
Historical, Madison	110,000		

Libraries.

THE first library established in the United States was that of Harvard College founded in 1638. In 1700 a public library was founded in New York City. It was afterward converted, in 1754, into a subscription library. Dr. Franklin and his associates in 1731 started in Philadelphia a library company and the first subscription library. The Library of Congress was begun in 1800, on the establishment of the seat of government at Washington. The Public Library of Boston, founded in 1854, stands next to the Library of Congress in point of the number and value of its collections. It contains over 770,000 volumes and has ten subsidiary branches. The school-district library system originated in New York State in 1838 and has been adopted by a large number of the other States. From 1820 to 1879 twenty-nine subscription or mercantile libraries were established in various cities. In 1900 there were in the United States 5,383 libraries of 1,000 volumes or more, which were more or less free and public. In these collections were 44,591,851 volumes. Their increase and success throughout the Union has been enormous.

Life-Saving Service in the United States.

THIS service, under the present system, has been in existence since 1871. It is an organization for the succor and rescue of seafarers subjected to shipwreck upon the sea and lake coasts of the United States. With the exception of about fifty stations supported by the Danish government, mainly on the coast of Jutland, and a few on the coast of Belgium, the life-saving service of the United States is the only government establishment of the kind in the world. It is distinguished not only by its uniqueness and magnitude, but also by the extraordinary success which has attended its efforts to save life and property upon occasions of maritime disaster. This service is under the control of the United States Treasury Department. It includes all points of danger on nearly ten thousand miles of coast, divided into twelve districts.

At each life-saving station there is a keeper, who must be an expert surfman. He is, by law, an inspector of customs, and has power over all stranded property. Under him is a crew of seven experienced surfmen. These men have to patrol a certain beat every night, and during foggy days. On these patrols they look out for vessels in danger or distress. For the proper watching of the coast the stationmen are divided into four watches, of two men in each, and each man is provided with a beach lantern and pouch of Coston signals, which are cases of combustibles, capable of being lighted at will by percussion. The first watch leaves the station at sunset. One of the two men composing the watch goes to the left, the other to the right. Each one marches on until he meets the patrolman of the adjacent station in

his direction. After exchanging metal checks (suitably inscribed) each patrolman returns to his station, and presents his check to the keeper as proof of the performance of his duty. Then a second watch sets out and goes over the same ground, then a third, and so on until the night is passed. This constant patrolling of desolate coasts on dark nights and foggy days is often a severe task, but it is faithfully performed.

The mode of service at wrecks is as follows: When a vessel is driven ashore by day, she is seen by the station-lookout, who is on top of the house. If it is by night, the patrolman walking along the coast descries her struggling in the breakers, and he at once ignites his Coston lights. These lights emit a brilliant red flare of about two minutes' duration. This notifies the persons on board that they have been seen and that assistance is near. The patrolman then hurries to the station where he reports to the keeper. The latter then hastens with his crew and a wagonload of apparatus to the assistance of the distressed vessel. Sometimes the large life-boat is launched, at other times the lighter surf-boat is hauled overland to a point opposite the wreck, and there launched. The keeper, being the commander and steersman of the boat, has to decide what course of action must be pursued. When he reaches the vessel, women, children, helpless persons, and passengers, are first taken into his boat — no scrambling, pushing, or pressing is allowed on such occasions,— and the wrecked crew and officers are shipped last. Baggage or goods are not allowed to be taken into the rescuing boat until every living person has been landed.

Should the sea be so turbulent that no boat can live in it, the method of rescue by means of the wreck-ordnance is resorted to. A line attached to the shot of the wreck-gun is fired over and across the wrecked vessel. Pulling in this line, the people on the wreck haul on board a rope, without ends, and finally get a tail-block, which has a whip-line rove through it. They fasten the tail of the block to a mast of the wrecked vessel, or to any other firm portion of the hull situated well up. Next the hawser is pulled on board in a similar way, and fastened to the mast, above the other rope. The shore end of the hawser is drawn over an upright crotch or shear-legs, guyed or braced to a sand-anchor in its rear. When all is ready, the wrecked people are brought ashore, either one by one in the breeches-buoy, or six at a trip in the life-car. Immediately upon being landed the rescued people are conveyed to the station, and there are cared for until they are able to help themselves. Besides the saving of life, the rescue of property is a conspicuous though secondary feature of the service.

That the crew may become skilled in the handling of the life-lines and breeches-buoys, a constant system of practise is maintained at the stations. In addition to the wrecking-drill the crew is exercised every week in boat-practise, including launching and landing through the surf, with at least half an hour's rowing; they are also practised in signaling with miniature flags, accompanied by oral examinations in the main features of the international code of signals, and they are drilled regularly in the manipulation of persons apparently drowned, one of the surfmen serving as the subject to be resuscitated.

At the close of the last fiscal year the life-saving establishment embraced 273 stations, 196 being on the Atlantic coast, 60 on the lakes, 16 on the Pacific coast, and 1 at the falls of the Ohio, Louisville, Ky. In the following table are the statistics of the service:

	Year ending June 30, 1903.	Since introd'ct'n of Life-Sav'g Syst'm in 1871 to June 30, 1903.
Disasters	346	14,076
Value property involved	$8,848,215	$210,351,679
Value property saved	$7,683,580	$166,253,022
Value property lost	$1,164,635	$44,098,657
Persons involved	3,682	102,474
Persons lost	20	1,027
Shipwrecked persons succored at stations	1,086	17,747
Days' succor afforded	2,414	43,006
Vessels totally lost on U. S. coasts	57	

In addition to the foregoing there were 351 casualties to smaller craft, such as sailboats, rowboats, etc., on which there were 655 persons, of whom 651 were saved and 4 lost. The cost of the maintenance of the service during the year was $1,721,727.48.

Light-House System and Service of the United States.

THE theory of coast lighting is that each coast shall be so set with towers that the rays from their lights shall meet and pass each other so that a vessel on the coast shall never be out of sight of a light, and that there shall be no dark places between the lights. This is the theory upon which the United States is proceeding and it plants lights where they are most needed upon those lines. From year to year, therefore, the length of the dark spaces on its coasts is lessened or expurged entirely, and the day will come when all its coasts will be defined from end to end by a band of light by night and beacons by day.

The first light-house on this continent was built at the entrance to Boston Harbor, on Little Brewster Island in 1715–16 at a cost of considerably over $11,000. It was erected by the order and at the expense of the general court of the Province of Massachusetts Bay, and it was supported by light-dues of one pence per ton on all incoming and outgoing vessels except coasters, levied by the collector of imports at Boston.

It was not until 1853 that the act was passed which reorganized our system of coast-lighting and placed it on a scientific and efficient basis. The act passed that year required the President to appoint two officers of the Navy of high rank, two engineer officers of the Army, and two civilians of high scientific attainments, whose services might be at the disposal of the President, an officer of the Navy and an officer of the engineers of the Army as secretaries who should constitute the United States Light-House Board; the Board to be attached to the office of the Secretary of the Treasury, and under his superintendence to discharge all the administrative duties relating to the construction, illumination, inspection, and superintendence of light-houses, light-vessels, beacons, buoys, sea-marks, and their appendages, and embracing the security of foundations of existing works, procuring illuminating and other apparatus, supplies, and materials of all kinds for building and rebuilding, and keeping in good repair buildings, vessels, and buoys of the United States.

The Board was required to arrange the Atlantic, Gulf, and Pacific coasts of the United States into twelve light-house districts, and an officer of the Army or Navy was to be assigned to each as light-house inspector under its orders. The Board was to make and promulgate with the approbation of

the Secretary of the Treasury, rules and regulations necessary for the securing of an efficient, uniform, and economical system of administration, in the fullest sense of the words.

The Board perfected the classification of lights, and so differentiated them by proper distinctions that marines were enabled to identify and recognize each light. It has organized and built up by degrees a corps of intelligent light-keepers, who on entering the service in its lowest rank, after examination are eligible to promotion in grade and pay according to merit, as vacancies occur, whose tenure of office is practically during good behavior, where transfers in location are made when the wishes of the keepers and the wants of the service coincide, and whose physical and mental welfare are carefully looked after by the Board which aims to make its keepers contented in their responsible and isolated situations. The Board has had the services of some of the brightest and most active minds in the American Navy. The Light-House Service has, like the Coast Survey, come to be regarded as a training school for young officers and as a field for the best efforts of those higher in rank.

A buoy is to the seaman by day what the light is at night and what the fog-signal is in thick weather. It tells him by its size, form, color, and number how to avoid the rocks and shoals and shows the way in and out of our harbors. Painted in a required pattern it tells its allotted story which is easily understood by the initiated. Besides the light-houses and buoys there are light-ships which do the work of light-houses in places where light-houses are necessary but have not been erected because of the great expense and great difficulty of structure. In 1902 there were on the various rivers in our country 1,830 lights. These river lights meet a popular want in overcoming the difficulties of navigation and serve to minimize the loss of life and property incident to disaster. The sound signals generally used to guide mariners especially during fog are with certain modifications sirens, trumpets, steam-whistles, bell-boats, bell-buoys, whistling-buoys, bells struck by machinery, cannons fired by powder or gun cotton, rockets, and gongs.

When the Light-House Establishment was turned over to the Light-House Board in 1852 the old-time inadequate reflectors were replaced by the Fresenal Lenticular apparatus found so successful in France and more or less throughout the whole world. The adoption in this country of the Lenticular apparatus made it impossible for a light-keeper even of average capacity to keep a poor light. Beside this the saving in oil effected by the use of lenses over reflectors was incalculable. This apparatus consists of a central powerful lamp, emitting luminous beams in every direction, around which is placed an arrangement of glass so formed as to refract these beams into parallel rays in the required directions. Different adaptations of the same principle are utilized in the revolving and fixed lights.

Lights are divided into six orders according to size and degrees of strength, running from a first-order-light apparatus—a most beautiful object, standing nearly twelve feet high, six feet in diameter, and involving in its structure the highest principles of applied science, the cost of the lenses alone amounting to $8,400—to the sixth-order or smallest size of harbor lens light which is 11¾ inches in diameter and costs from $190 to $315.

The illuminant of the Light-House Establishment has changed with the years. In the first light-house built in this country tallow candles were burned. This gave way to fish oil, then sperm oil, and finally lard oil was used. After many experiments petroleum came into use in the light-house establishments. Gas is used as an illuminant in favorable situations but it makes a variable light owing to the fluctuations in quality. Electric lights have never found high favor in the light-house service; such lights seem to lack penetrative quality especially when fog prevails.

Liquor Traffic in Various States and Territories.

Alabama	Local option, fee $175–$350.
Alaska	Prohibitiou under acts of Congress.
Arizona	Local optiou, quarterly fee $12–$125.
Arkansas	Local option, fee $800.
California	Local option, fee fixed by local authorities.
Colorado	Local option, fee $500 up.
Connecticut	Local option, fee $150–$450.
Delaware	License by Courts, fee $100–$300.
D. of Columbia	License by Excise Board on consent of property owners, fee $500.
Florida	Local option, fee $500.
Georgia	Local option, fee in Atlanta $1,000–$2,000; in counties, $200.
Idaho	License by authorities, fee $300–$500; hotels out of towns, $100.
Illinois	Local option, fee $500–$1,000.
Indiaua	License by County Commissioners, fee $100–$250; majority remonstrance defeats.
Iowa	License by petition of voters, fee $600.
Kansas	Prohibition.
Kentucky	License by majority of voters, fee $100–$150.
Louisiana	State aud local license, fee according to amouut of business, $100 up.
Maine	Prohibition.
Maryland	Local option, fee $18.00–$450.
Massachusetts	Local option, fee not less than $1,000; number limited, one to thousand inhabitauts, in Boston one to five hundred.
Michigan	Local option, fee $500–$800.
Minnesota	Local option, fee $500–$1,000.
Mississippi	Local optiou, fee $600–$1,200.
Missouri	Local option, semi-annual fee $300–$600.
Montana	Local option, semi-annual fee $150–$300.
Nebraska	Local option, fee $500–$1,000.
Nevada	License by County Commissioners, fee $30–$600.
New Hampshire	License by majority of voters, fees based on population, maximum $1,200; former prohibitory law in force where no license is voted.
New Jersey	Local option, fee $100–$250.
New Mexico	License by County Commissioners, fee $100–$400.
New York	Local option in towns, fee $150–$1,200, according to population.
North Carolina	Limited local option, semi-annual fee of $50–$100.
North Dakota	Prohibitiou.
Ohio	Local option, fee $350.
Oklahoma	License by County Officers, fee $200; additional license in incorporated towns not to exceed $500 per annum.
Oregon	License on petition of voters, fee $400.
Pennsylvania	Liceuse under control of courts, fee $75–$1,000.
Rhode Islaud	Local option, fee $200–$1,000.
South Carolina	State control.
South Dakota	License by local authority, fee $400–$600.
Tennessee	License issued by local authorities, fee $150–$200.
Texas	License issued by County Clerk, fee $300.
Utah	License granted by local authorities, fee $400–$1,200.
Vermont	License local option act was adopted February 3, 1903, aud took effect March 3, 1903.
Virginia	Control of local courts, fee $175–$350; local option provided for.
Washiugton	License issued by local authorities, fee $300–$1,000.
West Virgiuia	License by courts and local authorities, fee $350.
Wisconsin	Local option, fee $100–$200. With power in voters to increase from $400–$500.
Wyoming	License issued by local authorities, fee $100–$300.

Magazines.

THE first American literary periodical was the "General Magazine and Historical Chronicle," issued by Franklin at Philadelphia in 1741. In the same year and place appeared the "American Magazine," but neither lived a year. In 1743 an "American Magazine and Historical Chronicle" began

to be published in Boston. The first which appeared in New York was the "Independent Reflector," weekly, 1752. Other important magazines of the eighteenth century were the "Pennsylvania Magazine" of 1775, the "American Museum," 1787–1796; the "Massachusetts Magazine," 1789–1796; and the "New York Magazine," 1790–1797. Of much more value were the "Portfolio," Philadelphia, 1801–1825, and the "Monthly Anthology," Boston, 1803–1811. The first important Review was the "North-American Review," founded in 1815 at Boston. The chief predecessor of the modern literary and miscellaneous magazines of America was the "Knickerbocker," 1832–1860. Of the leading magazines of the present time, Harper's was founded in 1850, Scribner's (later the "Century Magazine") in 1870, the "Atlantic Monthly" in 1857. In 1902, the monthly publications in the United States numbered 2,777, and quarterlies 159.

Manufactures of the United States by States.--1900.

States and Territories.	No. of Establishments.	Capital.	Wage-Earners. Number.	Value of Products.
Alabama	5,602	$70,370,081	52,902	$80,741,449
Alaska	63	3,600,400	2,263	4,250,984
Arizona	314	10,157,408	3,266	21,315,189
Arkansas	4,794	35,960,640	26,501	45,197,731
California	12,582	205,395,025	91,047	302,874,761
Colorado	3,570	62,825,472	24,725	102,830,137
Connecticut	9,128	314,696,736	176,694	352,824,106
Delaware	1,417	41,203,239	22,203	45,387,630
District of Columbia	2,754	41,981,245	24,693	47,667,622
Florida	2,056	33,107,477	34,230	36,810,243
Georgia	7,504	89,789,656	83,842	106,654,527
Hawaii	395	11,541,655	4,587	24,992,068
Idaho	591	2,941,524	1,477	4,020,532
Illinois	38,360	776,829,598	395,110	1,259,730,168
Indiana	18,015	234,481,528	155,956	378,120,140
Indian Territory	789	2,624,265	1,714	3,892,181
Iowa	14,819	102,733,103	58,553	164,617,877
Kansas	7,830	66,827,362	35,193	172,129,398
Kentucky	9,560	104,070,791	62,962	154,160,365
Louisiana	4,350	113,084,294	42,210	121,181,683
Maine	6,702	122,918,826	74,816	127,361,488
Maryland	9,879	163,147,260	108,325	242,552,990
Massachusetts	29,180	823,264,287	497,448	1,035,198,989
Michigan	16,807	284,097,133	162,355	356,944,082
Minnesota	11,114	165,832,246	77,234	262,655,881
Mississippi	4,772	35,807,419	26,418	40,431,386
Missouri	18,754	249,888,581	134,975	385,492,784
Montana	1,080	40,945,846	10,117	57,075,824
Nebraska	5,414	71,982,127	24,461	143,990,102
Nevada	228	1,472,784	601	1,643,675
New Hampshire	4,671	100,929,661	70,419	118,709,308
New Jersey	15,481	502,824,082	241,582	611,748,933
New Mexico	420	2,698,786	2,600	5,605,795
New York	78,659	1,651,210,220	849,056	2,175,726,900
North Carolina	7,226	76,503,894	70,570	94,919,663
North Dakota	1,130	5,396,490	2,398	9,183,114
Ohio	32,398	605,792,266	345,869	832,438,113
Oklahoma	870	3,352,064	2,054	7,083,938
Oregon	3,088	33,422,393	17,236	46,000,587
Pennsylvania	52,185	1,551,548,712	733,834	1,834,790,860
Rhode Island	4,189	183,784,587	98,813	184,074,378
South Carolina	3,762	67,356,465	48,135	58,748,731
South Dakota	1,639	7,578,895	3,121	12,231,239
Tennessee	8,007	71,814,038	50,504	108,144,565
Texas	12,289	90,433,882	48,153	119,414,982
Utah	1,400	14,650,948	6,615	21,156,183
Vermont	4,071	48,547,964	29,455	57,623,815
Virginia	8,248	103,670,988	72,702	132,172,910
Washington	3,631	52,649,760	33,806	86,795,051
West Virginia	4,418	55,904,238	33,272	74,838,330
Wisconsin	16,187	330,568,779	142,076	360,818,942
Wyoming	334	2,411,435	2,241	4,301,240
Totals	512,731	$9,846,628,564	5,321,389	$13,039,279,566

Mile Lengths in Different Countries.

	Yards.		Yards.
American mile	1,760	Irish mile	2,240
English mile	1,760	Dutch mile	6,480
Italian mile	1,766	Flemish mile	6,869
Tuscan mile	1,808	Swedish mile	7,341
Turkish mile	1,826	German mile	8,106
Scotch mile	1,984	Vienna mile	8,269
Roman mile	2,025	Swiss mile	9,153
Arabic mile	2,140		

Mineral Products of the United States.

The report of the United States Geological Survey for the year 1903, shows that the mineral products of the country in that year had a total value of $1,260,649,265, as compared with $1,085,590,721, in 1902. The principal products and values are as follows:

Products.	1901.	1902.
Pig iron	$ 242,174,000	$ 372,775,000
Silver	77,126,382	71,757,575
Gold	80,218,800	80,000,000
Copper	86,629,266	76,568,954
Lead	23,280,200	22,140,000
Zinc	11,265,760	14,625,596
Quicksilver	1,382,305	1,467,848
Aluminum	2,238,000	2,284,590
Antimony	542,920	634,506
Nickel	3,551	2,701
Platinum	13,000	1,814
Coal, bituminous	236,201,899	290,858,483
Coal, anthracite	112,504,020	76,173,586
Natural gas	27,067,500	30.867,668
Petroleum	66,417,335	71,178,910
Brick clay	13,800,000	15,000,000
Cement	15,786,789	25,366,380
Stone	55,615,926	64,559,099
Emery and corundum	146,040	104,605
Garnet	158,100	132,820
Grindstones	580,703	667,431
Infusorial earth	52,950	53,244
Millstones	57,179	59,808
Oilstones	158,300	221,762
Borax	1,012,118	2,538,614
Bromine	104,572	128,472
Flourspar	113,803	271,832
Gypsum	1,577,493	2,089,341
Marl	30,000	12,741
Phosphate rock	5,316,403	4,693,444
Pyrite	1,024,449	947,089
Salt	6,617,447	5,668,636
Sulphur	223,430	.....
Barytes	107,844	203,154
Cobalt oxide	24,048	6,714
Mineral paints	789,962	944,332
Zinc, white	3,111,120	4,016,499
Asbestos	13,498	16,200
Asphaltum	55,514	765,048
Bauxite	79.914	128,206
Chromic iron ore	5.799	4.567
Feldspar	220,422	250,424
Fibrous talc	483,600	615,350
Flint	149,297	144,209
Fuller's earth	80,697	98,114
Graphite	167,714	182,108
Limestone for flux	4,659,836	5,271,352
Magnesite	43,057	21,362
Manganese ore	116,722	177,911
Mica	118,578	118,849
Mineral waters	7,586,962	8,793,761
Monazite	59,262	64,160
Precious stones	289,050	338,300
Soapstone	424,888	525,157
Rutile	5,710	.....
Clay (all other than brick)	2,576,932	2,061,072
Lithium	.....	25,750
Arsenious Oxide	18,000	81,180
Crystalline quartz	43.200	84,335
Glass sand	.....	807,797
Pumice stone	.....	2,750
Uranium and vanadium	.....	48,125
Grand Total	$1,085,590,721	$1,260,649,265

Ministers of the United States to Great Britain.

PRESIDENTS.	MINISTERS.	STATES.	DATE OF COMMISSION.
Washington ..	Thomas Pinckney.	SouthCarolina	1792
Washington ...	Rufus King	New York.	1796
John Adams...	Rufus King.....	New York.	1796
Jefferson.....	James Monroe.....	Virginia.	1803
Jefferson	William Pinckney.....	Maryland.	1806
Madison	Jonath'n Russell, Charge d'Affaires.....	Rhode Island.	1811
Madison	John Quincy Adams....	Massach'setts.	1815
Monroe.....	John Quincy Adams, Charge d'Affaires.....	Massach'setts.	1817
Monroe.....	Richard Rush..... ..	Pennsylvania.	1817
J. Q. Adams...	Rufus King	New York.	1825
J. Q. Adams...	Albert Gallatin	Pennsylvania.	1826
J. Q. Adams...	W. B. Lawrence, Charge d'Affaires	New York.	1827
J. Q. Adams...	James Barbour.....	Virginia.	1828
Jackson.....	Louis McLane.....	Delaware.	1829
Jackson..	Washington Irving, Charge d'Affaires.....	New York.	1831
Jackson.....	Martin Van Buren.....	New York.	1831
Jackson.....	Aaron Vail, Charge d'Affaires	New York.	1832
Jackson..	Andrew Stevenson.....	Virginia.	1836
Tyler.....	Edward Everett.....	Massach'setts.	1841
Polk.....	Louis McLane.....	Maryland.	1845
Polk.....	George Bancroft	New York.	1846
Taylor	J. C. B. Davis, Charge d'Affaires	Massach'setts.	1849
Taylor	Abbott Lawrence	Massach'setts.	1849
Fillmore.....	Joseph R. Ingersoll.....	Pennsylvania.	1852
Pierce.....	James Buchanan.....	Pennsylvania.	1853
Pierce..... .	George M. Dallas.....	Pennsylvania.	1856
Buchanan.....	George M. Dallas	Pennsylvania.	1856
Lincoln.....	Charles Francis Adams.	Massach'setts.	1861
Johnson.....	Charles Francis Adams.	Massach'setts.	1861
Johnson.....	Reverdy Johnson	Maryland.	1868
Grant.....	John Lothrop Motley...	Massach'setts.	1869
Grant.....	Robert C. Schenck	Ohio.	1870
Grant.....	Edward Pierrepont.....	New York.	1876
Hayes.....	John Welsh	Pennsylvania.	1877
Hayes.....	William J. Hoppin, Charge d'Affaires.....	New York.	1879
Hayes.....	James Russell Lowell...	Massach'setts.	1880
Garfield.....	James Russell Lowell ..	Massach'setts.	1880
Arthur	James Russell Lowell...	Massach'setts.	1880
Cleveland.....	Edward J. Phelps.....	Vermont.	1885
B. Harrison....	Robert T. Lincoln.....	Illinois.	1889
Cleveland.....	Thomas F. Bayard, Ambassador.....	Delaware.	1893
McKinley.....	John Hay, Ambassador.	Ohio.	1897
McKinley.....	Henry D. White, Charge d'Affaires...	Rhode Island.	1898
McKinley.....	Joseph F. Choate, Ambassador.....	New York.	1899
Roosevelt.....	Joseph F. Choate, Ambassador.....	New York.	1899

Mints.

THE first U. S. mint was established at Philadelphia for the purpose of national coinage by the Act of Congress of April 2, 1792. The machinery and first metal used were imported. In 1792–93 coppers were coined, in 1794 silver dollars, and in 1795 gold eagles. Steam power was introduced in 1816. In 1835 branch mints were established at New Orleans, at Charlotte, N. C., at Dahlonega, Ga., in 1852 at San Francisco, in 1864 at Dallas City, Ore., and in 1870 at Carson City, Nev. Assay offices were established at New York in 1854, at Denver, Colo., in 1864, and at Boise City, Idaho, in 1872. These were considered branches of the Philadelphia mint until 1873, when the coinage act of that year made them separate mints and assay offices. These mints are bureaus of the Treasury Department and are all under the general supervision of the chief officer of that department. The mints at Charlotte and Dahlonega were suspended in 1861, that of New Orleans from 1860 to 1879, that of Dallas in 1875, that of Carson in 1885. A mint was authorized in Denver in 1895, but no pieces have been coined there (1900). In 1652 Massachusetts had established a colonial mint at Boston for the purpose of coining shillings and minor pieces, but this soon became inoperative. In the latter part of 1901, a new mint was completed and went into operation in Philadelphia, Pa. The old mint property was sold for $2,000,000.

Monetary Standard.

IN 1792 Congress adopted a double standard of money for the United States, making the ratio between gold and silver 15 to 1. But the market value of silver fell below the ratio and by 1812 gold had practically disappeared from circulation. In 1834 the ratio was made 16 to 1. The discovery of vast gold-fields in California and Australia so increased the quantity of gold available for money that it went much further than formerly toward supplying the demand for a medium, and thus brought about the practical abandonment of the double standard in 1853. That year the half-dollar and lesser coins lost the right of unlimited coinage and of being legal tender beyond five dollars. No mention was made of the silver dollar, but there had been no dollars coined since 1806, and what few existed could not circulate at the existing ratio. In 1873 Congress discontinued the silver dollar, and the next year took away its legal tender. In 1876 silver began to fall in value with great rapidity, and at the same time the agitation for bimetallism and unlimited coinage of silver began. This was a phase of the objection to the resumption of specie payments, the same reasons for a cheap and abundant paper money applying also to a cheap and abundant silver money. In 1878 the Bland Dollar Act was passed, the coins authorized being made legal tender. The Sherman Act of 1890 continued this policy and increased the amount of silver to be bought each month. Since the resumption of specie payments it has been the policy of the government to pay its obligations, especially the greenbacks, in gold if demanded, although many of the obligations are payable "in coin." This is done to prevent any question of the stability of the standard, and a gold reserve is kept on hand to meet the demands. The great increase of silver and currency based upon it, with the continued depreciation in the market value of silver, had a tendency to drive gold out of circulation and caused great drains upon the gold reserve. To keep the reserve intact it was necessary to issue bonds in 1894 and 1895. In 1893 the purchasing of silver ceased. Several attempts have been made to establish an international bimetallic agreement, but they have not been successful. In 1896 the Republican platform advocated a gold standard unless such an international agreement could be reached; and the Democrats demanded the unlimited coinage of silver at the ratio of 16 to 1 without reference to the agreement of other nations. On March 14, 1900, a law was passed which declares the gold dollar to be the standard, and requires the Secretary to maintain the parity of all money with this standard, and to pay the greenbacks in gold. Other provisions are made to prevent the depletion of the gold reserve. The legal tender of the silver dollars is not disturbed, and gold payments are not specifically required for obligations other than greenbacks.

Money in the United States Treasury.

Silver Coin	$ 26,966,078
United States Notes aud National Bank Notes	30,506,493
Treasury Notes	119,746
Gold Coin and Bullion	253,202,871
Total	$310,795,188

Money in Circulation.

Gold Coin	$620,375,159
United States Notes	334,248,567
Silver Certificates	455,928,384
Standard Silver Dollars	72,959,012
Gold Certificates	394,155,919
Bank Notes	399,996,709
Treasury Notes	17,850,254
Subsidiary Silver Coin	92,870,952
Total	$2,388,384,956

Banking Capital.

National Banks	$743,506,048
State Banks	233,751,171
Loan and Trust Companies	80,645,972
Private Banks	34,590,227
Savings Banks	21,734,367
Total	$1,114,227,785

Public Debt.

Debt Bearing Interest	$ 914,541,400
Debt Bearing No Interest	381,629,597
Available Cash in the Treasury	383,450,710
Total Debt Less Cash in the Treasury	1,374,539,898
Total Debt	$3,054,161,605

The Monroe Doctrine.

On December 2, 1823, President James Monroe announced the following in his message to Congress, as the doctrine which has since borne his name:

"In the discussions to which this interest has given rise, and in the arrangements by which they may terminate, the occasion has been deemed proper for asserting, as a principle in which rights and interests of the United States are involved, that the American continents, by the free and independent condition which they have assumed and maintain, are henceforth not to be considered as subjects for future colonization by any European power. . . . We owe it, therefore, to candor and to the amicable relations existing between the United States and those powers to declare that we should consider any attempt on their part to extend their system to any portion of this hemisphere as dangerous to our peace and safety. With the existing colonies or dependencies of any European power we have not interfered and shall not interfere. But with the governments who have declared their independence and maintain it, and whose independence we have, on great consideration and on just principles, acknowledged, we could not view any interposition for the purpose of oppressing them or controlling in any other manner their destiny by any European power in any other light than as the manifestation of an unfriendly disposition toward the United States."

Mormons or the Latter-Day Saints.

The Mormons, or Church of Jesus Christ of Latter-Day Saints, were organized April 6, 1830, with six members, by Joseph Smith, at Fayette, Seneca County, N. Y. After being driven by mobs from various places in Missouri, Ohio, and Illinois, they settled at Great Salt Lake, Utah, under the leadership of Brigham Young, in 1847. He was the first President, and was succeeded on his death in 1877 by John Taylor, who was succeeded in 1887 by Wilford Woodruff, who died in 1898. The present President is Lorenzo Snow, and he with eleven others constitute the Apostolic Quorum. The total Church membership is 300,000, and the number of Elders 1,700.

The Reorganized Church of Jesus Christ of Latter-Day Saints is a separate body, having its headquarters at Lamoni, Iowa. It was organized in 1851, and is presided over by Joseph Smith, son of the Prophet. Its enrolled membership is 40,500, and it has 800 active ministers.

Mottoes of the States.

Arkansas	*Regnant populi:* The people rule.
California	*Eureka:* I have found it.
Colorado	*Nil sine numine:* Nothing without the divinity.
Counecticut	*Qui transtulit sustinet:* Who transplauted, sustains.
Delaware	Liberty and Independeuce.
Florida	In God is our trust.
Georgia	Wisdom, Justice, Moderation.
Illinois	State sovereignty and National union.
Iowa	Our liberties we prize, and our rights we will maintain.
Kansas	*Ad Astra per Aspera:* To the stars through rugged ways.
Kentucky	United we stand, divided we fall.
Louisiana	Union and Confidence.
Maine	*Dirigo:* I direct.
Maryland	*Crescite et multiplicamini:* Increase and multiply.
Massachusetts	*Ense petit placidam sub libertate quietem:* By her sword she seeks under liberty a calm repose.
Michigan	*Si quæris peninsulam amœnam, circumspice:* If thou seekest a beautiful peninsula, look around you.
Minnesota	*L'etoile du Nord:* The star of the north.
Missouri	*Salus populi suprema lex esto:* Let the welfare of the people be the supreme law.
Nebraska	Popular sovereignty.
Nevada	*Volens et potens:* Willing and able.
New Jersey	Liberty and Independence.
New York	*Excelsior:* Higher.
Ohio	*Imperium in imperio:* An empire within an empire.
Oregon	*Alis volat propriis:* She flies with her own wings.
Pennsylvania	Virtue, Liberty, Iudependence.
Rhode Islaud	Hope.
North Carolina	*Esse quam videri:* To be rather than to seem.
South Carolina	*Animis opibusque parati:* Ready with our lives aud property. Ready iu soul and resources.
Tennessee	Agriculture, Commerce.
Vermont	Freedom and Unity.
Virginia	*Sic semper tyrannis:* So be it ever to tyrants.
West Virginia	*Montani semper liberi:* The mountaineers are always free men.
Wisconsin	Forward.
United States	*E pluribus Unum:* From many, oue.

Mountains, The Highest in the World.

	Feet.
Mount Everest	29,002
Kunchinjunga, Himalayas	28,178
Sorata, Andes	25,380
Illimaui, Bolivia	21,780
Chimborazo, Ecuador	21,444
Hindoo-Koosh, Afghanistan	20,600
Cotopaxi, Ecuador	19,408
Antisana, Ecuador	19,335
St. Elias, British America	18,000
Popocatepetl, Mexico	17,735

National Anthem, Our.

The United States has had no distinct national anthem, acknowledged and recognized as such by all, though various efforts have been made to settle upon one. "America" is so-called by some, but while the words might make it eligible for such choice, the fact that the tune is the same as "God Save the King," the British national hymn, makes it impos-

sible. A contest among composers, under inspiration of a prize from a music publishing house, has been in progress the past year to provide new music for these words, but it is not at all certain that any of these tunes, even a prize winner, would find acceptance in the popular mind. "The Star Spangled Banner" has stood nearer the position than any other air, and it has just been given an official indorsement which practically recognizes it as the official anthem. The Navy Department has issued an order declaring it the national anthem, and directing that whenever that composition is played all officers and men shall stand at attention unless they are engaged in duty that will not permit them to do so. It is required that the same respect shall be observed toward the national air of any other country when played in the presence of official representatives of such country. At army posts it is also "The Star Spangled Banner" which is played at Flag Mount with due honors, and with these two official recognitions, the people had better accept it without further question, and let it continue to "wave o'er the land of the free and the home of the brave."

Army Regulations of 1901 (now in force).—512. At every military post or station the flag will be hoisted at the sounding of the first note of the reveille, or of the first note of the march, if a march be played before the reveille. The flag will be lowered at the sounding of the last note of the retreat, and while the flag is being lowered the band will play "The Star Spangled Banner."

Navy Regulations of 1903.—Article 102. (2) All officers and men shall stand at attention whenever "The Star Spangled Banner" is being played, unless engaged in duty that will not permit them to do so. The same respect shall be observed toward the national air of any other country, when played in the presence of official representatives of such country.

National Banks.

THE free banking system of New York (1838) gave all parties freedom to establish banks, and required securities to be deposited with the State for bank issues. In December, 1861, Secretary Chase recommended to Congress a similar system of national banks. He repeated this recommendation in 1862. The Act of February 25, 1863, authorized the free formation of banks, entitled to issue notes to the amount of 90 per cent. of the par value of the United States bonds which each bank deposited with the Treasury Department. The system was to be supervised by an official called the Comptroller of the Currency. $300,000,000 of bank notes in all might be issued. The revised act was passed June 3, 1864. The Act of 1865 taxing State bank notes forced most of these to become national banks. The Act of 1870 increased the total amount of issue to $354,000,000. The system greatly benefited the government in the placing of its bonds, and gave the country a superior system of banking, the government guaranteeing the notes. By the Act of March 14, 1900, the banks are allowed to issue notes to the full amount of the par value of the bonds deposited, providing this is not in excess of their market value. The report of a Comptroller of the Currency for the fiscal year ending June 30, 1903, showed that there were in operation 4,700 national banks, with capital, $722,797,806; surplus, $353,105,524.91; dividends, $63,565,848.10; earnings, $109,881,530.97. The total deposits were in excess of $2,000,000,000.

National Flag.

THE Stars and Stripes gradually grew; it was a creature of circumstance; there is no record of its birth. Among the colonies the British flag was, of course, the recognized standard. Here and there were minor modifications, but the retention of the "union" with its two crosses of St. Andrew and St. George marked all as essentially British. Even after the beginning of the Revolution the union was retained to show that the war did not mean separation. Congress made at first no effort to fix a national standard. There were two classes of flags in vogue in the early years of the Revolution, the "Pine tree" flags of New England origin, and the "Rattle-snake" flag, more national in its make-up. The latter was of various colors, usually yellow or white, and bore a coiled rattle-snake with 13 rattles, and the motto, *Don't tread on me.* The need of a national flag became evident in 1775. The stripes were first used by a Philadelphia light horse troop, and Congress adopted them in 1775 on the recommendation of a committee consisting of Franklin, Lynch, and Harrison, still retaining the British "union."

The first flag of the United States, which was raised over the American headquarters at Cambridge, Mass., by Washington on January 22, 1776, consisted of thirteen stripes, alternate red and white as at present, with a blue canton emblazoned with the crosses of St. Andrew and St. George as in the British flag. In 1777 Congress resolved that the canton be thirteen white stars in a blue field. In 1794, after the admission of Vermont and Kentucky the stripes and stars were each increased to fifteen. In 1818, at the suggestion of Samuel C. Reid, the original thirteen stripes were restored and Congress voted to add a new star on the fourth of July succeeding the admission of each new state.

The official flag of the United States to-day bears 45 stars in a blue field, arranged in six rows—the first, third, and fifth rows having eight stars each, and the others having seven stars each. The garrison flag of the Army is made of bunting, thirty-six feet fly and twenty feet hoist; thirteen stripes, and in the upper quarter, next the staff, is the field or "union" of stars, equal to the number of the states on the blue field over one-third length of the flag, extending to the lower edge of the fourth red stripe from the top.

The President has a standard: on a field of blue, the national arms, proper; it is used to denote his official presence. The Secretaries of the Treasury and of the Navy have their special flags. The Revenue Flag was instituted by act of Congress in 1799 to consist of sixteen perpendicular stripes alternate red and white, the union of the ensign bearing the arms of the United States in dark blue on a white field. The sixteen stripes represented the number of States which had been admitted to the Union at the time, and no change has been made since. Prior to 1871 it bore an eagle in the union of the pennant which was then substituted by thirteen blue stars in a white field, but the eagle and stars are still retained in the flag. The "American Jack"—which is merely the union of the national ensign—is used by pilots and in the bow of boats for ambassadors and ministers. June 14, the anniversary of the adoption of the national flag, is celebrated as Flag Day in the public schools, and by the display of the emblem on public buildings and private houses in a large part of the union.

National Parks.

YELLOWSTONE was the first national park, but Yosemite, Sequoia, and General Grant parks have been set apart. The latter are in California. On March 5, 1891, Congress authorized the President to set apart by proclamation from time to time any portion of the public forest lands as public reservations. In 1899 there were 37 of these reservations, all west of the Mississippi, aggregating with the national parks about 46,000,000 acres. The great national cemeteries, especially those of Gettysburg and Chattanooga and Chickamauga, are also considered national parks. (See FORESTRY.)

Naval Powers, Relative Strength.

The navies of the world are in such a state of progressive development that it is difficult to determine exactly what is the relative strength. If we estimate upon the basis of the total number of battle-ships, cruisers, etc.—all war-ships above 1,000 tons displacement—that are actually completed, Great Britain comes first, with a total of 201 ships completed with a displacement of 1,516,000 tons:

France	ships 96	displacement	576,000	tons
Germany	" 73	"	388,000	"
Russia	" 43	"	315,000	"
United States	" 35	"	295,000	"
Italy	" 38	"	259,000	"
Japan	" 31	"	206,000	"

All these navies have a large building programme on hand; and taking them in order, the names of the countries and the total tonnage of ships under construction are as follows:

Great Britain	351,000	tons
United States	322,000	"
France	180,000	"
Russia	139,000	"
Germany	118,000	"
Italy	70,000	"
Japan	10,000	"

Now if these new ships could be completed at once there would be a great change in the relative standing of the navies of the world; for the United States has under construction a larger aggregate of tonnage than that of the whole of her completed navy, and under these conditions would move up to third place among the naval powers of the world.

Navy of the United States.

The largest ships in the United States Navy are the five battle-ships of the *Connecticut* type, which will have a maximum displacement of 16,000 tons and a speed of 18 knots an hour. These vessels will carry the heaviest armament of any battle-ship afloat. It will consist of four 12-inch, eight 8-inch, and twelve 7-inch long calibre, breech-loading rifles, and twenty 3-inch rapid fire guns, besides thirty smaller automatic and machine guns.

Our largest type of armored cruiser is represented by the splendid vessels of the *Tennessee* class—502 feet long, speed 22 knots per hour, carrying tremendous battery for cruisers. They belong to the intermediate class, between the battle-ship and armored cruiser, which is becoming increasingly popular among the navies of the world.

Negroes.

IN 1790 there were 757,000 colored people in the United States; in 1800 there were 1,002,000; in 1810, 1,378,000; in 1820, 1,772,000; in 1830, 2,329,000; in 1840, 2,874,000; in 1850, 3,639,000; in 1860, 4,442,000; in 1870, 4,880,000; in 1880, 6,581,000; in 1890, 7,470,000; in 1900, 8,840,789.

Newspapers in the United States.

Latest Estimate.

STATE OR TERRITORY.	Daily.	Tri-Weekly and Semi-Weekly.	Weekly.	Fortnightly and Semi-Monthly.	Monthly.	Bi-Monthly.	Quarterly.	Miscellaneous.	Total.
Alabama	18	4	206	7	14	1	....	...	250
Alaska	3	2	8	....	1	...	....	...	14
Arizona	12	1	45	.....	1	...	....	...	59
Arkansas	21	5	240	3	13	...	....	...	282
California	120	26	477	11	93	1	....	...	728
Colorado	40	5	296	2	24	...	....	...	367
Connecticut	38	9	128	2	17	2	4	1	201
Delaware	6	....	30	.....	4	...	....	...	40
Dist. of Columbia	4	....	27	3	38	1	2	...	75
Florida	18	1	137	2	15	...	...	...	173
Georgia	24	6	281	12	37	1	1	...	362
Hawaii	7	4	15	.....	9	...	....	...	35
Idaho	6	6	82	....	3	...	....	...	97
Illinois	180	53	1,204	27	256	6	10	1	1,737
Indiana	151	36	612	6	59	1	3	...	868
Indian Territory	12	....	134	.....	2	...	....	...	148
Iowa	67	55	905	8	85	...	1	1	1,122
Kansas	61	8	612	5	28	...	2	...	716
Kentucky	27	20	236	6	26	...	2	...	317
Louisiana	24	7	155	6	9	...	....	...	201
Maine	17	6	100	3	37	...	2	...	165
Maryland	16	4	147	3	27	1	5	1	204
Massachusetts	79	5	419	17	139	...	23	1	683
Michigan	86	28	604	9	77	...	3	...	807
Minnesota	39	5	640	17	60	1	....	...	762
Mississippi	17	5	219	8	10	...	....	...	259
Missouri	86	10	758	15	115	2	8	...	994
Montana	12	7	73	1	7	...	....	...	100
Nebraska	29	19	558	3	31	...	....	...	640
Nevada	9	4	21	.....	.....	...	....	...	34
New Hampshire	16	2	124	....	8	...	....	...	150
New Jersey	57	4	282	4	24	2	3	...	376
New Mexico	5	....	60	.....	2	...	....	...	67
New York	207	63	1,097	39	539	16	32	2	1,995
North Carolina	28	19	187	5	22	...	....	1	262
North Dakota	8	3	191	1	4	...	...	...	207
Ohio	169	51	802	18	138	3	20	...	1,201
Oklahoma	32	1	235	4	7	...	....	...	279
Oregon	22	12	167	2	23	...	....	...	226
Pennsylvania	209	44	954	18	228	8	20	...	1,481
Philippines	4	.....	1	.....	.....	...	....	...	5
Porto Rico	15	.....	9	.....	.....	...	....	...	24
Rhode Island	14	4	41	1	6	...	..	..	66
South Carolina	12	13	111	3	9	1	....	1	150
South Dakota	16	1	264	2	17	...	....	...	300
Tennessee	16	4	244	10	33	2	13	...	322
Texas	91	13	695	3	49	...	1	...	855
Utah	7	8	56	4	6	...	....	...	81
Vermont	9	....	78	1	9	...	2	...	99
Virginia	32	9	166	5	35	4	2	...	253
Washington	22	5	208	2	24	...	1	...	262
West Virginia	28	3	175	2	11	...	1	...	220
Wisconsin	61	17	574	3	52	...	1	1	709
Wyoming	4	3	42	.....	1	...	....	...	50
TOTAL OF U. S.	2,313	620	16,132	303	2,484	54	164	10	22,080

Newspapers.

THE first genuine newspaper established in the United States was the *Boston News Letter*, founded at Boston in 1704 by Postmaster John Campbell, and continued until 1776. Previous

to this there had been issued at Boston three publications of one number each. Of these the first, called a *Newspaper Extraordinary*, consisted wholly of extracts from a letter of Dr. Increase Mather, who was then in London endeavoring to obtain a new charter for Massachusetts. This letter was published by Samuel Green in 1689. On September 25, 1690, appeared the first and only number of *Publick Occurrences Foreign and Domestic*, issued by Benjamin Harris. The authorities promptly seized and suppressed the paper as a "pamphlet published contrary to law and containing reflections of a very high nature." In 1697 B. Green and J. Allen republished a news letter, bearing no title, which had been issued in London the same year. It was printed on a single page, and contained small news items from the continent. After the *Boston News Letter* there appeared in 1719 the *Boston Gazette*, Andrew Bradford issuing the *American Weekly Mercury* at Philadelphia the same year. James Franklin established the *New England Courant* at Boston two years later. This was suppressed for its attacks on the government and clergy, but was revived by Benjamin Franklin. William Bradford began the *Gazette* at New York in 1725, and John Peter Zenger the *New York Weekly Journal* in 1733, in the cause of the people against the colonial government. Zenger's paper may be regarded as a prototype of the modern news journal. Newspapers were founded in the other colonies in the following order: In Maryland, at Annapolis in 1727; in South Carolina, at Charleston in 1731; in Rhode Island, at Newport in 1731; in Virginia, at Williamsburg in 1736; in North Carolina, at New Berne in 1755; in Connecticut, at New Haven in 1755; in New Hampshire, at Portsmouth in 1756; in Georgia, at Savannah in 1763; in Vermont, at Westminster in 1781. Between 1704 and 1775 seventy-eight different newspapers had been printed with varied success in the colonies. Of these, thirty-nine were in actual process of publication at the outbreak of the Revolution. The papers most influential in advancing the revolutionary cause were the *Boston Gazette* and the *Massachusetts Spy*. On the British occupation of Boston, New York, and Philadelphia, most of the Whig journals were suspended. It has been estimated that thirty-nine newspapers of 1775 circulated about 1,200,000 copies annually. After the Federal Constitution was adopted the newspapers fell largely into the hands of English immigrants, men of versatility and talent. Violent partisan controversies arose. The most influential papers of this period were: the *Columbian Centinel* published at Boston during forty years, commencing in 1784, by Benjamin Russell; the *New York Minerva*, established at New York in 1793 by Noah Webster; the *New York Evening Post*, established as the central organ of the Federalist in 1801; the *Philadelphia Aurora*, founded by Benjamin Franklin Bache in 1790, and afterward edited with vindictive partisanship by William Daune, an Englishman; the *Philadelphia National Gazette*, established in 1791 by Philip Freneau; and the *National Intelligencer*, established at Washington by Samuel H. Smith in 1800. The first daily newspaper was the *American Daily Advertiser*, appearing in Philadelphia in 1784. In 1810 there were 27 daily newspapers in existence. They were published in New York, Boston, Philadelphia, Baltimore, New Orleans, Charleston, Alexandria, Va., and Georgetown, D. C. By 1901, the statistics of the American Newspaper Directory ran thus: Total newspapers published in the United States and Canada, 21,827, of which 938 were Canadian publications. Of these the weeklies were 15,475; monthlies, 2,902; dailies, 2,271; semi-monthlies, 285; semi-weeklies, 511; quarterlies, 176; bi-weeklies, 71; bi-monthlies, 69; tri-weeklies, 55. The first successful penny paper was the *New York Sun*, established in 1834 by Benjamin Day. The first Sunday paper was the *Sunday Courier*, appearing in New York in 1825, with but little success.

The chief period of the political influence of editors in the United States was that beginning in 1830 and ending after the Civil War. Before that date the editor was often of little account, but from 1830 to 1870 the paper was often known chiefly as the organ of the individual editor's opinions. Although the exact number of newspapers published in the world is not known, statisticians estimate that there are about 50,000, about half of which are published in the English language. Besides the 22,839 publications printed in the United States and Canada, Great Britain prints about 9,500; Germany, 7,000; France, 4,500; Japan, 2,000; Italy, 1,500; Austria-Hungary, 1,200; Asia, outside of Japan, 1,000; Spain, 850; Switzerland, 450; Belgium, 300; Holland, 300; and all other countries about 1,000.

Origin of the Names of the Months

of the Year and the Days of the Month.

January — Named from Janus, the Roman two-faced god of all beginnings.

February — The month in which was celebrated the Februa, or feast to the spirits of the dead.

March — From Martius, the first Roman month, named after Mars, the god of war.

April — Aprilis, from *aperire*, to open.

May — Named from Maia, the mother of Mercury to whom the Romans offered sacrifices on 1st day of this month.

June — Junius, the 4th month of antiquity.

July — Named in honor of Julius Cæsar; originally called Quintilis, the fifth month.

August — From Augustus Cæsar; originally called Sextilis, the sixth month.

September — From the Latin *septem*, seven; being originally the seventh month of the Romans.

October — From Latin *octo*, eight; being originally the eighth month of the Romans.

November — From Latin *novem*, nine; being originally the ninth month of the Romans.

December — From Latin *decem*, ten; being originally the tenth month of the Romans.

The days are named from Saxon idolatry.

The Saxons had seven deities they particularly adored; the sun, the moon, Tyr, Woden, Thor, Friga, and Sæter; and hence the English names:

	Called by the Saxons
Sunday	Sunandæg
Monday	Monandæg
Tuesday	Tiwesdæg
Wednesday	Wodnesdæg
Thursday	Thunresdæg
Friday	Frigedæg
Saturday	Sæterdæg

Numerals.

NUMBERS.	ROMAN.	ARABIC.
One	I.	1
Two	II.	2
Three	III.	3
Four	IV.	4
Five	V.	5
Six	VI.	6
Seven	VII.	7
Eight	VIII.	8
Nine	IX.	9
Ten	X.	10
Eleven	XI.	11
Twelve	XII.	12
Thirteen	XIII.	13
Fourteen	XIV.	14
Fifteen	XV.	15
Sixteen	XVI.	16
Seventeen	XVII.	17
Eighteen	XVIII	18
Nineteen	XIX.	19
Twenty.	XX.	20
Twenty-one	XXI.	21
Tweuty-two	XXII.	22
Twenty-three	XXIII.	23
Twenty-four	XXIV.	24
Twenty-five	XXV.	25
Twenty-six	XXVI.	26
Twenty-seven	XXVII.	27
Twenty-eight	XXVIII.	28
Twenty-nine	XXIX.	29
Thirty	XXX.	30
Thirty-five	XXXV.	35
Forty	XL.	40
Forty-five	XLV.	45
Fifty	L.	50
Fifty-five	LV.	55
Sixty	LX.	60
Sixty-five	LXV.	65
Seventy	LXX.	70
Seventy-five	LXXV.	75
Eighty	LXXX.	80
Eighty-five	LXXXV.	85
Ninety	XC.	90
Ninety-five	XCV.	95
One hundred	C.	100
One hundred and fifty	CL.	150
Two hundred	CC.	200
Two hundred and fifty	CCL.	250
Three hundred	CCC.	300
Three hundred and fifty	CCCL.	350
Four hundred	CD.	400
Five hundred	D.	500
Six hundred	DC.	600
Seven hundred	DCC.	700
Eight hundred	DCCC	800
Nine hundred	CM.	900
One thousand	M.	1,000
Two thousand	II.	2,000
Three thousand	III.	3,000
Four thousand	IV.	4,000
Five thousand	V.	5,000
Six thousaud	VI.	6,000
Seven thousand	VII.	7,000
Eight thousaud	VIII.	8,000
Nine thousand	IX.	9,000
Ten thousand	X.	10,000
Twenty thousand	XX.	20,000
Thirty thousand	XXX.	30,000
Forty thousand	XL.	40,000
Fifty thousand	L.	50,000
One hundred thousand	C.	100,000
Oue million	M.	1,000,000
Nineteen hundred and four	MCMIV.	1904

Pacific Cable, Cost.

IN ITS report to the Fifty-sixth Congress, the House Committee on Interstate and Foreign Commerce gave the following estimate of the cost of a Pacific cable between San Francisco and the Philippines:

9,285 knots of cable, iucluding 10 per cent. of slack	$11,583,030
500 knots of spare cable	623,750
2 cable ships ($300,000 each)	600,000
2 sets cable gear	250,000
6 statious	180,000
Duplex instruments, battery, etc.	60,000
Spare instruments	30,000
Travelling expeuses, freight, etc.	100,000
Contingent fuud.	250,000
TOTAL	$13,676,780
Add cost of a duplicate cable	11,500,000

Paper.

THE first attempt at the manufacture of paper in the United States was made in 1690 by William Rittinghuysen and William Bradford, who established a paper mill at Roxborough, near Philadelphia. The paper was made wholly of linen rags. In 1710 William de Wers erected a second mill in Germantown, and the third, erected in 1714, on the Chester Creek in Delaware, furnished Benjamin Franklin with paper. By 1810 the number of paper mills in the United States was estimated at 185, nearly every State one or more. In 1890 there were nearly 700 of these establishments, manufacturing printing, writing, and wrapping paper, with a capital of $97,000,000. The manufacture of straw-pulp for papermaking was introduced in 1854, and of wood-pulp in 1857. The census of 1900 reported 763 paper-making establishments, capital $167,507,713; value of product $127,268,162.

Pardon and Parole in the Various States and Territories.

PARDONS to persons convicted of crimes are granted at the discretion of the Governor in Arizona, Arkansas, California, Florida, Kentucky, Maryland, Mississippi, Missouri, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Virginia, Washington, Wisconsin, Wyoming.

In Alabama, Connecticut, Georgia, Idaho, Illinois, Indiana, Kansas, Louisiana, Maine, Massachusetts, Michigan, Montana, Nevada, New Jersey, Tennessee, Texas, and West Virginia applications for pardon must first be considered by a Board or Court of Pardons, from which recommendations are made to the Governor. In Utah the action of the Board is final; in Vermont is advisory, but the power is vested in the Governor. In Iowa the Governor may grant pardons except in the case of life prisoners. In Nebraska the right to pardon is in the hands of the Governor, but in recent years the Governor has exercised only the right to grant paroles. The State Board of Pardons was abolished in Washington in 1899, and the Governor now grants paroles.

In Arizona notices of applications for pardons must be published in a newspaper in the county where the crime was committed for at least two weeks prior to its consideration, and all applications must be signed by twenty-five citizens and be accompanied by recommendations for clemency from at least two-thirds of the Grand Jury indicting and two-thirds of the Jury before whom the case was tried, as well as the District-Attorney and Judge. In California notice of applica-

tions for pardon must be published in a newspaper in the county where the crime was committed for at least two weeks before its consideration. In Iowa applications for pardon of life prisoners must be presented to the Legislature. In Kansas, Vermont, and West Virginia only conditional pardons are granted, and those who receive such pardons are required to report monthly to the Governors. In Montana notices of hearings upon applications for pardons must be published in a newspaper in the county in which the crime was committed.

All applications for pardon from the United States prisoners serving terms in the various States prisons of the country or in Federal prisons must be sent to the department of Justice at Washington. A pardons attorney employed by the department, then examines the application, and the President acts upon his report on the case.

Parole laws are enforced in Alabama, Arizona, California, Colorado, Connecticut, Idaho, Illinois, Indiana, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, North Dakota, Ohio, Utah, Vermont, Washington, and Wisconsin. In Alabama, Arizona, Colorado, Nebraska, Ohio, Oregon, and Wisconsin paroles are granted by the Governor; in Connecticut, Idaho, Illinois, Minnesota, New Jersey, and Washington they are issued by the Board of Pardons; in California, Kentucky, Indiana, Michigan, North Dakota, and Vermont, by the Board of Prison Directors; in Missouri parole is granted by the trial courts, and in Utah by the management of the prisons.

Prisoners may be committed under indeterminate sentence in Massachusetts, Minnesota, Connecticut, and New York. In Iowa and Kansas prisoners are released under suspended sentence, or the reformatory plan.

Passports for Travel.

Form of Passport.

[No. 48,976.]

UNITED STATES OF AMERICA, DEPARTMENT OF STATE.

To all to whom these presents shall come, Greeting:

The undersigned, Secretary of State of the United States of America, hereby requests all to whom it may concern to permit *John Kelley Brown*, a citizen of the United States, safely and freely to pass, and in case of need, to give him all lawful aid and protection.

Given under my hand and the seal of the Department of State, at the city of Washington, the twentieth day of July, 1904, and of the Independence of the United States, the one hundred and twenty-eighth.

[*Department Seal.*] JOHN HAY, *Secretary.*

DESCRIPTION

Age, 27 years.
Stature, 5 ft. 11 in. high.
Forehead, low.
Eyes, brown.
Nose, prominent.
Mouth, large.
Chin, long.
Hair, dark.
Complexion, ruddy.
Face, elongated.

[*Signature of bearer.*] JOHN KELLEY BROWN.

Pay and Terms of Members of Legislatures.

STATES AND TERRITORIES.	Salaries of Members annual or per diem, while in session.	Terms of Members, Years.	
		Senators.	Representatives.
Alabama	$4 per diem.	4	4
Arizona	$4 per diem.	2	2
Arkansas	$6 per diem.	4	2
California	$8 per diem.	4	2
Colorado	$7 per diem.	4	2
Connecticut	$300 per annum.	2	2
Delaware	$300 session.	4	2
Florida	$6 per diem.	4	2
Georgia	$4 per diem.	2	2
Hawaii	$400 per annum.	4	2
Idaho	$5 per diem.	2	2
Illinois	$1,000 biennial.	4	2
Indiana	$5 per diem.	4	2
Iowa	$550 per term.	4	2
Kansas	$3 per diem.	4	2
Kentucky	$5 per diem.	4	2
Louisiana	$5 per diem.	4	4
Maine	$150 per annum.	2	2
Maryland	$5 per diem.	4	2
Massachusetts	$750 per annum.	1	1
Michigan	$3 per diem.	2	2
Minnesota	$5 per diem.	4	2
Mississippi	$400 per annum	4	4
Missouri	$5 per diem.	4	2
Montana	$6 per diem.	4	2
Nebraska	$5 per diem	2	2
Nevada	$8 per diem.	4	2
New Hampshire	$200 per annum,	2	2
New Jersey	$500 per annum.	3	1
New Mexico	$4 per diem.	2	2
New York	$1,500 per annum.	2	1
North Carolina	$4 per diem.	2	2
North Dakota	$5 per diem.	4	2
Ohio	$600 per annum.	2	2
Oklahoma	$4 per diem.	2	2
Oregon	$3 per diem.	4	2
Pennsylvania	$1,500 session.	4	2
Porto Rico	$5 per diem.	1	1
Rhode Island	$5 per diem.	1	1
South Carolina	$4 per diem.	4	2
South Dakota	$5 per diem.	2	2
Tennessee	$4 per diem.	2	2
Texas	$5 per diem.	4	2
Utah	$4 per diem.	4	2
Vermont	$3 per diem.	2	2
Virginia	$4 per diem.	4	2
Washington	$5 per diem.	2	2
West Virginia	$4 per diem.	4	2
Wisconsin	$500 per annum.	4	2
Wyoming	$5 per diem.	4	2

Patriotic Societies Organized in the United States.

Society of the Cincinnati.
Sons of the Revolution.
Sons of the American Revolution.
Daughters of the American Revolution.
General Society of Mayflower Descendants.
Huguenot Society of America.
General Society of the War of 1812.
The Veteran Corps of Artillery.
Naval Order of St. Louis.
National Society of Colonial Dames of America.
United States Daughters of 1812.
Daughters of Liberty.
General Society of Colonial Wars.
Aztec Club of 1847.

The Settlers and Defenders of America.
Society of Tammany, or Columbian Order.
American Scenic and Historic Preservation Society.
Grand Army of the Republic.
The Woman's Relief Corps.
Sons of Veterans, U. S. A.
Military and Naval Society of the Porto Rican Expedition.
The Society of the Carribean.
Eleventh Corps Association.
Military Order of the Loyal Legion of the United States.
Society of the Army of the Potomac.
Army and Navy Union, U. S. A.
Society of the Army of Santiago de Cuba.
Medal of Honor Legion.
American Flag Association.
Naval Order of the United States.
Military Order of Foreign Wars of the United States.
Mount Vernon Ladies' Association.
United Daughters of the Confederacy.
United Sons of Confederate Veterans.
Order of Founders and Patriots of America.
Society of the Army of the Tennessee.
Society of the Army of the Cumberland.
Spanish War Veterans.
Society of Veterans of Indian Wars of the United States.
United States Veteran Navy.
National Society of the Army of the Philippines.
Naval and Military Order of the Spanish-American War.
National Association, Ladies of Naval Veterans.
Spanish-American War Veterans.
Rough Riders' Association.

Penitentiary.

THE first penitentiary was founded by the influence of the Friends of Pennsylvania at Philadelphia in 1786. This was followed soon after by the New York prisons at Sing Sing and Auburn. In the Philadelphia penitentiary the system of solitary confinement prevailed, but the New York methods imposed silence rather than solitude, and upon this latter plan were based the penitentiaries of other States, which soon began to be established. The prison system throughout the country became so noted for its perfect and humane discipline that in 1831 De Tocqueville and Beaumont came to the United States on their noted tour of inspection.

Pig Iron and Steel in 1902.

In Principal Countries in Metric Tons.

COUNTRIES.	PIG IRON.	STEEL.
Austria-Hungary	1,335.000	1,443,000
Belgium	1,102,910	776,875
Canada	324,670	.....
France	2,429,427	1,635,300
Germany	8,402,660	7,780,682
Italy	24,500	119,500
Russia	2,566,000	1,730,250
Spain	278,000	124,000
Sweden	524,400	283,500
United Kingdom	8,653,976	5,102,420
United States	18,003,448	15,186,406
All other countries	615,000	412,000
TOTAL	44,259,991	34,593,933

Pensioners, Number

In Each State and Territory of the United States on the Rolls June 30, 1903.

LOCATION.	NUMBER.	AMOUNT.
Alabama	3,756	$ 433.022.39
Alaska	97	12,914.59
Arizona	733	103,383.48
Arkansas	11,342	1,515,350.53
California	21,972	2,857,088.22
Colorado	8,359	1,135,866.73
Connecticut	12,173	1,419,449.91
Delaware	2,753	384,167.26
District of Columbia	8,707	1,369,038.71
Florida	3,409	425,661.24
Georgia	3,618	452,813.79
Idaho	1,802	242,849.13
Illinois	71,627	9,762,859.67
Indiana	64,164	10,101,722.26
Indian Territory	3,558	467,074.29
Iowa	36,782	5,362,598.84
Kansas	40,669	5,676,671.86
Kentucky	28,508	3,946,643.88
Louisiana	6,402	831,739.68
Maine	19,542	2,913,173.01
Maryland	12,944	1,683,843.02
Massachusetts	40,071	5,228,190.62
Michigan	43,435	6,546,500.91
Minnesota	16,750	2,294,026.44
Mississippi	4,629	570,284.86
Missouri	52,157	7,124,771.91
Montana	1,894	258,405.61
Nebraska	17,151	2,319,129.10
Nevada	276	34,412.51
New Hampshire	8,662	1,300,578.66
New Jersey	20,646	2,329,346.13
New Mexico	1,802	251,586.23
New York	89,921	11,756,050.86
North Carolina	4,096	509,001.67
North Dakota	1,951	231,529.00
Ohio	102,318	15,026,565.62
Oklahoma	8,818	1,200,687.16
Oregon	6,117	778,773.77
Pennsylvania	101,164	13,330.201.72
Rhode Island	4,885	573,836.18
South Carolina	1,982	238,882.20
South Dakota	5,066	509,365.69
Tennessee	18,498	2,656,578.66
Texas	8,594	1,086,486.49
Utah	827	130,438.45
Vermont	8,786	1,347,270.93
Virginia	9,268	1,285,357.67
Washington	8,067	1,022,161.78
West Virginia	12,687	1,746,405.32
Wisconsin	27,568	4,083,717.14
Wyoming	833	123,714.54
Total	991,836	$136,992,181.32

Insular Possessions.

LOCATION.	NUMBER.	AMOUNT.
Hawaii	39	$ 2,279.60
Philippines (including Guam)	31	2,439.45
Porto Rico	20	1,188.00
Total	90	$ 5,907.05

Summary.

	PENSIONERS.	PAYMENTS.
Pensioners residing in States and Territories and payments to them..	991,836	$136,992,181.32
Pensioners residing in insular possessions and payments to them..... ..	90	5.907.05
Pensioners residing in foreign countries and payments to them.....	4,619	648,053.04
Total.....	996,545	$137,646,141.41
Payments by Treasury Department (Treasury settlements)	.....	113,512.30
Total payments on account of army and navy pensions..	.....	137,759,653.71

The following amounts have been paid to soldiers, their widows, minor children, and dependent relatives on account of military and naval service during the wars in which the United States has been engaged:

Revolutionary War (estimated)	$70,000,000.00
War of 1812 (on account of service, without regard to disability).....	45,186,197.22
Indian Wars (on account of service, without regard to disability).....	6,234,414.55
War with Mexico (on account of service, without regard to disability)	33,483,309.91
War of the Rebellion.....	2,878,240,400.17
War with Spain	5,479,268.31
Actual total disbursements in pensions.....	$3,038,623,590.16

Petroleum.

Over 5,000,000,000 gallons of crude petroleum, according to the office of the Geological Survey, are now produced annually in the world. Of this amount, 2,500,000,000 are produced in the United States, 2,500,000,000 in Russia, and the remainder is distributed among a dozen countries, Austria producing 87,000,000; Sumatra, 72,000,000; Java, 30,000,000; Canada, 29,000,000; Germany, 15,000,000. The United States exported $75,612,000 and Russia $23,676,000 worth of mineral oil in 1900.

Political Parties in the United States.

Names of political parties are frequently misnomers for, in cases where they exist for any length of time, their followers frequently drift entirely away from the intentions of their founders and the principles which were the origin of that particular appellation. Take for instance the word Whig. This was originally the word Whiggamore, a member of a body of insurgents who marched upon Edinburgh in 1648 in opposition to the compromise with Charles I. They came by that name from the cry of Whiggam which they used in guiding their horses. The name in the contracted form of Whig passed in a spirit of derision to the Presbyterian rebels of Scotland and after the restoration in 1660 was applied to the Round-Heads in Parliament; and finally came to designate the liberal party in England. This word came to be used in America as a distinctive and honorable party name for no other reason than because it was familiar. "Tory" was originally used by the Whigs in a spirit of derision likening their adversaries to the tories or outlaws who inhabit the Irish bogs. It came to designate the English conservative party for 150 years and covered those who sustained the Court in the divine right of kings.

In America the disjointed colonies developed no national parties in the sense in which we use the word but when the dispute over taxation without representation arose it gave birth to two orders of thought, one favoring the rights of the British Parliament, the other opposing them. As this same order of things existed in a modified manner in England and the parties in question were known as Whigs and Tories, this name was naturally and easily transferred to American soil and the opponents of the parliamentary rights of representation were known by the opposite party as Whigs. The Tories remained firm and fast friends of the British Government while the Whigs eventually drifted into a colonial unionism without separation and then for union with separation.

The Declaration of Independence and the Revolutionary War brought speedy death to the Tory Party. The adherents of English supremacy had no mission on American soil, they were speedily considered enemies of the country and even traitors.

When the title of "Tory" became a thing of the past there was little use for that of "Whig." The great and dominant question under the Constitution, which the Whig party had substituted for the Articles of Confederation, was how to unite the states more firmly and how to provide for peace and war. The Whigs became known as Federalists while as yet the Anti-Federalists had not become strong enough to be dignified by the name. The Federal party was the national party, and sought to strengthen the Government by interpreting the Constitution liberally and throwing all doubtful constructions in favor of central authority. After the mere fact that the Union was not in danger became evident, the spirit of Anti-Federalism began to take shape. It inclined to such a construction of the constitution as would throw all doubt in favor of the States and State rights.

These two schools of thought laid the foundation of subsequent parties, though as yet there was no bitter antagonism, and both parties were united as to the policy of a protective tariff, Washington's second term, and many other questions.

After the French Revolution the spirit which had made possible that terrible upheaval became infectious in this country, and there soon arose here a party of ardent admirers of the French Republic and its innovations, headed by Jefferson. The Federals, during the introduction of the communistic and ungovernable spirit of France became more coherent than ever as a party; and in proportion the admirers of Jefferson and his sentiments grew warmer, more aggressive, more united; and gave promise of a formidable organization. The genius of the party was Thomas Jefferson himself; and the new party name became "Democratic-Republican," a symbol of all opposition to Federal crystallization. The spirit of partyism became intense. The Federals denounced the Democratic-Republicans and held their tenents up to ridicule. The Republicans, who in the meantime had abandoned the first part of their name, leaving only the word "Republican," in turn assailed their opponents with bitter anathemas, denouncing them as aristocrats and monarchists. Party antagonism and animosity rose to a startling height. The expiration of Washington's second term brought the two parties into diametrical opposition for that national supremacy which is indicated by the choice of a presidential candidate.

In 1796 the Federalists gained a victory in the national convention, when John Adams was elected over Thomas Jefferson. There was nothing in this convention which might be named a "party platform" and the victory was only partial for the Federal party since Thomas Jefferson was elected Vice-President, the election at that time being held through the State legislatures and the one receiving the next highest number of votes becoming Vice-President.

In the meantime a division had occurred in the ranks of the Federal party. Probably on account of the weakness thus engendered, the Republicans in 1800 won a victory with Jefferson and Burr. The blow to the conservatives was a heavy one. The breach in their ranks became wider and wider. The strength and glory of the Federal party seemed to have expended itself in placing the Government on a firm basis, in building up an enduring national credit and giving it such power as would command respect at home and abroad. Although its ranks contained largely the wealth, culture, and intellect of the country, it never recovered from the blow of 1800. In 1804 it was vanquished in every State but three. Jefferson's policy for his party was a vigorous one and it showed little mercy to the Federals. He had the entire confidence of the masses and mapped out and carried forward his policies at home and abroad with a vigor little less than autocratic.

About the time of the War of 1812 a notable change came over the spirit of the Republican party. The ordeal of war had taught its followers the wisdom of many of the Federal measures which they had before repudiated, and the party as a whole was becoming largely Federal in thought, especially in relation to most of the questions of national preservation. Moreover a new school of thought had sprung up within the ranks of the Republicans which was critical, independent, progressive, and liberal; and was pleased with the title of Democrat. This party in 1812 nominated Clinton for the presidency.

When in 1816 Monroe was elected, it brought into existence what was known as the "era of good feeling." The old conservative school among the Republicans became more and more alarmed at the growing strength of the new liberal element in its ranks. Henry Clay, one of the liberal and advanced Republicans, was speaker of the Republican House. Calhoun belonged to this school of thought, and Monroe favored it; and the remnants of the Federal party had been absorbed by it. This proved to be the germ of a new party whose growth was hastened by the slavery discussion and the affirmation of the protective doctrine. This latter doctrine fairly divided the Republican ranks.

In 1820 there was really no political party, Monroe was chosen without opposition and without even a nomination by the Republicans. The new and liberal wing of the Republican party was now the stronger, and Clay's successor to the speakership of the House, Taylor, was more advanced than Clay in his advocacy of a protective tariff and opposition to the extension of slavery to the Territories. During 1821 and 1825 the breach between the two contentious parties in the Republican ranks grew wider and wider. In 1824 the two Republican wings ran separate presidential candidates, the Liberals supporting Clay and Adams, and the Conservatives, Crawford and Jackson. The election was an overwhelming victory for the Liberals, and resulted in the practical disruption of the Republican party. The solidified party of Clay's and Adams' followers, with distinctive principles as to protection, internal improvements, and liberal construction of the Constitution, adopted for its name that of "National Republican." But this name was destined to short duration, for in a few years it was pushed aside for that senseless and meaningless title "Whig."

Jackson was embittered by his defeat by Adams, and he joined his forces with those of Crawford in opposition to Adams' administration. The Crawford and Jackson followers were united only in opposition to the National Republicans, and it was a difficult task to hold the two opposing wings together. When Jackson became a candidate for presidency against Adams his followers became known as "Jackson men." The time when "Democrat" began to have a meaning in a party sense and as comprehensive of "Jackson men" was in 1831, but the complete substitution of the word "Democrat" for the old word "Republican" was not completed until between 1832 and 1833. Also in the year 1836 the title "Whig" had come into general use for that of "National Republican." The nickname "locofoco" came into use about this time, designating the followers of Martin Van Buren, who was Jackson's successor. This word originated from a mere accident and was as meaningless as the word "Whig."

The opponents of Van Buren nominated William H. Harrison for president. Van Buren was elected. In 1840 the Whigs nominated Wm. H. Harrison again for president, and the Democrats renominated Van Buren, which resulted in a Whig victory. It was during this campaign that the Abolition party first openly appeared in the political arena.

In 1844 three political parties were in the field. The result was a victory for the Democrats. In 1848 there appeared a new political force. The Democratic position on the slavery question had for some time been unsatisfactory to the minority of the people who could not brook the doctrine that the government had no power to regulate slavery in the Territories. This doctrine was put to the test at the Democratic convention which nominated Cass for president and the pro-slavery sentiment prevailed. As a result those Democrats who opposed the extension of slavery to the Territories met in a convention and nominated a ticket of their own with Martin Van Buren as president. They were known as "Free-Soil Democrats," embracing two factions, "Barnburners" and "Hunkers," and had for their watchword "Free soil, free speech, and free men." These Free-Soil Democrats were more bitter opponents of slavery than the Whigs themselves. The Pro-Slavery Whigs were drawn to the Democratic party; but they carried along with them into the Democratic ranks the doctrine, which afterward became known as "Popular" or "Squatter Sovereignty," which figured so prominently in the Kansas affair and which was in substance that the people of each territory should be left free to treat the subject of slavery in whatever manner they saw fit.

The election in 1852 of the Democratic candidate, Franklin Pierce, was a disastrous blow to the Whigs. They never recovered from this shock and never ran another President. Pierce's administration was wholly in the interest of the Pro-Slavery Democrats. At this time the famous Kansas-Nebraska contest occurred. This served to solidify the Pro-Slavery Democrats and Whigs, to divide the northern Whigs into two parties, one of which coalesced with the Free-Soil Democrats, the other lost its name and identity entirely in the modern Republican party.

In 1852 there appeared in politics a secret organization known officially as the American party but popularly as the Know-Nothing party from the reticence of its members. "Americans must rule America" was its cardinal principle. Its rise was rapid and it nominated in 1856 Millard Fillmore for President. In 1860 it became merged into the "Constitutional Union," nominating John Bell for President. But after that year it did not again appear in the Presidential race.

One division of the Northern Whigs, which was for a short time known as the Anti-Nebraska men, as we have stated became known later as the Republican party, the name, it is said, being first suggested by Governor Seward. By June, 1856, the title was a decisive indication of a national principle and so large a number of leaders had cohered thereto that at the National Convention at Philadelphia the party ran John C. Freemont for President. Their platform declared for State rights, the preservation and union of the States, and that Congress had no right to legislate slavery into the Territories. In this campaign the Know-Nothing party was in the field with its candidate Fillmore and its ranks increased by the remnant of the old Whig party who joined them in denouncing the Democratic and Republican parties. The Democratic party nominated Buchanan, who was elected.

Although Buchanan's election was a victory for the Pro-Slavery Democrats, in the Congressional election in 1858 the tide of national sentiment ran strongly in favor of the new Republican party. In 1860 there was a struggle between the Southern or the extreme Pro-Slavery Democrats and the Douglas Democrats. Douglas was nominated for President but many Pro-Slavery Democrats withdrew and nominated John C. Breckenridge on their own ticket. The Republicans met and nominated Abraham Lincoln on a platform denouncing all schemes of dis-union, declaring in favor of protection, a Homestead law, and internal improvements. His election to the Presidency resulted also in a Republican House and Senate. The Pro-Slavery wing of the Democratic party regarded this result as a cause for secession of the slave states from the Union. The Southern Confederacy was set up and the Civil War followed.

In 1864, although the Democrats of the Northern States cooperated with the Republicans in their efforts to suppress the Confederacy, they nevertheless held to their party organization and put up George B. McClellan for President. As it is well known, however, 1864 was an overwhelming victory for the Republicans.

The stormy period of reconstruction served to unite the northern and southern wings of the Democratic party, and they once more made common cause against the Republicans. The Republicans nominated Gen. U. S. Grant in 1868. And from here on the story of the two parties is too familiar to require any review.

Politics of the Presidents.

Name.	Inaugurated.	Politics.
George Washington	April 30, 1789	Unanimous
John Adams	March 4, 1797	Federal
Thomas Jefferson	March 4, 1801	Democrat
James Madison	March 4, 1809	Democrat
James Monroe	March 4, 1817	Democrat
John Quincy Adams	March 4, 1825	Federal
Andrew Jackson	March 4, 1829	Democrat
Martin Van Buren	March 4, 1837	Democrat
Wm. Henry Harrison	March 4, 1841	Whig
John Tyler	April 6, 1841	Whig
James K. Polk	March 4, 1845	Democrat
Zachary Taylor	March 5, 1849	Whig
Millard Fillmore	July 9, 1850	Whig
Franklin Pierce	March 4, 1853	Democrat
James Buchanan	March 4, 1857	Democrat
Abraham Lincoln	March 4, 1861	Republican
Andrew Johnson	April 16, 1865	Republican
U. S. Grant	March 4, 1869	Republican
R. B. Hayes	March 5, 1877	Republican
James A. Garfield	March 4, 1881	Republican
Chester A. Arthur	Sept. 20, 1881	Republican
Grover Cleveland	March 4, 1885	Democrat
Benjamin Harrison	March 4, 1889	Republican
Grover Cleveland	March 4, 1893	Democrat
William McKinley	March 4, 1896	Republican
Theodore Roosevelt	Sept. 14, 1901	Republican

Popular Names of Cities.

Baltimore — Monumental City, from the number of monuments it contains.

Boston — City of Notions, from the amount of "Yankee notions," so called, manufactured there; Hub of the Universe, so called by Doctor Oliver Wendell Holmes; Tri-Mountain City, from the three hills on which it was originally built.

Brooklyn — City of Churches, from the number of churches it contains.

Chicago — Garden City, from the number and beauty of its private gardens; Windy City, from the constant winds blowing from the lake.

Cincinnati — Queen City, so called when it was the commercial metropolis of the Middle West.

Cleveland — Forest City, from the number of trees in its streets.

Detroit — City of the Straits, from its location on the strait connecting Lake St. Clair and Lake Erie.

Hannibal, Mo. — Bluff City, from its location on the bluffs of the Missouri River.

Indianapolis — Railroad City, from its being a great railroad center.

Keokuk, Ia. — Gate City, from its situation at the foot of the Mississippi rapids.

Louisville, Ky. — Falls City, from the falls of the Ohio River, there located.

Lowell, Mass. — City of Spindles, from its large manufacturing interests.

Nashville, Tenn. — City of Rocks, from its natural surroundings.

New Haven — City of Elms, from the great number of these trees it contains.

New Orleans — Crescent City, from its position on a curve of the Mississippi.

New York — Empire City, from its being the chief city of the United States.

Philadelphia — City of Brotherly Love, from the meaning of the name.

Pittsburg, Pa. — Iron City, from the extent of its iron manufactures, and Smoky City, from the smoke which overhangs it.

Portland, Me.—Forest City, from the number of trees in its streets.

Rochester, N. Y.—Flour City, from the number of flour mills located there.

St. Louis—Mound City, from the artificial mounds found there.

Springfield, Mass.—City of Homes, from the many people who own their own homes.

Springfield, O.—Flower City, from the beauty of its surroundings.

Washington—City of Magnificent Distances, from its being laid out on a large and regular scale.

Population by States.

NAME.	POPULATION.	NAME.	POPULATION.
Alabama	1,828,697	Nebraska	1,066,300
Alaska	63,592	Nevada	42,335
Arizona	122,931	New Hampshire	411,588
Arkansas	1,311,564	New Jersey	1,883,669
California	1,485,053	New Mexico	195 310
Colorado	539,700	New York	7,268,894
Connecticut	908,420	North Carolina	1,893,810
Delaware	184,735	North Dakota	319,146
Dis. of Columbia	278,718	Ohio	4,157,545
Florida	528,542	Oklahoma	398,331
Georgia	2,216,331	Oregon	413,536
Hawaii	154,001	Pennsylvania	6,302,115
Idaho	161,772	Philippines	6,961,339
Illinois	4,821,550	Porto Rico	953,243
Indiana	2,516,462	Rhode Island	428,556
Indian Territory	302,060	South Carolina	1,340,316
Iowa	2,231,853	South Dakota	401,570
Kansas	1,470,495	Tennessee	2,020,615
Kentucky	2,147,174	Texas	3,048,711
Louisiana	1,381,625	Utah	276,749
Maine	694,466	Vermont	343,641
Maryland	1,188,044	Virginia	1,854,184
Massachusetts	2,805,346	Washington	518,103
Michigan	2,420,982	West Virginia	958,800
Minnesota	1,751,394	Wisconsin	2,069,042
Mississippi	1,551,270	Wyoming	92,531
Missouri	3,106,665	United States	76,303,387
Montana	243,329		

Postage.

LETTER postage is now two cents an ounce, or less for any distance in the United States. In 1851 it was made three cents for 3,000 miles, prepaid, otherwise five cents and was doubled for greater distances. In 1863 there was established a uniform rate of three cents, which was changed to two cents per half-ounce in 1883 and in 1885 to two cents per ounce. Mailable matter is now divided into four classes: first, letters; second, regular publications; third, books; fourth, merchandise. Until 1845 letters were single or double according as there was one piece of paper or two. Postage stamps were introduced in 1847, but did not become general till 1855, when letters were required to be prepaid. Stamped envelopes were first furnished in 1852 and postal cards in 1872. Registration was established in 1855; postal money orders in 1864; the free-delivery system in 1865 in places containing a population of 50,000. In 1892 the free-delivery system was greatly extended, and has continued to grow.

Poultry Facts.

UNDER favorable conditions the following results as to size of fowl, male and female, and number and weight of eggs, may be expected of the various breeds and classes by the poultry raiser:

KIND OF FOWL.	Weight of Full Grown Male.	Weight of Full Grown Female.	No. of Eggs Annually.	No. of Eggs to the Pound.
Brahmas, light	12	9½	160	7
Brahmas, dark	11	8½	160	7
Cochins, black	10½	8½	170	8
Cochins, buff	11	8½	130	8
Cochins, white	11	9	150	8
Common	4½	4	160	9
Dorkings	7	6	130	8
Dominiques	6	5	170	9
Games	7	5	170	9
Hamburgs	5	4	180	10
Houdans	7½	5	170	9
Leghorns, black	5	4	200	10
Leghorns, brown	5	4	200	10
Leghorns, dominique	5	4	200	10
Leghorns, white	5	4	200	10
Plymouth Rocks	9	7	175	8
Polish	6	4	170	9
Spanish, black	8	6	170	8
Wyandottes	8½	6½	180	8
Ducks, common	3	3	90	8
Ducks, Aylesbury	7	6	80	6
Ducks, Pekin	6	5½	75	8
Geese, common	8	7	20	4
Geese, African	16	14	30	4
Geese, Emden	18	15	20	3½
Geese, Toulouse	20	18	35	3½
Turkeys, common	12	10	45	7
Turkeys, black	15	12	45	6
Turkeys, bronze	22	19	45	6
Turkeys, buff	16	14	45	6
Turkeys, Narragansett	22	14	50	6

Prices of Certain Articles in Virginia

As Fixed by the Government Board of Assessment, March 27, 1865.

Wheat, per bu	$ 25.00
Flour, per bbl	125.00
Corn, per bu	20.00
Cornmeal, per bu	21.00
Bacon, per lb. (hog round)	4.00
Pork, per lb. (hog round)	2.75
Lard, per lb	4.00
Horses and Mules, first-class	1,200.00
Wool, per lb	10.00
Beans and peas, per bu	10.00
Irish potatoes, per bu	20.00
Sweet potatoes, per bu	20.00
Onions, per bu	50.00
Dried peaches, per bu	20.00
Hay baled, per 100 lbs	7.00
Salt, per bu. of 50 lbs	10.00
Soap, per lb	3.00
Candles, tallow, per lb	7.00
Vinegar, per gal	5.00
Whiskey, per gal	25.00
Sugar, brown, per lb	5.00
Molasses, per gal	15.00
Rice, per lb	1.00
Coffee, per lb	10.00
Tea, per lb	15.00
Army woolen cloth, per yard	15.00
Cotton shirtings, per yard	2.50
Army shoes, per pair	25.00
Wool socks, per pair	5.00

Principal Steamship Lines, New York to Europe.

Names of Lines.	Nationality.	Foreign Terminals.	No. of Vessels.	Sailing Days.
Atlantic Transport	British	London	7	Every Saturday.
Holland-American	Dutch	Rotterdam	6	Every Wednesday.
Scandinavian-America	Danish	Copenhagen	9	Once a week.
White Star Line	British	Liverpool	13	Every Wednesday.
French Line	French	Havre	8	Every Thursday.
North German Lloyd	German	Bremen and Genoa	23	Every Thursday.
Hamburg-American	German	Hamburg	14	Every Thursday.
Cunard Line	British	Liverpool	6	Every Saturday.
Allan State Line	British	Glasgow	3	Thursdays.
American Line	American	Southampton	4	Wednesdays.
Red Star Line	American	Antwerp	4	Saturdays.
Anchor Line	British	Glasgow and Genoa	12	Every Saturday.

Printing Presses.

Previous to the Revolution all presses were built on the same plan—a flat platen, impressing against type arranged on a flat bed. Impressions were obtained with a screw, and fifty an hour was the maximum capacity. In 1810 Koenig substituted the revolving cylinder for the platen, and obtained 1,000 per hour in the *London Times* office. Steam printing presses were first used by the *New York Sun* in 1835. Hoe's press inventions of 1832 and 1846 made possible 20,000 per hour printed on one side and Craske's discoveries in 1861 in *papier maché* stereotyping increased the rapidity of the presses. Improvements were continually made in the Hoe, Walter, and Bullock presses, and the present perfecting Hoe press is capable of printing 72,000 eight-page newspapers in an hour, and a proportional number of large papers.

Railroads in the United States.

Some idea of the vast extent of steam railroads considered as a means of transportation can be gleaned when we consider that all the gold, silver, and paper money in the world would not buy one-third of the railroads. Railroad mileage has steadily grown; in 1851 there were little over 9,000 miles of railroad open for traffic in the United States; in 1904 there are over 200,000 miles in operation with new lines constantly being built and others projected. So efficient has our system become that emissaries have come to the United States for the purpose of examining American railways and making such recommendations to their home governments as their investigations should suggest. These railroads in the United States employ over 1,000,000 men whose wages amount to over $600,000,000 annually. Their capital is over $12,000,000,000 and their earnings last year exceeded $1,500,000,000. They carried more than 600,000,000 passengers and 1,100,000,000 tons of freight. It is beyond question that American railroads to-day furnish the best service in the world at the lowest rates of fare, and at the same time pay their employes very much higher wages than are paid for similar services in any other country on the globe.

Railway Mileage in United States by States and Territories.

Illinois	11,119	Michigan	8,244
Pennsylvania	10,538	New York	8,156
Texas	10,191	Minnesota	7,056
Iowa	9,318	Missouri	6,927
Ohio	8,873	Wisconsin	6,620
Kansas	8,715	Indiana	6,596
Georgia	5,844	Massachusetts	2,118
California	5,838	Maine	1,918
Colorado	5,744	New Mexico	1,770
Nebraska	5,742	Oregon	1,684
Alabama	4,416	Utah	1,571
North Carolina	3,852	Arizona	1,562
Virginia	3,810	Indian Territory	1,540
Arkansas	3,449	Maryland	1,383
Florida	3,314	Idaho	1,333
Tennessee	3,231	New Hampshire	1,246
Kentucky	3,117	Wyoming	1,216
Montana	3,051	Vermont	1,060
Mississippi	3,044	Connecticut	1,026
Louisiana	3,008	Oklahoma	1,009
Washington	3,005	Nevada	911
South Carolina	2,994	Delaware	346
South Dakota	2,952	Rhode Island	212
North Dakota	2,824	District of Columbia	32
West Virginia	2,383	Alaska	22
New Jersey	2,256		

Railroad Mileage by Countries.

The following statement represents the world's railway mileage from the latest available sources of information.

Countries.	Miles.
All of Germany	32,753
Austria-Hungary (including Bosnia, etc.)	22,917
Great Britain and Ireland	22,100
France	26,611
Russia (including Finland)	31,945
Italy	9,852
Belgium	3,943
Netherlands (including Luxembourg)	1,994
Switzerland	2,490
Spain	8,315
Portugal	1,476
Denmark	1,865
Norway	1,308
Sweden	7,034
Servia	359
Roumania	2,295
Greece	903
European Turkey, Bulgaria, and Roumelia	2,469
Malta, Jersey, Isle of Man	68
Total Europe	180,697
United States	202,471
British North America	18,294
Newfoundland	641
Mexico	9,600
Central America	718
Total North America	231,724

United States of Colombia	400
Cuba	1,134
Venezuela	634
San Domingo	130
Brazil	13,697
Argentina	10,300
Paraguay	157
Uruguay	1,210
Chile	2,850
Peru	1,036
Bolivia	621
Ecuador	186
British Guiana	55
Jamaica, Barbadoes, Trinidad, Martinique, Porto Rico, Salvador	657
Total, South America and West Indies	33,067
British India	23,758
Ceylon	297
Asia Minor and Syria	1,715
Russia (Transcaspian District)	1,658
Siberia	3,852
Persia	34
Dutch India	1,301
Japan	3,661
Portuguese India	51
Malay Archipelago	273
China	
Korea	6
Siam	203
Cochin China, Pondicherry, Malacca, and Tonquin	238
Total Asia	37,469
Egypt	2,087
Algiers and Tunis	2,642
British South and Central Africa	2,937
Natal	737
Rhodesia	1,203
Orange River Colony	597
Mauritius, Reunion, Congo, Senegal, and other States	2,298
Total Africa	12,501
Australasia	15,649
RECAPITULATION:	
Europe	180,697
North America	231,724
South America	33,067
Asia	37,469
Africa	12,501
Australasia	15,649
Total	511,107

Rapid Transit in Greater New York.

THE history of projects to provide rapid transit for the city of New York extends back to the middle of the past century. During this period there has been constant demand for increased facilities to accommodate passenger traffic. The first important step in the meeting of this difficulty was the construction of the street railway. It soon became evident that a better mode of transit was necessary and various propositions for elevated and underground systems were agitated. The inability to raise the money required at first caused all these enterprises to fail. In 1875 the elevated railways constructed under the act known as The Rapid Transit Act met the existing need of the times, but they soon demonstrated their utter inadequacy. Hundreds of thousands of men and women must go to their work in the stores, offices, and factories in the lower half of Manhattan Island in the morning and return to their homes at night. The island is long and narrow and most of its traffic is necessarily along the north and south lines. How to facilitate the movement of her vast army of workers between their homes and the great business hive is New York's most perplexing problem. Elevated railroads have done much, but for obvious reasons there is a definite limit to the extension of such a system of transit, and New York ceased to look in that direction for relief long ago. Limitation to speed necessary to the safe use of the streets precluded any further consideration of development of surface systems. Soon the conclusion was reached that the needs of the city traffic could only adequately be met by the construction of underground railways running through the built up portions of the city and emerging only at certain northern points. The necessary plans and specifications were drawn up, but eventually the project was abandoned.

The law under which the present Rapid Transit Commission is acting was passed in 1894, and signed by Governor Flower. It was not until the first of the year 1897 that the undertaking reached the point of establishing the present route and plans. On March 24, 1900, ground was broken for New York's great Subway, which has resulted in an underground pathway for swift trains, such as no other city in the world possesses, where, in addition to the rapid and frequent local service, there is a two-minute service during rush hours of eight-car express passenger trains which will run at the average speed of thirty to forty miles per hour, including stops; and making it possible to travel from the City Hall to Forty-second street in six minutes, and from City Hall Park to the Harlem River in a little over a quarter of an hour.

From the City Hall, near the south end of the Island, to One Hundred and Fourth street, a distance of about seven miles, the Subway is fifty-four feet wide and contains four tracks, two for local and two for express trains. At One Hundred and Fourth street the tunnel branches, one line continuing directly north for five miles. and the other, turning to the east, runs across the Harlem River and into the Bronx. In all its dimensions the Subway is the greatest hole in the ground ever made by man. It is spacious, well lighted, and airy; the stations are roomy chambers, and there is an entire absence of any gloomy or dark-cellar aspects. Trains in the Subway are operated by electricity, the method of power transmission being the third rail system similar to that in use on elevated railways. The cars themselves are fireproof. Local trains consist of five cars and run at a speed of sixteen miles an hour. Express trains of eight cars make thirty to forty miles an hour. A Subway express train can carry from twelve hundred to fifteen hundred people.

It is impossible to realize fully the magnitude of the task accomplished in four years without having seen it in progress and noted the amount of labor expended. The stupendous character of the undertaking was but meagrely indicated by what the public saw of it. The great wonder was that such extensive operations, involving the opening up of some of the city's busiest thoroughfares and the undermining of some of the largest buildings, could be carried on with so little interruption

to traffic through the streets, so few accidents, and so little damage to property. The construction of temporary sub-structures to support street railways; the support of water and gas mains, sewer pipes, and other underground work; the shoring-up of massive buildings standing near the line of excavation, involved some of the greatest engineering problems of the day. The work employed an army of laborers of various grades, the number daily employed approaching very nearly ten thousand.

The great engineering feat by which the Pennsylvania Railroad is to secure a terminal station in Manhattan Island and through connection with its leased system, the Long Island Railroad, bears an intimate relationship to the general Rapid Transit System of the city of Greater New York. Starting at the New Jersey side it tunnels through Bergen Hill, passes under the North River, emerges at the passenger station at Manhattan, and continues on under the East River up to Thompson avenue, Long Island City. In Queens it connects with the Long Island Railroad. The passenger station is the greatest structure of its kind in existence and occupies four large city blocks. It extends from Seventh to Ninth avenue, and from Thirty-first to Thirty-third street, and is four hundred and sixty feet by eighteen hundred feet.

Red Cross Society, The.

THE Society of the Red Cross has been in existence in Europe for thirty-eight years and in the United States for twenty years. It is a confederation of relief societies in different countries, the aim of which is to ameliorate the condition of sick and wounded soldiers in the time of war and to lend aid at the time of any disaster of such extent that it can be termed national. The development of the principle of the Red Cross Society began in 1859 in Switzerland and took definite form at a convention in Geneva in 1864. At this convention sixteen governments were represented, including all the great European nations except Russia. At this convention articles were adopted providing for the protection of hospitals and people bearing the insignia of the Red Cross and for a proper care of wounded enemies or prisoners. This code made no provision for the relief of suffering caused by disasters other than war.

A new development of the work of the American National Red Cross is in the industrial field of the United States, and it is making an organized effort to provide efficient means of rendering instant treatment in case of emergencies and accidents occurring in factories, in mills, on railroads, in stores, or wherever an accident is liable to occur. The President of the American National Red Cross is Clara Barton.

Religions.

IN THE world's religions those who are usually termed heathen have a far larger place, numerically, than all the other religious divisions extant. Mohammedans, Buddhists, Brahmans, and all non-Christians, except the Jews, number together about 1,400,000,000, leaving but 448,000,000 to be divided among the Roman Catholics, Protestants of all denominations, Armenian, Greek, and Abyssian Catholics and Jews.

According to other statisticians, the numbers in the world according to creeds are divided thus:

CREEDS.	NUMBER OF FOLLOWERS.
1. Christianity	477,080,158
2. Worship of Ancestors and Confucianism	256,000,000
3. Hindooism	190,000,000
4. Mohammedanism	176,834,372
5. Buddhism	147,900,000
6. Taoism	43,000,000
7. Shintoism	14,000,000
8. Judaism	7,186,000
9. Polytheism	117,681,669

Christianity.

CHURCHES.	TOTAL FOLLOWERS.
Catholic Church	230,866,533
Protestant Churches	143,237,625
Orthodox Greek Church	98,016,000
Church of Abyssinia	3,000,000
Coptic Church	120,000
Armenian Church	1,690,000
Nestorians	80,000
Jacobites	70,000
TOTAL	477,080,158

Religious Denominations in the United States.

DENOMINATIONS.	MINISTERS.	CHURCHES.	COMMUNICANTS.
ADVENTISTS:			
Evangelical	34	30	1,147
Advent Christian	883	580	25,816
Seventh-Day	372	1,470	55,316
Church of God	19	29	647
Life and Advent Union	60	33	3,000
Churches of God in Jesus Christ	94	95	2,872
ARMENIANS	15	21	8,500
BAPTISTS:			
Regular, North	7,415	9,374	973,820
Regular, South	12,058	18,963	1,608,413
Regular, Colored	14,351	15,654	1,864,600
Six Principle	14	18	937
Seventh-Day	119	115	8,991
Freewill	1,619	1,486	85,109
Original Freewill	118	167	11,864
General	450	550	28,000
Separate	113	103	6,479
United	25	204	13,209
Church of Christ	80	152	8,254
Primitive	2,040	3,222	121,347
Old Two-Seed-in-the-Spirit Predestinarian	300	473	12,851
BRETHREN (RIVER):			
Brethren in Christ	152	78	4,000
Old Order, or Yorker	7	8	214
United Zion's Children	20	25	525
BRETHREN (PLYMOUTH):			
Brethren (I.)		109	2,289
Brethren (II.)		88	2,419
Brethren (III.)		86	1,235
Brethren (IV.)		31	718
CATHOLICS:			
Roman Catholics	11,636	12,062	8,610,226
Polish Branch	19	18	15,000
Old Catholic	6	5	10,000
Reformed Catholics	6	6	1,500
CATHOLIC APOSTOLIC	95	10	1,394

Denominations.	Ministers.	Churches.	Communicants.
Chinese Temples		47	
Christadelphians		63	1,277
Christians	1,248	1,520	112,835
Christian Catholic (Dowie)	55	50	40,000
Christian Missionary Association	10	13	754
Christian Scientists	12,000	600	1,000,000
Christian Union	183	294	18,214
Church of God (Winnebrennerian	460	580	38,000
Church Triumphant (Schweinfurth)		12	384
Church of the New Jerusalem	143	173	7,679
Communistic Societies:			
Shakers		15	1,728
Amana		7	1,600
Harmony		1	250
Separatists		1	200
Altruists		1	25
Church Triumphant (Koreshan Ecclesia)		5	205
Adonai Shomo		1	20
New Icaria		1	21
Congregationalists	5,614	5,604	629,874
Disciples of Christ	6,528	10,528	1,149,982
Dunkards:			
German Baptists (Conservatives)	2,612	850	95,000
German Baptists (Old Order)	150	100	3,500
German Baptists (Progressive)	231	173	12,787
Seventh-Day Baptists (German)	5	6	194
Episcopalians:			
Protestant Episcopal	4,961	6,686	716,431
Reformed Episcopal	103	104	9,743
Evangelical Bodies:			
Evangelical Association	1,052	1,806	118,865
United Evangelical Church	478	985	60,993
Friends:			
Friends (Orthodox)	1,279	820	91,868
Friends (Hicksite)	115	201	21,992
Friends (Wilburite)	38	52	4,329
Friends (Primitive)	11	9	232
Friends of the Temple	4	4	340
German Evangelical Protestants	44	52	36,156
German Evangelical Synod	909	1,129	203,574
Greek Church:			
Greek Orthodox	4	4	20,000
Russian Orthodox	41	58	45,000
Jews	201	570	1,058,135
Latter-Day Saints:			
Church of Jesus Christ of Latter-Day Saints	1,700	796	300,000
Reorganized Church of Jesus Christ of Latter-Day Saints	2,200	600	45,500
Lutherans:			
General Bodies:			
General Synod	1,226	1,568	194,442
United Synod in the South	215	390	38,639
General Council	1,156	2,019	370,409
Synodical Conference	2,029	2,650	581,029
Independent Synods:			
United Norwegian	354	1,083	126,872
Joint Synod of Ohio	457	604	77,362
Buffalo	25	39	4,600
Hauge's Norwegian	97	205	11,483
Texas	11	14	1,700
German of Iowa	402	824	74,058
Norwegian Lutheran	272	725	67,208
Michigan	56	86	7,860
Danish in America	47	66	10,000
Icelandic	8	26	3,350
Immanuel	45	50	6,118
Suomai, Finnish	11	50	5,925
Norwegian Free	125	375	37,500
Danish United	84	151	8,506
Independent Congregations	85	200	25,000
Waldenstromians	140	150	20,000
Mennonites:			
Mennonite	418	288	22,443
Bruederhoef	9	5	352
Amish	365	124	13,051
Old Amish	71	22	2,038
Apostolic	2	2	209
Mennonites — *Continued:*			
Reformed	43	34	1,680
General Conference	138	79	10,395
Church of God in Christ	18	18	471
Old (Wisler)	17	15	610
Bundes Conference	41	16	3,050
Defenceless	20	11	1,176
Brethren in Christ	45	82	2,953
Methodists:			
Methodist Episcopal	17,521	26,021	2,716,437
Union American M. E.	63	61	2,675
African Methodist Episcopal	5,659	5,775	673,594
African Union Meth. Protestant	80	70	2,000
African Meth. Episcopal Zion	3,155	2,906	536,271
Methodist Protestant	1,647	2,400	181,316
Wesleyan Methodist	587	506	17,201
Methodist Episcopal, South	6,041	14,244	1,457,864
Congregational Methodist	210	240	20,000
Congregational Meth. (Colored)	5	5	319
New Congregational Methodist	20	17	1,059
Zion Union Apostolic	30	27	2,346
Colored Methodist	2,187	1,300	199,206
Primitive Methodist	65	92	6,470
Free Methodist	944	1,122	28,588
Independent Methodist	8	14	2,569
Evangelist Missionary	87	13	4,600
Moravians	118	111	14,817
Presbyterians:			
Presbyterian in U.S. of A. (North)	7,335	7,469	973,433
Cumberland Presbyterian	1,734	2,957	180,192
Cumberland Presbyter'n (Colored)	400	150	39,000
Welsh Calvinistic	105	185	12,000
United Presbyterian	918	911	115,901
Presbyterian in U.S. of A. (South)	1,461	2,959	225,890
Associate Church of North America	12	31	1,053
Associate Ref. Synod of the South	104	131	11,344
Reform Pres. in the U. S. (Synod)	124	113	9,790
Reform Pres. in N. A. (Gen. Synod)	33	36	5,000
Reform Pres. (Covenanted)	1	1	40
Reform Pres. in U. S. and Canada	1	1	608
Reformed:			
Reformed in America (Dutch)	698	619	107,594
Reformed in U. S. (German)	1,082	1,660	243,545
Christian Reformed	96	145	18,096
Salvation Army	2,689	753	40,000
Schwenkfeldians	3	4	306
Social Brethren	17	20	913
Society for Ethical Culture		4	1,064
Spiritualists		334	45,030
Theosophical Society		40	695
United Brethren:			
United Brethren in Christ	1,897	4,229	243,841
United Breth. (Old Constitution)	670	817	226,643
Unitarians	550	459	71,000
Universalists	735	764	48,426
Volunteers of America	500	200	
Independent Congregations	54	156	14,126

Auxiliary Religious Bodies and Agencies.

Sunday Schools.—These powerful religious agencies, organized and conducted under the auspices of nearly every Christian denomination, numbered in the United States, according to the latest authentic report—that made to the World's Third Sunday School Convention held in London, 1898—132,697 schools, 1,394,630 teachers, and 10,893,523 scholars. According to the same report, the total number of Sunday School teachers and scholars for the world was 24,919,313.

Young Men's Christian Associations.—These religious agencies were first instituted in London in 1844, and in the United States at Boston in 1851. They spread rapidly in this country, being made attractive to young men by adding to religious instruction the encouragement of commodious buildings,

libraries, gymnasiums, and philanthropies. By 1902, the number of associations had reached 6,335, of which 1,575 were in North America. The membership of these American associations had reached 323,224, occupying 414 buildings of their own, valued at $21,445,415, having 736 libraries containing 544,215 volumes, and making a total annual outlay for running expenses of $3,535,928.

Young Women's Christian Associations.— These, like similar ones for young men, have nearly a world-wide existence, and an American membership of 52,000. In 1894, the national associations of nine countries — Canada, Germany, Italy, France, Norway, Sweden, Great Britain, United States, and India united to form a world's Y. W. C. A. These associations classify their objects and work under four heads: *Physical* — gymnastic training, health talks, holiday excursions, outing clubs. *Social* — receptions, home socials, musical and literary entertainments, helpful companionships, noon rests, luncheons, boarding clubs, employment bureaus. *Intellectual* — libraries, educational classes, lecture courses, concerts, art clubs. *Spiritual* — Bible training classes, evangelical meetings, personal work, gospel work.

American Tract Society.— Was founded in 1825 for the purpose of publishing books and tracts representing the best Christian literature. Since its foundation it has printed 479,400,000 copies in twenty languages.

American Bible Society.— A purely charitable institution organized in 1816 for the purpose of encouraging a wider circulation of the scriptures. Its issues, many of which are in a foreign tongue, have been since its foundation 70,677,225 copies.

Christian Endeavor.— The first society of this kind was organized in Portland, Maine, by Rev. F. E. Clarke, for the purpose of training converts for the duties of church membership. Its motto is "For Christ and the Church." The membership in 1904 has reached nearly eight million.

American Board of Foreign Missions.— This is the oldest society of foreign missions in the United States. Since its organization in 1810 it has sent out over 2,300 missionaries and expended $30,000,000. In foreign lands it supports over 500 churches whose converts number 160,000.

The Salvation Army.— Rev. Wm. Booth organized this remarkable society in London in 1865. It adopted its present name in 1878. It works through corps organized and disciplined after the army fashion and is now familiar to almost every one. It has 7,296 corps with 15,300 officers, operating 47 countries in 34 languages. In the United States it numbers 692 corps and 2,341 officers, and administers 27 slum posts, 18 rescue homes, 102 food shelters, six working women's hotels, six wood and coal yards, three farm colonies, and two children's homes.

Epworth League.— Is an auxiliary to the Methodist Church and was organized in May, 1889. It numbers now 29,600 chapters with a membership of 2,000,000.

Volunteers of America.— Founded by Ballington Booth, in 1896, for practically the same purpose as the Salvation Army.

Rivers, the Ten Longest in the World.

	MILES IN LENGTH.
Mississippi and Missouri	4,194
Nile	4,020
Amazon	4,000
Yenisei	3,688
Yang-tse-Kiang	3,158
Amur	3,060
Murray	3,000
Niger	2,990
Hoang Ho	2,812
Lena	2,766

Salaries.

THE President's salary is nominally $50,000. In addition to this he is given $36,064 to pay the salaries of his subordinates and clerks. His private secretary receives $3,250; his assistant private secretary, $2,250; stenographer, $1,800; five messengers, $1,200 each; steward, $1,800; doorkeepers, $1,200 each; other clerks, telegraph operator, ushers, etc., are paid good salaries.

In addition, $8,000 is given the executive head for incidental expenses; $12,500 for repairs of the White House; $17,500 for fuel, gas, etc.; and $4,000 for greenhouse.

Thus considerably over $125,000 a year the country pays for the maintenance of the White House and the President.

As compared with the nominal salary of $50,000 paid to the President of the United States, various other governments pay to their chiefs:

Great Britain	$ 3,000,000	Japan	$2,300,000
Germany	3,143,859	Egypt	1,575,000
Persia	30,000,000	Saxony	700,000
France	200,000	Sweden and Norway	600,000
Russia	10,000,000	Brazil	600,000
Siam	10,000,000	Portugal	600,000
Spain	3,900,000	Hayti	240,000
Italy	3,000,000	Switzerland	3,000
Turkey	10,000,000		

In Great Britain the annuity is divided as follows:

The King and Queen	$2,350,000
Prince of Wales	100,000
Princess of Wales	50,000
Princess Louise (Duchess of Fife.)	30,000
Princess Victoria	30,000
Princess Maud	30,000
Princess Christian	30,000
Princess Louise (Duchess of Argyle)	30,000
Duke of Connaugh	125,000
Princess Beatrice	30,000
Duke of Cambridge	60,000
Duchess of Albany	30,000
Duchess of Mecklenburg Stralitz	15,000

The King also receives about $500,000 more as revenue from the Duchy of Lancaster.

The Prince of Wales has an additional income from the revenues of the Duchy of Cornwall amounting to about $300,000.

When the royal children marry dowries are usually provided for them.

Shipboard Time.

A. M.	P. M.
1 Bell, 12.30.	1 Bell, 12.30.
2 Bells, 1.00.	2 Bells, 1.00.
3 Bells, 1.30.	3 Bells, 1.30.
4 Bells, 2.00.	4 Bells, 2.00.
5 Bells, 2.30.	5 Bells, 2.30.
6 Bells, 3.00.	6 Bells, 3.00.
7 Bells, 3.30.	7 Bells, 3.30.
8 Bells, 4.00.	8 Bells, 4.00.
Repeat from 4.30 to 8.00.	Repeat from 4.30 to 8.00.
Repeat from 8.30 to 12.00.	Repeat from 8.30 to 12.00.

Signers of the Declaration of Independence.

New Hampshire :
Josiah Bartlett,
William Whipple,
Matthew Thornton.

Massachusetts :
John Hancock,
Samuel Adams,
John Adams,
Robert Treat Paine,
Elbridge Gerry.

Rhode Island :
Steven Hopkins,
William Ellery.

Connecticut :
Roger Sherman,
Samuel Huntingdon,
William Williams,
Oliver Wolcott.

New York :
William Floyd,
Phillip Livingston,
Francis Lewis,
Lewis Morris.

New Jersey :
Richard Stocton,
John Witherspoon,
Frank Hopkinson,
John Hart,
Abraham Clark.

Pennsylvania :
Robert Morris,
Benjamin Rush,
Benjamin Franklin,
John Morton,
George Clymer,

Pennsylvania — Continued:
James Smith,
George Taylor,
James Wilson,
George Ross.

Delaware :
Cæsar Rodney,
George Read,
Thomas McKean.

Maryland :
Samuel Chase,
William Paca,
Thomas Stone,
Charles Carrol, of Carrolton.

Virginia :
George Wythe,
Richard Henry Lee,
Thomas Jefferson,
Benjamin Harrison,
Thomas Nelson, Jr.,
Francis Lightfoot Lee,
Carter Braxton.

North Carolina :
William Hooper,
Joseph Hewes,
John Penn.

South Carolina :
Edward Rutledge,
Thomas Heyward, Jr.,
Thomas Lynch, Jr.,
Arthur Middleton.

Georgia :
Button Gwinnett,
Lyman Hall,
George Walton.

States, Admission of.

(The date given is that when admission took effect.)

Delaware	Ratified the Constitution	December 7, 1787.
Pennsylvania	" " "	December 12, 1787.
New Jersey	" " "	December 18, 1787.
Georgia	" " "	January 2, 1788.
Connecticut	" " "	January 9, 1788.
Massachusetts	" " "	February 6, 1788.
Maryland	" " "	April 28, 1788.
South Carolina	" " "	May 23, 1788.
New Hampshire	" " "	June 21, 1788.
Virginia	" " "	June 26, 1788.
New York	" " "	July 26, 1788.
North Carolina	" " "	November 21, 1789.
Rhode Island	" " "	May 29, 1790.
Vermont	Was admitted to the Union	March 4, 1791.
Kentucky	" " "	June 1, 1792.
Tennessee	" " "	June 1, 1796.
Ohio	" " "	February 19, 1803.
Louisiana	" " "	April 30, 1812.
Indiana	" " "	December 11, 1816.
Mississippi	" " "	December 10, 1817.
Illinois	" " "	December 3, 1818.
Alabama	" " "	December 14, 1819.
Maine	" " "	March 15, 1820.
Missouri	" " "	August 10, 1821.
Arkansas	" " "	June 15, 1836.
Michigan	" " "	January 26, 1837.
Florida	" " "	March 3, 1845.
Texas	" " "	December 29, 1845.
Iowa	" " "	December 28, 1846.
Wisconsin	" " "	May 29, 1848.
California	" " "	September 9, 1850.
Minnesota	" " "	May 11, 1858.
Oregon	" " "	February 14, 1859.
Kansas	" " "	January 29, 1861.
West Virginia	" " "	June 19, 1863.
Nevada	" " "	October 31, 1864.
Nebraska	" " "	March 1, 1867.
Colorado	" " "	August 1, 1876.
North Dakota	" " "	November 2, 1889.
South Dakota	" " "	November 2, 1889.
Montana	" " "	November 8, 1889.
Washington	" " "	November 11, 1889.
Idaho	" " "	July 3, 1890.
Wyoming	" " "	July 11, 1890.
Utah	" " "	January 4, 1896.

States, Origin of Names.

Popular Sobriquets, and the Flower Selected as State Emblem.

Alabama was named in 1817, from its principal river. The principally accepted authority says that De Soto's last battle was in 1541 at Alibamo, on the river Yazoo, where there was a strong fortress of a tribe called sometimes Alibamos and sometimes the Alabamus. Its flower is the golden rod.

Alaska is from the Indian word Alakshak, meaning "large country."

Arkansas took its name in 1819 from its principal river, and that from the tribe of Indians once living near its mouth. Schoolcraft ascribed the name to the fact that a species of acacia grew there, from which the Indians made bows, which led to their being called "arc, or bow Indians." Sometimes it is called the Bear State, on account of these animals, which formerly lived in its forests. Its flower is the apple blossom.

Arizona is thought to come from the Aztec word Arizuma, meaning a rocky country.

California received its name from the officers of Cortez, who found it in a Spanish romance, which told of "the great Island of California, where a great abundance of gold and precious stones was found." Its flower is the California poppy.

Colorado is named from its chief river, the word being Spanish and signifying "ruddy" or "colored." It is also known as the Centennial State, from the fact that it was admitted to Statehood in 1876. Its flower is the purple columbine.

Connecticut was so called from the Indian name of its principal river, spelled originally Quin-nah-tukyut and signifying "land on a long tidal river." It is popularly known as the Nutmeg State, from the fact that its residents were formerly said to have made nutmegs from wood for sale to the unwary, and also as the Freestone State, from the quantities of that material found there.

Dakota took its name from the tribe of Indians which formerly inhabited the state and the vast regions in its neighborhood, the word meaning originally "leagued."

Delaware was named in 1703, from Lord de la Warr. It is sometimes called the Diamond State, from its small size and supposed great worth. Its flower is the peach blossom.

Florida was so called by Juan Ponce de Leon in 1512 because it was discovered on Easter Sunday, in Spanish *Pascua Florida*. It is often called from its shape the Peninsular State. Its flower is the japonica.

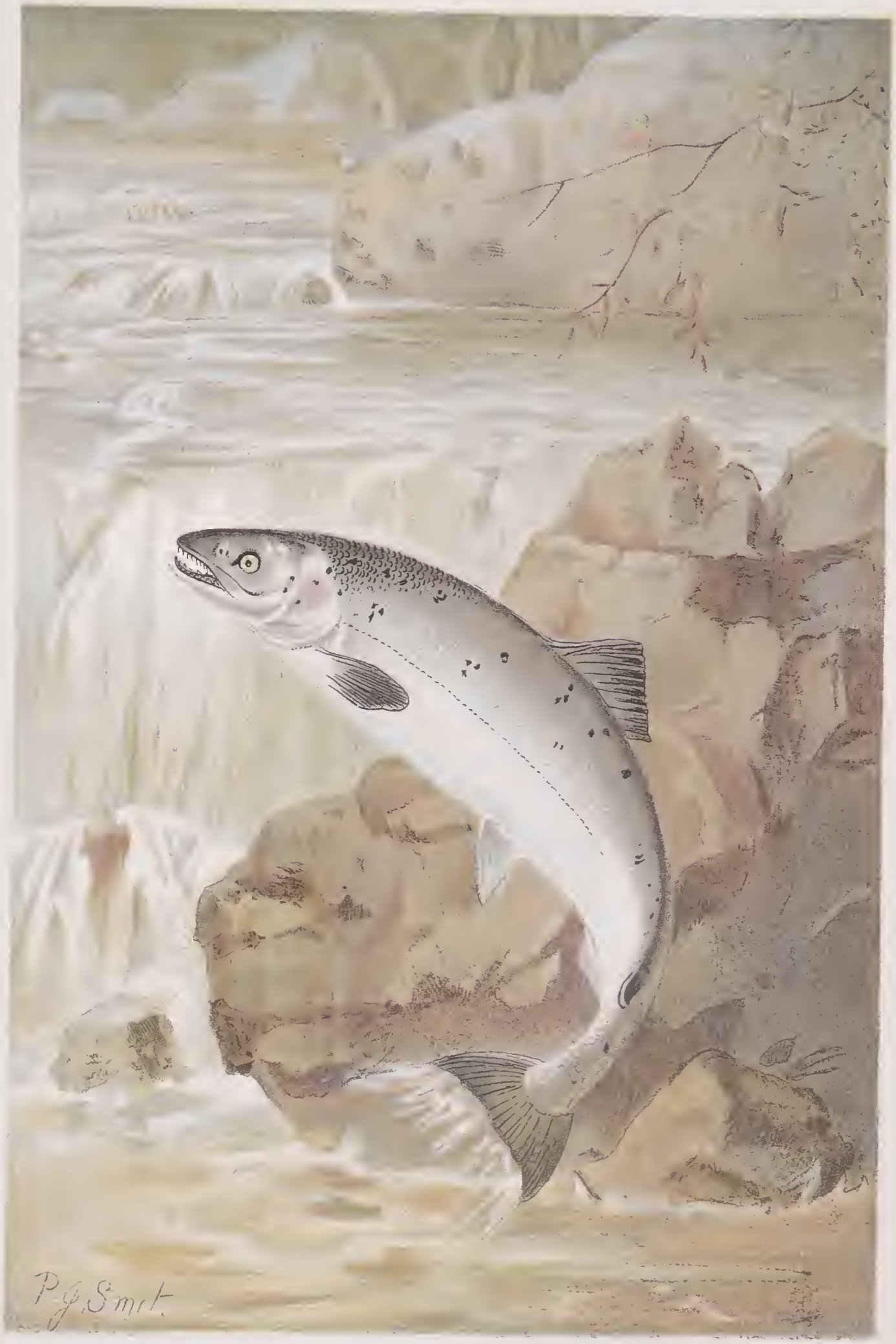
Georgia was named in 1732 in honor of King George the II.

Idaho is the Indian word for "Gem of the Mountains." Its flower is the syringa.

Illinois was named in 1809 from its principal river. The name is said to signify "superior men." It is called the Prairie State, from the extent of its prairies. Its flower is the rose.

Indiana was so called in 1802 from the American Indians. It is known as the Hoosier State, the word being a corruption of Husker, formerly a common term for "bully," in the West. Its flower is corn.

Iowa took its name in 1838 from a tribe of Indians who lived within its borders, and the word is said to be a contraction of Ah-hee-o-va, meaning sleepers. It is also known as the Hawkeye State, the term said to have been derived from the name of a famous Indian chief of that region. Its flower is the wild rose.



A SALMON LEAP

Kansas takes its name from its great river which, in turn, received its appellation from the Indians who lived along its banks. The name is said to come from Cayas, which was given the region by De Soto.

Kentucky was so called from its principal river, in 1782. The word is said to mean "at the head of the river."

Louisiana was named by La Salle in 1682 in honor of Louis XIV. of France. It is popularly called the Creole State. Its flower is the magnolia.

Maine was so called as early as 1622, from the description in its charter calling it the "mayne land," meaning the main or chief portion of the territory. It is known as the Lumber State, from the large amount of that material produced within its borders, and also as the Pine Tree State, for the same reason. Its flower is the pine cone.

Maryland was named in honor of Henrietta Maria, Queen of Charles I., in his patent to Lord Baltimore in 1632.

Massachusetts derived its name from a tribe of Indians who lived in the neighborhood of the present location of Boston. The word is a compound of "massa," meaning great, and "wadchuach," meaning hills or mountains. It is known as the Old Colony State, from the fact that the first colonists of New England settled on its shores, and the Bay State, it having been originally known as the Colony of Massachusetts Bay.

Michigan was named from the lake on its borders. The word, it is believed, is derived from the Chippewa "mitcha" and the Algonquin "gan," meaning great lake. It is known as the Lake State, from the fact that it borders on four great lakes. Its flower is the apple blossom.

Minnesota takes its name from its chief stream, which in the Indian dialect signifies "slightly turbid water." Its flower is the moccasin.

Mississippi takes its name from the great river, the title meaning in Indian "the whole river," so called because many streams unite in making it. Its flower is the magnolia.

Missouri was so called in 1821, from its principal river, the word signifying in the Sioux language "muddy water."

Montana took its name from the Rocky Mountains, which traverse the State. Its flower is the bitter root.

Nebraska is named after its principal river. The meaning of the word is disputed. Its flower is the golden rod.

Nevada is named for its mountain chain, which was called after the Sierra Nevadas of Granada.

New Hampshire was called so with reference to the original patentee, who was Governor of Portsmouth, in Hampshire, England. It is known as the Granite State, from the fact that its mountains are largely composed of that stone.

New Jersey was so called in 1644 in compliment to one of its original proprietors, Sir George Carteret, who had defended the Isle of Jersey against the Long Parliament during the civil war in England. It has no State flower, but adopts instead a tree — the sugar maple.

New Mexico takes its name from the Aztec war-god Mexildi. Its flower is the crimson rambler rose.

New York was named in honor of the Duke of York and Albany, to whom the territory was granted in 1664. It is known as the Empire State, from its wealth and great population, and the Excelsior State, from its motto. Its flower is the rose.

North Carolina and South were so called in 1654 by the French in honor of Charles IX. of France, although some claim the honor for Charles I. of England. The former is known as the Old North State and as the Turpentine, it producing large quantities of this material; and the latter as the Palmetto State, from the tree borne on its coat of arms. North Carolina's flower is the chrysanthemum.

Ohio was so called in 1802 from the Indian O-he-zuh, meaning "something great."

Oklahoma is from an Indian word meaning "a beautiful land." Its flower is the mistletoe.

Oregon is supposed to come from a Sioux word meaning "the great flowing river." Its flower is the Oregon grape.

Pennsylvania was named after Wm. Penn, the entire word meaning Penn's woods. It is known as the Keystone State, from its having been the central state at the formation of the constitution.

Rhode Island was so called in 1644 from the Dutch, signifying "red-island." Its flower is the violet.

Tennessee was named in 1796, and the word is said to signify a curved spoon or a bend in the river.

Texas was named by the Spaniards in 1690. The word is said to be derived from the Spanish "tigus," meaning "covered houses," and also from the Indian "tachies," meaning friends. It is known as the Lone Star State, from the emblem on its flag. Its flower is the blue bonnet.

Utah was adopted from the name of the Indians living in that region. Its flower is the sego lily.

Vermont was so called by its inhabitants in their declaration of independence in 1777, from the French words *monts verts*, meaning green mountains. It is also known as the Green Mountain State for the same reason. Its flower is the red clover.

Virginia was named in honor of Elizabeth, England's virgin queen. It is known as the Mother of Presidents, five of its sons having held that office; as the Mother of the States, having been the first settled of the first thirteen states, and also as the Old Dominion.

Washington was named after our first president. Its flower is the rhododendron.

Wisconsin was so named in 1836 from the river of the same name. The word is said to mean "westward flowing." It is popularly known as the Badger State.

Wyoming is an Indian name, a corruption of the word meaning "large plains."

Steamboats.

RUMSEY and Fitch invented the steamboat before Fulton, but he was the first to make a practical success of it. His boat, the "Clermont," made a successful trip up the Hudson in 1807. The "Clermont" was a paddle-wheel boat of twenty horse-power. Fulton and R. R. Livingston obtained from the State of New York a monopoly of the use of this invention on New York waters during thirty years. In 1819 the steamboat "Savannah" sailed from America to Liverpool. Almost immediately steamboats began to be used on the Mississippi and other western rivers, and contributed enormously to the development of population and agriculture in the great central valley. In 1818 the first steamer appeared on the Great Lakes,—the "Walk-in-the-Water." By 1830 there was a daily line from Buffalo to Detroit. Steam navigation across the Atlantic was established in 1830.

Speakers of the House of Representatives.

The numbers at the left refer to the successive Congresses.

Congress.	Name.	State.	Term.
1.	F. A. Muhleuberg	Penusylvania.	Apr. 1, 1789, to Mar. 4, 1791.
2.	Jonathan Trumbull	Conuecticut.	Oct. 24, 1791, to Mar. 4, 1793.
3.	F. A. Muhlenberg	Pennsylvania.	Dec. 2, 1793, to Mar. 4, 1795.
4.	Jouathan Dayton	New Jersey.	Dec. 7, 1795, to Mar. 4, 1797.
5.	Jonathan Dayton	New Jersey.	May 15, 1797, to Mar. 4, 1799.
6.	Theodore Sedgwick	Massachusetts.	Dec. 2, 1799, to Mar. 4, 1801.
7.	Nathaniel Macon	North Carolina.	Dec. 7, 1801, to Mar. 4, 1803.
8.	Nathaniel Macon	North Carolina.	Oct. 17, 1803, to Mar. 4, 1805.
9.	Nathaniel Macon	North Carolina.	Dec. 2, 1805, to Mar. 4, 1807.
10.	Joseph B. Varnum	Massachusetts.	Oct. 26, 1807, to Mar. 4, 1809.
11.	Joseph B. Varnum	Massachusetts.	May 22, 1809, to Mar. 4, 1811.
12.	Heury Clay	Kentucky.	Nov. 4, 1811, to Mar. 4, 1813.
13a.	Henry Clay	Kentucky.	May 24, 1813, to Jan. 18, 1814.
13b.	Langdon Cheves	South Caroliua.	Jan. 19, 1814, to Mar. 4, 1815.
14.	Henry Clay	Kentucky.	Dec. 4, 1815, to Mar. 4, 1817.
15.	Henry Clay	Kentucky.	Dec. 1, 1817, to Mar. 4, 1819.
16a.	Henry Clay	Kentucky.	Dec. 6, 1819, to May 15, 1820.
16b.	John W. Taylor	New York.	Nov. 15, 1820, to Mar. 4, 1821.
17.	Philip P. Barbour	Virgiuia.	Dec. 4, 1821, to Mar. 4, 1823.
18.	Heury Clay	Keutucky.	Dec. 1, 1823, to Mar. 4, 1825.
19.	John W. Taylor	New York.	Dec. 5, 1825, to Mar. 4, 1827.
20.	Andrew Stevenson	Virginia.	Dec. 3, 1827, to Mar. 4, 1829.
21.	Andrew Stevenson	Virginia.	Dec. 7, 1829, to Mar. 4, 1831.
22.	Andrew Stevenson	Virginia.	Dec. 5, 1831, to Mar. 4, 1833.
23a.	Andrew Stevenson	Virginia.	Dec. 2, 1833, to Juue 2, 1834.
23b.	John Bell	Tennessee.	June 2, 1834, to Mar. 4, 1835.
24.	James K. Polk	Tennessee.	Dec. 7, 1835, to Mar. 4, 1837.
25.	James K. Polk	Tennessee.	Sept. 4, 1837, to Mar. 4, 1839.
26.	Robert M. T. Hunter	Virginia.	Dec. 16, 1839, to Mar. 4, 1841.
27.	John White	Kentucky.	May 31, 1841, to Mar. 4, 1843.
28.	John W. Jones	Virginia.	Dec. 4, 1843, to Mar. 4, 1845.
29.	John W. Davis	Iudiaua.	Dec. 1, 1845, to Mar. 4, 1847.
30.	Robert C. Winthrop	Massachusetts.	Dec. 6, 1847, to Mar. 4, 1849.
31.	Howell Cobb	Georgia.	Dec. 22, 1849, to Mar. 4, 1851.
32.	Linn Boyd	Keutucky.	Dec. 1, 1851, to Mar. 4, 1853.
33.	Linn Boyd	Kentucky.	Dec. 5, 1853, to Mar. 4 1856.
34.	Nathaniel Banks	Massachusetts.	Feb. 2, 1856, to Mar. 4, 1857.
35.	James L. Orr	South Carolina.	Dec. 7, 1857, to Mar. 4, 1859.
36.	William Pennington	New Jersey.	Feb. 1, 1860, to Mar. 4, 1861.
37.	Galusha A. Grow	Pennsylvania.	July 4, 1861, to Mar. 4, 1863.
38.	Schuyler Colfax	Indiana.	Dec. 7, 1863, to Mar. 4, 1865.
39.	Schuyler Colfax	Indiana.	Dec. 4, 1865. to Mar. 4, 1867.
40.	Schuyler Colfax	Indiaua.	Mar. 4, 1867, to Mar. 4, 1869.
41.	James G. Blaine	Maine.	Mar. 4, 1869, to Mar. 4, 1871.
42.	James G. Blaine	Maine.	Mar. 4, 1871, to Mar. 4, 1873.
43.	James G. Blaine	Maine.	Dec. 1, 1873, to Mar. 4, 1875.
44a.	Michael C. Kerr	Indiana.	Dec. 6, 1875, to Aug. 20, 1876.
44b.	Samuel J. Randall	Pennsylvania.	Dec. 4, 1876, to Mar. 4, 1877.
45.	Samuel J. Randall	Pennsylvania.	Oct. 15, 1877, to Mar. 4, 1879.
46.	Samuel J. Randall	Pennsylvauia.	Mar. 18, 1879, to Mar. 4, 1881.
47.	J. Warren Keifer	Ohio.	Dec. 5, 1881, to Mar. 4, 1883.
48.	John G. Carlisle	Kentucky.	Dec. 3, 1883, to Mar. 4, 1885.
49.	John G. Carlisle	Kentucky.	Dec. 7, 1885, to Mar. 4, 1887.
50.	John G. Carlisle	Kentucky.	Dec. 5, 1887, to Mar. 4, 1889.
51.	Thomas B. Reed	Maine.	Dec. 2, 1889, to Mar. 4, 1891.
52.	Charles F. Crisp	Georgia.	Dec. 8, 1891, to Mar. 4, 1893.
53.	Charles F. Crisp	Georgia.	Aug. 7, 1893, to Mar. 4, 1895.
54.	Thomas B. Reed	Maine.	Dec. 2, 1895, to Mar. 4, 1897.
55.	Thomas B. Reed	Maine.	Mar. 15, 1897, to Mar. 4, 1899.
56.	David B. Henderson	Iowa.	Dec. 4, 1899, to Mar. 4, 1901.
57.	David B. Henderson	Iowa.	Dec. 2, 1901, to Mar. 4, 1903.
58.	Joseph G. Cannon	Illinois.	Mar. 4, 1903, to Mar. 4, 1905.

Sugar.

Production of Sugar for year 1902 to 1903 by principal producing countries of the world:

Cane Sugar.

Country.	Tons.
Louisiana	280,000
Porto Rico	100,000
Hawaiiau Islands	315,000
Cuba	940,000
British West Indies	144,500
French West Indies	69,000
Mexico	115,000
British Guiana	125,000
Peru	115,000
Argentine Republic	120,000
Brazil	187,500
Java	842,812
Philippine Islands	90,000
Australia	128,000
Egypt	90,000
Mauritius	140,000

Beet Sugar.

United States.	
California	70,909
Colorado	29,643
Michigan	57,678
Minnesota	3,393
Nebraska	7,768
New York	2,500
Ohio	1,339
Oregon	1,964
Washington	1,518
Wisconsin	3,463
Total	195,800
Europe.	
Austria	1,025,000
Belgium	240,000
France	880,000
Germany	1,730,000
Holland	125,000
Russia	1,275,000
Other Countries	355,000
Total	5,630,000
Grand Total	5,825,800

Suicides.

In European cities the number of suiciaes per 100,000 inhabitants is as follows:

Paris	42	Genoa	31
Lyons	29	Brussels	15
St. Petersburg	7	Amsterdam	14
Moscow	11	Lisbon	2
Berlin	36	Christiana	25
Vienna	28	Stockholm	27
Loudon	23	Constantinople	12
Rome	8	Geneva	11
Milan	6	Dresden	51
Madrid	3		

Madrid and Lisbon show the lowest, Dresden the highest figure.

The average annual suicide rate in countries of the world per 100,000 persons living is given as follows:

Saxony	31.1	South Australia	8.9
Denmark	25.8	Sweden	8.1
Schleswig-Holstein	24.0	Norway	7.5
Austria	21.2	Belgium	6.9
Switzerland	20.2	England and Wales	6.9
France	15.7	Tasmania	5.3
German Empire	14.3	Hungary	5.2
Hanover	14.0	Scotlaud	4.0
Queensland	13.5	Italy	3.7
Prussia	13.3	Netherlands	3.6
Victoria	11.5	United States	3.5
New South Wales	9.3	Russia	2.9
Bavaria	9.1	Ireland	1.7
New Zealand	9.0	Spain	1.4

A later enumeration of suicides in France gives 8,926 as the number in 1900, or 23.6 per cent.

The causes of suicides in European countries are reported as follows: 100 suicides:

	Per Cent.		Per Cent.
Delirium	18	Family matters	4
Alcoholism	11	Poverty, want	4
Vice, crime	19	Loss of intellect	14
Different diseases	2	Consequence of crimes	3
Moral suffering	6	Unknown reasons	19

Tammany.

THE name "Tammany" is now so generally associated with the organization which plays such an important part in New York's political life, that it is often forgotten the real society of Tammany is the "Columbian Order," a secret society which exerts considerable influence outside of that which is due to its affiliations with politicians or political affairs.

The Columbian Order was organized in 1780 as a result of a popular movement against the so-called "Aristocratic Society of The Cincinnati." It was essentially anti-federalist or democratic in its character; and its chief founder was Wm. Mooney, a native-born American of Irish extraction, who found it an easy matter to secure the co-operation of many others who like himself believed the Democratic principles of the nation were threatened. At the first meeting in 1789 many of the most prominent Anti-Federalists of New York were present and from that day the party has exerted more or less influence in the affairs of the city. The name "Tammany" was selected in honor of a wise and friendly chief of the Delaware tribe of Indians who for lack of better subject had been canonized by the soldiers of the Revolution as the patron saint of America. From its institution the society has been a charitable and sociable organization, and its chief connection with the political association which now bears its name is due to the fact that most of those who were high in that body are also members of the Columbian Order and that the political organization cannot remain as the occupant of Tammany Hall without the consent of the Society.

Ten Largest Cities of the World.

	Population.
London	4,536,063
New York (Greater New York)	3,600,000
Paris	2,660,550
Berlin	1,884,151
Chicago	1,698,575
Vienna	1,662,269
Peking	1,650,000
Calcutta	1,600,000
Tokio	1,507,557
St. Petersburg	1,439,375

Telephone Statistics.

	1901.	1902.	1903.
Exchanges	1,348	1,411	1,514
Branch Offices	1,427	1,594	1,861
Miles of Wire on Poles	627,897	823,193	1,109,017
Miles of Wire on Buildings	16,833	17,947	.....
Miles of Wire Underground	705,269	883,679	1,328,685
Miles of Wire Submarine	4,203	4,200	6,048
Total Miles of Wire	1,354,202	1,729,019	2,443,750
Total Circuits	508,262	592,467	742,654
Total Employees	32,837	40,864	50,350
Total Stations	800,880	1,020,647	1,277,983

Telegraph Statistics.

The Western Union Telegraph Company.

Year.	Miles of Poles and Cables.	Miles of Wire.	Profits.
1893	189,936	769,201	$7,496,037.28
1894	190,303	790,792	5,792,484.88
1895	189,714	802,651	6,141,389.21
1896	189,918	826,929	5,897,980.18
1897	190,614	841,002	5,732,203.13
1898	189,847	874,420	6,090,151.26
1899	189,856	904,633	5,868,732.86
1900	192,705	933,153	6,165,363.68
1901	193,589	972,766	6,685,248.17
1902	196,115	1,029,984	7,292,328.89
1903	196,517	1,089,212	8,214,471.73

Territorial Expansion of the United States.

THERE have been twelve additions to the original territory of the Union, including Alaska; the Hawaiian, Philippine, and Samoan Islands and Guam, in the Pacific; and Porto Rico and Pine Islands, in the West Indies; and the total area of the United States, including the noncontiguous territory, is now fully five times that of the original thirteen colonies.

The additions to the territory of the United States subsequent to the peace treaty with great Britain of 1783 are shown by the following table, prepared by the United States General Land Office:

Additions to the Territory of the United States from 1800 to 1900.

Territorial Division.	Year.	Area Added S. Miles.	Purchase Price.
Territory of the original Thirteen States as recognized by Great Britain	1783	909,050	.....
Louisiana Purchase	1803	875,025	$15,000,000
Florida	1819	70,107	* 5,499,768
Texas	1845	389,795	.....
Oregon Territory	1846	288,689	.....
Mexican Cession	1848	523,802	† 18,250,000
Purchase from Texas	1850	‡	10,000,000
Gadsden Purchase	1853	36,211	10,000,000
Alaska	1867	599,446	7,200,000
Hawaiian Islands	1897	6,740	.....
Porto Rico	1898	3,600	.....
Pine Islands (W. Indies)	1898	882	.....
Guam	1898	175	.....
Philippine Islands	1899	143,000	20,000,000
Samoan Islands	1899	73	.....
Additional Philippines	1901	68	100,000
Total	.....	3,846,663	$87,039,768

* Includes interest payments.

† Of which $3,250,000 was in payment of claims of American citizens against Mexico.

‡ Area purchased from Texas amounting to 123,784 square miles is not included in the column of area added, because it became a part of the area of the United States with the admission of Texas.

Thanksgiving Day.

THANKSGIVING DAY originated in New England and was not limited to any time or cause, but an annual one in autumn for bountiful harvests became customary. Washington proclaimed the first national Thanksgiving for the last Thursday in November, 1789, in gratitude for the new government, and the second for February 19, 1795, for freedom from

war and for the restoration of internal peace. Two other special thanksgivings were proclaimed; one by Madison at the close of the war of 1812, and the other by Lincoln for August 6, 1863, to commemorate the victories at Gettysburg and Vicksburg. Lincoln set apart the last Thursday in November, 1863, as a day for general thanksgiving, and the custom has since been followed.

Thermometers.

THERE are three kinds of thermometers, with varying scales, in general use throughout the world — the Fahrenheit, boiling point, 212 degrees, freezing point 32 degrees. Reaumur, freezing point, zero; boiling point, 80 degrees. Centigrade, freezing point, zero; boiling point, 100 degrees.

The degrees on one scale are reduced to their equivalents on another by these formulas:

Fahrenheit to Reaumur — Substract thirty-two, multiply by four-ninths.

Fahrenheit to Centigrade — Substract thirty-two, multiply by five-ninths.

Reaumur to Fahrenheit — Multiply by nine-fourths, add thirty-two.

Reaumur to Centigrade — Multiply by five-fourths.

Centigrade to Fahrenheit — Multiply by nine-fifths, add thirty-two.

Centigrade to Reaumur — Multiply by four-fifths.

Comparative Scale.

REAUMUR, degrees.	CENTIGRADE, degrees.	FAHRENHEIT, degrees.	
80	100	212	Water boils at sea-level.
76	95	203	
72	90	194	
68	85	185	
63.1	78.9	174	
60	75	167	Alcohol boils.
56	70	158	
52	65	149	
48	60	140	
44	55	131	
42.2	52.8	127	Tallow melts.
40	50	122	
36	45	113	
33.8	42.2	108	
32	40	104	
29.3	36.7	98	Blood heat.
28	35	95	
25.8	32.2	90	
24	30	86	
21.3	26.7	80	
20	25	77	
16	20	68	
12.4	15.3	60	Temperate.
10.2	12.8	55	
8	10	50	
5.8	7.2	45	
4	5	41	
1.3	1.7	35	
0	0	32	Water freezes.
−0.9	−1.1	30	
−4	−5	23	
−5.3	−6.7	20	
−8	−10	14	
−9.8	−12.2	10	
−12	−15	5	
−14.2	−17.8	0	Zero Fahrenheit.
−16	−20	−4	
−20	−25	−13	
−24	−30	−22	
−28	−35	−31	
−32	−40	−40	

Theosophy.

The Theosophical Universal Brotherhood.

THIS organization founded for "the benefit of the people of the earth and all creatures," by Katherine Tingley, January 13, 1898, is an outgrowth of the Theosophical Society founded by Helen Pletrovna Blavatsky.

The Universal Brotherhood, or the Brotherhood of Humanity, declares that brotherhood is a fact in nature. The principal purpose of the organization is to teach brotherhood, demonstrate that it is a fact in nature, and make it a living power in the life of humanity, establishing brotherhood schools throughout the world, and creating a new literature. Its subsidiary purpose is to study ancient and modern religion, science, philosophy, and art, to investigate the laws of nature and the latent divine powers of man. It declares in its constitution that every member has a right to believe or disbelieve in any religious system or philosophy, each being required to show that tolerance for the opinion of others which he expects for his own.

There are over 250 lodges of the Universal Brotherhood in the United States and Canada, also lodges in England, Ireland, Sweden, Holland, France, Germany, Greece, India, Australia, and New Zealand. The central office of the organization is at Point Loma, San Diego, Cal.

Tin.

THE production of tin in the world in 1902, was as follows:

England	3,950
Straits Settlement	51,831
Australasia	3,206
Banka, Billiton, and Singkep	18,765
Bolivia	10,150
India and China	1,925
United States	.....
Total	89,827

Trusts.

THE problem of the Trusts, a new economic difficulty, confronts the American people to-day and is a comparatively late development. Up to the year 1898 mammoth corporations were unknown. Among the 400 large corporations existing only 42 were organized prior to 1890. A trust is a combination of corporations which injures trade by restraining or destroying its competitors; and aims to control, monopolize, and to dictate to the public the prices at which goods shall be bought or sold.

The total number of existing trusts has been given by competent authority as 793, capitalized at the enormous sum of over fourteen billion dollars. The railroads are not included in this estimate, their capitalization being over twelve billion dollars. The national wealth is little over ninety billion, so it will be seen that the trusts represent over one-quarter of our nation's wealth.

The largest of all the trusts is the United States Steel Corporation, organized in 1901. The "Steel Trust" as it is generally called is a combination of ten large corporations each of which was itself a consolidation of several smaller

companies. Its total capitalization is $1,404,000,000. Its net earnings in 1902 were $111,000,000. The number of its employes is over 100,000.

Another immense consolidation organized in 1902 is The International Mercantile Marine Company otherwise known as the "Ship Trust." It was organized by J. Pierpont Morgan who succeeded in bringing together The White Star Line, The Red Star Line, The Leyland, The Atlantic Transport, and The Dominion. This Trust has for its object the control of the trans-Atlantic traffic.

"Uncle Sam."

THE practise of calling the United States Government "Uncle Sam" is believed to have originated in the following manner: During the Revolutionary War a man named Samuel Wilson was a beef inspector at Troy, N. Y., and was very popular with the men in his employ, who always called him Uncle Sam. After the inspection of the beef, it was shipped by him to a contractor named Elbert Anderson, and was always marked "E. A. U. S." A joking workman, being asked what those letters were abbreviations of, replied that he did not know, unless they were for Elbert Anderson and "Uncle Sam." The joke was kept up and spread until it became common to refer to all packages marked U. S. as belonging to "Uncle Sam."

United States Embassies and Legations.

THE United States is represented in the following foreign countries and capitals, and by the titles and numbers of officials submitted. It is further represented abroad by over one thousand consuls at the various mercantile cities and towns. Service through the agency of Embassies and Legations is called "Diplomatic"; that through consuls, "Consular."

COUNTRY.	CAPITAL OR COURT.	TITLE OF REPRESENTATIVES.
Argentine Republic.	Buenos Ayres.	Envoy Extraordinary and Minister Plenipotentiary.
Austria-Hungary....	Vienna.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation. Naval Attaché. Military Attaché.
Belgium.....	Brussels.	Envoy Extraordinary and Minister Plenipotentiary.
Bolivia	La Paz.	Envoy Extraordinary and Minister Plenipotentiary.
Brazil	Rio de Janeiro.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation.
Bulgaria.....	Constantinople.	Agent and Consul-General.
Chili	Santiago.	Envoy Extraordinary and Minister Plenipotentiary.
China.....	Pekin.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation. Second Secretary. Naval Attaché, Tokyo, (Yedo). Military Attaché, Pekin. Chinese Sec., Pekin.
Colombia	Bogota.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation and Consul-General.
Costa Rica.....	San José.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation.
Denmark.....	Copenhagen.	Envoy Extraordinary and Minister Plenipotentiary. Military Attaché.
Dominican Republic	Port au Prince.	Charge d'Affaires.
Ecuador.....	Quito.	Envoy Extraordinary and Minister Plenipotentiary.
Egypt.....	Cairo.	Agent and Consul-General.
France	Paris.	Ambassador Extraordinary and Plenipotentiary. Secretary of Embassy. Second Sec. of Embassy. Third Sec. of Embassy. Naval Attaché.
German Empire....	Berlin	Ambassador Extraordinary and Plenipotentiary. Secretary of Embassy. Second Sec. of Embassy. Third Sec. of Embassy. Naval Attaché. Military Attaché.
Great Britain.....	London.	Ambassador Extraordinary and Pleuipotentiary. Secretary of Embassy. Second Sec. of Embassy. Third Sec. of Embassy. Naval Attaché. Military Attaché.
Greece, Roumania, and Servia..	Athens.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation.
Guatemala and Honduras..	Guatemala City.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation and Consul-General.
Haiti	Port au Prince.	Envoy Extraordinary and Minister Plenipotentiary.
Italy	Rome.	Ambassador Extraordinary and Plenipotentiary. Secretary of Embassy. Second Sec. of Embassy. Naval Attaché.
Japan.....	Tokyo.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation. Second Sec. of Legation. Naval Attaché. Military Attaché. Interpreter.
Korea	Seoul.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation. Military Attaché. Two Interpreters.
Liberia.....	Monrovia.	Minister Resident and Consul-General. Secretary of Legation.
Mexico.....	Mexico.	Ambassador Extraordinary and Plenipotentiary. Secretary of Embassy. Second Sec. of Embassy. Third Sec. of Embassy.
The Netherlands....	The Hague.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation. Military Attaché.
Nicaragua and Salvador..	San José.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation.
Paraguay and Uruguay..	Montevidio.	Envoy Extraordinary and Minister Plenipotentiary.
Persia.....	Teheran.	Envoy Extraordinary and Minister Plenipotentiary.
Peru.....	Lima.	Envoy Extraordinary and Minister Plenipotentiary.
Portugal.....	Lisbon.	Envoy Extraordinary and Minister Plenipotentiary.
Russia.....	St. Petersburg.	Ambassador Extraordinary and Plenipoteutiary. Secretary of Embassy. Second Sec. of Embassy. Naval Attaché. Military Attaché.

Country.	Capital or Court.	Title of Representatives.
Siam	Bangkok.	Minister Resident and Consul-General. Interpreter.
Spain	Madrid.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation.
Sweden and Norway	Stockholm.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation. Military Attaché.
Switzerland	Berne.	Envoy Extraordinary and Minister Plenipotentiary. Military Attaché.
Turkey	Constantinople.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation. Second Sec. of Legation. Interpreter.
Venezuela	Caracas.	Envoy Extraordinary and Minister Plenipotentiary. Secretary of Legation.

Unsurveyed Lands.

The following table shows the total area of public and Indian lands remaining unsurveyed, including the area of private land claims surveyed up to the close of the last fiscal year:

States and Territories.	Acres.
Alaska	368,100,311
Arizona	54,290,003
California	23,191,932
Colorado	4,143,462
Florida	4,234,032
Idaho	32,774,724
Lonisiana	1,880,148
Minnesota	3,190,060
Montana	57,763,504
Nebraska	49,421
Nevada	32,881,879
New Mexico	27,330,207
North Dakota	6,333,934
Oklahoma	79,208
Oregon	14,424,922
Sonth Dakota	3,690,286
Utah	32,662,882
Washington	14,943,900
Wyoming	7,664,616
Total	689,629,431

Volcanoes. Heights of the Principal Ones.

	Feet.
Aconcagua, Argentine Rep	23,869
Chimborazo, Ecnador	21,440
Areqnipa, Peru	20,320
Cotopaxi, Ecuador	19,550
Antisana, Ecuador	19,137
Tolima, Colombia	18,020
Popocatepetl, Mexico	17,717
Orizaba, Mexico	17,374
Pichincha, Ecuador	15,924
Iztaccihuatl, Mexico	15,708
Fuego, Gnatemala	13,800
Mauna Loa, Sandwich Islands	13,760
Aqna, Gnatemala	13,758
Etna, Sicily	10,874
Egmont, New Zealand	8,840
Jorullo, Mexico	4,265
Vesnvius, Italy	3,948
Kilanea, Sandwich Islands	3,870

Wall Street.

Wall Street, New York City, is the center of American financial interests. It derives its name from the palisades built by the Dutch colonists as a defense against the Indians.

Wealth and Debt of the States.

The wealth in the assessed value of property from the latest estimates. The debt is the bonded debt only.

Wealth.		Debt.	
New York	$5,754,429,511	Virginia	$24,363,795
Massachusetts	3,981,876,499	Tennessee	16,625,666
Pennsylvania	3,528,585,578	Dist. of Colnmbia	14,284,650
Ohio	1,968,280,000	Massachusetts	13,674,173
Wisconsin	1,436,284,000	Lonisiana	10,877,800
Indiana	1,360,445,139	New York	10,075,660
Michigan	1,317,450,028	Alabama	9,357,600
California	1,228,292,457	Pennsylvania	7,815,290
Missouri	1,004,469,071	Georgia	7,631,500
Illinois	999,231,829	Sonth Carolina	6,846,082
Texas	982,187,865	North Carolina	6,287,350
New Jersey	918,418,741	Missouri	5,680,839
Connecticut	694,200,162	Indiana	3,887,615
Kentucky	667,056,375	Rhode Island	3,278,000
Maryland	643,812,408	Mississippi	2,887,026
Minnesota	585,083,328	Arizona	2,787,347
Iowa	558,462,588	Maryland	2,662,344
Colorado	465,000,000	Maine	2,453,000
Georgia	456,347,034	Colorado	2,300,900
Virginia	423,842,680	California	2,281,500
Rhode Island	407,404,772	Wisconsin	2,251,000
Kansas	363,156,045	Minnesota	2,069,000
Tennessee	345,096,855	New Hampshire	1,781,323
Maine	336,609,649	Connecticut	1,720,827
North Carolina	306,597,715	Washington	1,345,000
Lonisiana	301,215,222	Arkansas	1,271,000
Alabama	284,622,937	Kentucky	1,171,394
New Hampshire	282,517,063	New Mexico	1,152,100
Washington	260,180,104	Florida	1,032,500
West Virginia	228,408,725	North Dakota	1,006,393
Mississippi	222,847,525	Utah	900,000
Dist. of Colnmbia	198,488,413	Montana	860,000
Arkansas	189,999,045	Delaware	769,750
South Carolina	189,333,109	Texas	717,200
Vermont	179,014,992	Sonth Dakota	588,300
Nebraska	174,439,095	Kansas	582,000
South Dakota	173,206,733	Idaho	546,500
Montana	153,412,962	Ohio	451,665
Oregon	141,398,523	Michigan	416,800
North Dakota	117,204,485	Vermont	333,965
Utah	112,580,296	Wyoming	300,000
Florida	96,686,954	Nevada	265,210
Delaware	76,000,000	Illinois	18,500
Arizona	68,000,000	Iowa	10,937
Idaho	51,440,758	Oregon	1,238
Wyoming	39,581,216	Nebraska	none
New Mexico	36,547,439	New Jersey	none
Nevada	28,391,252	West Virginia	none

Wealth of the World By Nations.

Country.	Amount.
Argentine Republic	$ 3,335,000,000
Anstralia	7,130,000,000
Anstria	24,310,000,000
Belginm	5,440,000,000
Canada	5,465,000,000
Denmark	2,350,000,000
France	54,350,000,000
Germany	45,010,000,000
Greece	1,200,000,000
Holland	4,900,000,000
Italy	16,950,000,000
Norway	1,000,000,000
Portngal	2,280,000,000
Roumania	2,550,000,000
Rnssia	34,625,000,000
Servia	900,000,000
Spain	13,400,000,000
Sweden	2,750,000,000
Switzerland	2,690,000,000
United Kingdom	65,680,000,000
United States	127,625,000,000

HISTORICAL CHART.

THE WORLD'S HISTORY FROM THE FLOOD.

2350. The Deluge. 1921. Call of Abraham. 1728. Joseph sold into Egypt.
1706. Jacob removes into Egypt. 1574. Birth of Aaron. 1571. Moses born. 1491. Exodus.
1491. Law given from Mount Sinai. 1451. Death of Moses. 1451. Joshua.
1451. Israelites enter Canaan.

B. C.	HEBREWS.	EGYPT.	GREECE.
1300		The Pharaohs.	
	85. Deborah, judge in Israel.		63. Jason and the Argonauts.
1200	45. Gideon slaughters the Midianites.		
	88. Jepthah, judge.		94. Trojan war.
	56. Eli, judge.		84. Troy taken.
	37. Sampson.		
	20. Samuel.		
1100			
	95. Saul, king.	82. Cheops, king of Egypt, builds the great pyramid.	69. Codrus, last king of Athens, dies for his people.
	55. Death of Saul. David, king.		68. Archons chosen instead of kings.
	23. Revolt and death of Absolom.		43. Ionians settle in Asia.
	15. Solomon, king.		
	4. Dedication of the Temple.		
1000			
	75. Death of Solomon.	78. Shishak.	
	Rehoboam, king of **JUDAH.** / Revolt of the ten tribes. Jeroboam, king of **ISRAEL.**	71. Shishak conquers Judea and plunders the Temple.	
	58. Abijah defeats Jeroboam. / 54. Nadab.		
	55. Asa, a pious king. / 26. Samaria built.		
900	4. Jehoshaphat. / 18. Ahab and Jezabel.		
	89. Jehoram. / Elijah, the prophet.		
	88. Philistines plunder Jerusalem. / 88. Prophet Elisha.		Homer, Greek poet.
800			

B. C.	JUDAH.	ISRAEL.	ASSYRIA.	EGYPT.	GREECE.	ROME.
	78. Joash.	84. Jehu.			84. Lycurgus, lawgiver.	
	26. Jerusalem taken by Jehoash.	40. Jehoash defeats Benhadad, king of Syria.				
800						
	Joel, prophet.	Jonah, prophet.				
	59. Jotham.	47. Invasions of Assyrians under Tiglath-Pileser.	47. Tiglath-Pileser, king.		76. First Olympiad, from which the Greeks reckon time.	53. Rome founded by Romulus.
	42. Ahaz pays tribute to Tiglath-Pileser.	30. Hosea pays tribute.	28. Shalmaneser			50. Sabine war.
	26. Hezekiah.	6. Shalmaneser.			43. Messenian war.	
	Isaiah, prophet.					
	Nahum, prophet.	21. The ten tribes carried into captivity in Assyria.				
	10. Sennacherib destroyed.	9. Esarhaddon, king.		11. Invaded by Sennacherib.		
700						
	97. Manasseh.			11. Necho. Canal from Nile to Red Sea attempted.	85. Second Messenian war.	
	42. Amon.					
	41. Josiah.	Esarhaddon sends colonies into Samaria.				
	Jeremiah, prophet.					
	Habakkuk, prophet.	6. Nebuchadnezzar defeats Necho of Egypt and takes Jerusalem.		6. Necho defeated by Nebuchadnezzar.	24. Code of Draco.	16. Tarquin the Elder.
	6. Jerusalem taken by Nebuchadnezzar.					
600						
	98. Jehoiachin.			94. Apries, king.	94. Solon, Athenian lawgiver.	78. Servius Tullius.
	96. Zedekiah.	Nineveh destroyed by Nebuchadnezzar.		72. Devastation of Egypt by Nebuchadnezzar.	60. Pisistratus.	34. Tarquin the Proud.
	88. Jerusalem destroyed.			Amasis, king.	14. Harmodius and Aristogiton.	10. Lucretia.
	Ezekiel, prophet.			25. Psammenit, king.	10. Hippias expelled.	Brutus.
	Jews carried captive to Babylon.			Conquered by Cambyses, son of Cyrus. End of first Egyptian monarchy.		Republic.
	61. Evil-Merodach.					Consuls.
	60. Neriglissar.					
	55. Belshazzar.					
	38. Babylon taken by Cyrus the Mede.					
500	36. Jews restored by Cyrus.					

BABYLONIA.

B. C.	MEDES and PERSIANS.	GREECE.	MACEDON.	ROME.
	21. Darius. Zechariah, prophet. Haggai, prophet. 15. Second Temple dedicated at Jerusalem.		8. Subdued by Darius.	1. Dictators.
500				
	94. Darius invades Greece. 90. His army defeated at Marathon. 85. Xerxes. 81. Invades Greece. 80. Returns defeated. 67. Ezra returns to Jerusalem. 64. Artaxerxes I. 56. Esther, queen of Artaxerxes. 55. Nehemiah rebuilds Jerusalem.	90. Miltiades at Marathon. 80. Leonidas at Thermopylæ. Themistocles at Salamis. 79. Battles of Mycale and Platæa. Persians retreat to their own country. 64. Third Messenian war. 31. Peloponnesian war. 29. Death of Pericles. Socrates.		93. Tribunes chosen. 82. Coriolanus. 56. Cincinnatus, dictator. 49. Virginius kills his daughter, Virginia, to save her from Appius Claudius. 40. Great famine in Rome.
400				
	Artaxerxes Mnemon. Cyrus the Younger revolts and is slain at battle of Cunaxa. 36. Darius Codomanus.	95. Corinthian war. 80. Olinthian war. 78. Theban war. 71. Battle of Leuctra. 38. War with Macedon.	59. Philip II. 36. Alexander.	91. Rome invaded by the Gauls. 90. Rome burned. 69. Tribunes abolished. 43. Beginning of the Samnian war. 40. Surrender of the Latin cities.
	35. Alexander conquers Athens and Thebes. 34. Invades Persia. Battle of Granicus. 33. Battle of Issus. 32. Conquers Egypt and Tyre. Enters Jerusalem. 31. Battle of Arbela. 28. India. 24. Alexander dies at Babylon.			
300				
	EGYPT. Ptolemy Lagus. 84. Ptolemy Philadelphus. 46. Ptolemy Evergetes.	**JUDEA.** Subject to Egypt.	**SYRIA.** Seleucus. 83. Antiochus I. 46. Seleucus II. 26. Seleucus III.	**GREECE.** 97. Republic re-established. 81. Achæan League formed.
				98. Philip IV. 88. Lysimachus, king of Thrace, takes Macedon.
				80. Pyrrhus, king of Epirus, defeats the Romans. 74. Pyrrhus beaten. 65. First Punic war. 55. Carthaginians defeated. 7. Battle of the Metaurus.
200				

B. C.	EGYPT.	JUDEA.	SYRIA.	GREECE.	MACEDON.	ROME.
	21. Ptolemy Philopator.		23. Antiochus the Great.			18. Second Punic war.
						Hannibal defeats Romans at Ticinus.
				51. Renewal of the Achæan league.		16. Battle of Cannæ.
	4. Ptolemy Epiphanes.					14. First Macedonian war.
						3. Scipio in Africa.
200						2. Defeats Hannibal.
	80. Ptolemy Philometor.	Egyptians driven out by Antiochus.	75. Antiochus IV.	91. Sparta joins the league.	78. Perseus.	99. Second Macedonian war.
	45. Ptolemy Physcon.	65. Judas defeats Antiochus.	30. Antiochus VII.	88. Laws of Lycurgus ended.	68. Battle of Pydna.	72. Third Macedonian war.
	17. Ptolemy Lathyrus.	35. John Hyrcanus.	23. Antiochus VIII.	46. Corinth taken.		68. Defeat of Perseus.
		6. Aristobulus.	12. Antiochus IX.			49. Third Punic war.
		5. Alexander Jannaus.				46. Carthage destroyed.
100				34. First Servile war.		33. Spain conquered.
				2. Second Servile war.		
	Ptolemy Alexander.	70. Hyrcanus II.		90. Social war.		73. Third Servile war.
		67. Aristobulus II.	69. Antiochus XIII.	88. First Pontian war.		63. Cicero. Catiline.
	65. Berenice.	66. Judea and Syria subdued by Pompey.		86. Second Pontian war.		60. First Triumvirate. Pompey, Crassus and Cæsar.
	45. Cleopatra.	55. Cæsar invades Britain.		53. Crassus killed by the Parthians.		
		48. Civil war between Cæsar and Pompey.		44. Battle of Pharsalia. Pompey defeated.		
	30. Egypt subdued.	45. Cæsar, dictator.		44. Cæsar assassinated.		43. Second Triumvirate. Octavius, Anthony and Lepidus.
				30. Octavius Augustus, emperor.		
A. D.	The Advent.					9. Arminius defeats Varus.
	54. Nero.	70. Jerusalem destroyed by Titus.				81. Agricola conquers Britain.
100	17. Hadrian.	37. Jerusalem rebuilt.		63. Persecution of Christians.		196. Byzantium taken by Severus.
200	9. Caledonia invaded by Severus.	31. Persian war.		236. Persecution of Christians.		63. Franks in Gaul.
300	11. Edict to stop persecutions.			23. Constantine, sole emperor.		24. Constantinople founded.
	95.	**WESTERN EMPIRE.**				**EASTERN EMPIRE.**
400	Alaric ravages Italy.			9. Romans driven out of Spain.		47. Atilla, king of the Huns, exacts tribute from Theodosius II.
	19. Romans withdraw from Britain.					51. Battle of Chalons.
	76. Odoacer, king of the Heruli, puts an end to the empire.					

A. D.	WESTERN COUNTRIES.	ITALY.	EASTERN EMPIRE.	EASTERN COUNTRIES.
500	7. Clovis makes Paris his capital. 58. Clothaire, king of the Franks.	52. Ostrogoths expelled. 96. Lombards overrun Italy.	2. Ravaged by Persians. 29. Justinian Code published. 39. Belisarius in Italy.	31. Chosroes I., king of Persia.
600	28. Dagobert, king of France. 56. Clovis II., king of France. 78. Cadwallader, last king of the Britons.	62. Lombards defeat Constans II. 97. Anefesto, doge of Venice.	27. Heraclius invades Persia. 73. Saracens besiege Constantinople 79. seven years.	12. Mohammed begins to propagate his doctrines. 14. Persians take Syria and threaten Constantinople. 22. The Hegira. 38. Saracens in Arabia.
700	11. Saracens in Spain. 14. Charles Martel, duke of France. 32. Battle of Tours. 87. Danes in England.	74. Charlemagne conquers Lombards.	18. Second attempt by Saracens to take Constantinople.	
800	Charlemagne,	emperor of the West.	20. Michael II.	Aaron Al Raschid, caliph of Arabia. 9. Died.
900	**ENGLAND.** **Anglo-Saxon Kings** 28. Egbert, king. 71. Alfred the Great. 24. Athelstan. 33. Ravages Scotland.	**FRANCE.** 40. Charles the Bald. 12. Rollo the Norman has Normandy. **Capetian Dynasty.** 87. Hugh Capet, king.	**GERMANY.** **House of France.** 14. Louis the Debonnaire. **House of Saxony.** 19. Henry I., the Fowler. 34. Defeats Danes. 83. Otho III.	69. John Zimisces.
1000	16. Edmund. **Danish Kings.** 17. Canute I. 39. Canute II. 41. **Saxons Rest'd.** Edward the Confessor. 66. Battle of Hastings. **Norman Dynasty.** William I. 87. William II.	Robert II. 31. Henry I. 60. Philip I. 96. First Crusade. 98. War with England.	**House of Bavaria.** 2. Henry II. the Saint. **House of Franconia.** 22. Conrad II. 39. Henry III. 56. Henry IV. 73. War with the Saracens.	54. Schism of Greek Church. 81. Alexius Comnenus. 96. Suspicious reception of the Crusaders.
1100	Henry I. 35. Stephen.	8. Louis the Fat. 37. Louis VII.	6. Henry V. 38. Conrad II.	65. Turks take Jerusalem. 98. Crusaders take Antioch. 99. Crusaders take Jerusalem. 4. Crusaders take Aere.

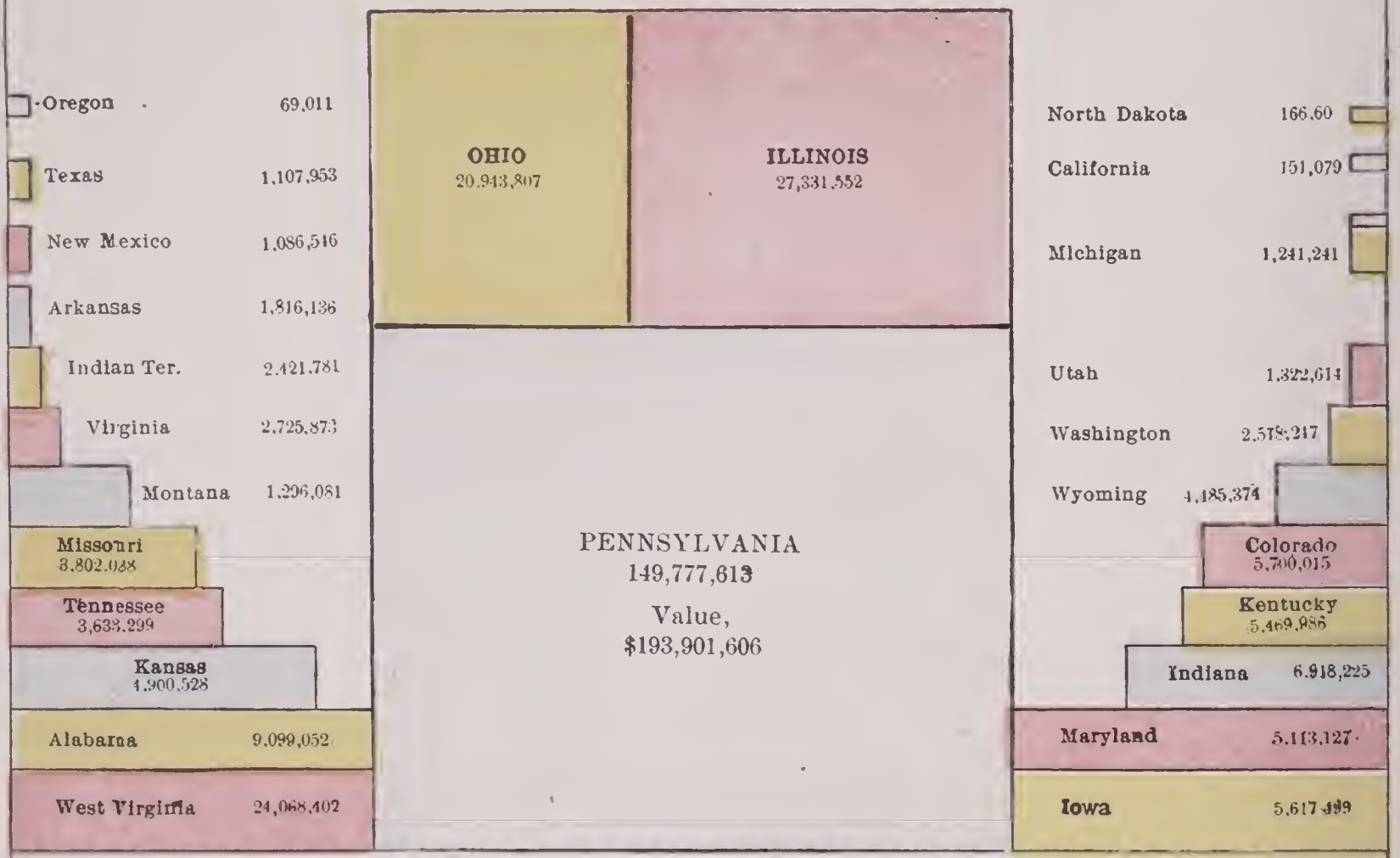
A. D.	ENGLAND.	FRANCE.	GERMANY.	CONTEMPORARY.	EAST'N EMPIRE.
1100	54. Henry II. of **The Plantagenets.** 71. Conquest of Ireland. 89. Richard I., Cœur de Lion. 99. John Lackland.	80. Philip II.	52. Frederic I., Barbarossa. 54. Invades Italy. 62. Destroys Milan. 67. Italian League.	6. Milan a free republic. 25. Venice in her glory. 46. Second Crusade. 59. Guelphs and Ghibellines. 87. Third Crusade. 94. Fourth Crusade.	43. Manuel Comnenus. 47. Perfidy to German Crusaders.
1200	15. Magna Charta. 16. Henry III. 62. War of the Barons. 65. Defeat of Barons. 72. Edward I. 82. Conquest of Wales. 97. Sir William Wallace in Scotland.	14. Battle of Bouvines. 23. Louis VIII. 26. Louis IX. (St. Louis.) 70. Philip III. 85. Philip IV., the Fair.	9. Otto IV. 18. Frederic II. 41. Hanseatic League. 73. **House of Hapsburg.** Rudolph I. 92. Adolph of Nassau. 98. Albert I.	Fifth Crusade. 18. Genghis Khan. 17. Sixth Crusade. 38. Moorish kingdom of Granada. 48. Seventh Crusade. 68. Eighth Crusade. 82. Sicilian Vespers. 99. Osman I. Turkish Empire.	4. **Latin Emperors.** Baldwin I. 6. Peter de Courtenay. 19. Robert de Courtenay. 28. Baldwin II. 61. **Recovered by the Greeks.** Michael Paleologus.
1300	7. Edward II. 14. Battle of Bannockburn. 27. Edward III. 46. Battle of Cressy. 56. Battle of Poictiers. 77. Richard II. 99. Henry IV., of **House of Lancaster.**	14. Louis X. 16. Philip V. 21. Charles IV. 28. **House of Valois.** Philip VI. 50. John II. 64. Charles V. 80. Charles VI.	7. Revolt of Swiss. William Tell. 15. Battle of Morgarten. Swiss Independence. 49. **House of Luxemburg.** Charles IV. 78. Wenceslaus.	11. Suppression of Knights Templars. 40. Battle of Tarifa. Moors defeated. 48. Dreadful pestilence throughout the world. 54. Death of Rienzi. 61. Free Lances in Italy. 96. Battle of Nicopolis. Christians defeated. 97. Union of Denmark, Sweden and Norway.	28. Andronic III. 41. John Paleologus. 60. Turks in Adrianople. 91. Manuel Paleologus. Empire reduced by Turks to city of Constantinople.
1400	13. Henry V. War with France. 15. Battle of Agincourt. 22. Henry VI. 53. War of the Roses. 61. **House of York.** Edward IV. 83. { **Edward V.** / **Richard III.** 85. **House of Tudor.** Henry VII.	22. Charles VII. 29. Joan of Arc enters Orleans. 51. France relieved of the English. 61. Louis XI. 81. Charles VIII. 96. **House of Valois-Orleans.** Louis XII. 99. French take Milan.	10. Sigismond. 15. John Huss burned. 19. John Zisca, a Hussite leader, gains many victories and makes terms with Sigismund. 38. **House of Austria.** Albert II. 40. Frederic III. 93. Maximilian I.	2. Battle of Angora. Tamerlane captures Bajazet I. 22. Amurat II. reunites Ottoman Empire. 25. War between Milan and Veniee. 40. Invention of Printing. 56. Battle of Belgrade. Turks defeated. 74. Ferdinand and Isabella in Spain. 92. Conquest of Granada. Columbus discovers America.	25. John Paleologus II. 48. Constantine Paleologus. 53. Constantinople captured by the Turks. End of the Empire.

A. D.	ENGLAND.	FRANCE.	GERMANY.	CONTEMPORARY.	AMERICA.
1500	9. Henry VIII. 13. Battle of Flodden. 15. Wolsey's power begins. 20. Field of the Cloth of Gold. 36. Ann Boleyn beheaded. 47. Edward VI. 53. Mary. 58. Elizabeth. 87. Mary of Scots beheaded. 88. Spanish Armada.	13. Invasion of English. 15. Francis I. 25. Battle of Pavia. 47. Henry II. 59. Francis II. 60. Huguenot War. 72. Massacre St. Bartholomew. 74. Henry III. 89. **House of Bourbon.** Henry IV. of Navarre.	17. Reformation. Luther. 19. Charles V. 21. Diet of Worms. 30. Augsburg Confession. 36. Death of John of Leyden 56. Abdication of Charles V. Ferdinand I. 64. Maximilian II. 76. Rudolph II.	21. Wars of Charles V. in Italy. 27. Capture of Rome. 33. Ivan IV. of Russia. 35. Order of Jesuits founded. 56. Philip II. of Spain. 59. Frederic II. of Denmark. 71. Battle of Lepanto. 81. Holland a republic. 82. Reformation of calendar.	12. Ponce de Leon, Florida. 19. Cortez, Mexico. 32. Pizarro, Peru. 41. De Soto in Louisiana. 65. St. Augustine in Florida, oldest city in United States.
1600	3. **House of Stuart.** James I. 25. Charles I. 49. **Commonwealth.** Oliver Cromwell. 60. **Restoration Stuarts.** Charles II. 66. Great fire, London. 79. Habeas corpus act. 85. James II. 88. William and Mary. 90. Battle of Boyne.	10. Louis XIII. 24. Cardinal Richelieu. 27. Siege of Rochelle. 43. Louis XIV. 48. Wars of the Fronde. 72. Invasion of Holland. 85. Revocation of the Edict of Nantes. 97. Peace of Ryswick.	12. Matthias. 18. Thirty-years' war. 17. Ferdinand II. 20. Battle of Prague. 30. Invaded by Gustavus Adolphus. 32. Battle of Lutzen. 34. Death of Wallenstein. 37. Ferdinand III. 59. Leopold I.	11. Gustavus Adolphus, Sweden. 13. Romanoff dynasty, Russia. 35. Tulip mania. 52. Van Tromp sweeps the Channel. 69. Turks take Candia. 83. Turks defeated at Vienna by John Sobieski, king of Poland. 89. Peter the Great, Russia. 97. Charles XII., Sweden. 99. Peace of Carlowitz.	7. Jamestown founded. 8. Quebec. 14. New York settled. 20. Plymouth Rock. 27. Swedes in Delaware. 34. Maryland. 83. Pennsylvania. 90. Sir William Phipps expedition.
1700	2. Anne. 4. Battle of Blenheim. 14. **House of Hanover.** George I. 27. George II. 39. War with Spain. 46. Battle of Culloden. 56. War with France. 60. George III. 75. War with colonies.	15. Louis XV. 16. George Law scheme. 45. Battle of Fontenoy. 74. Louis XVI. 78. Aids Americans. 89. States General. 90. Revolution. 92. Battle of Valmy. **Republic.** 99. Napoleon First Consul.	5. Joseph I. 11. Charles VI. 41. Charles VII. War of Austrian Succession. 45. **House of Lorraine.** Francis I. 65. Joseph II. 90. Leopold II. 92. Francis II.	1. War of the Spanish Succession. 9. Battle of Pultowa. Charles XII. defeated. 25. Catherine I., Russia. 40. Frederic II., Prussia. 41. Maria Theresa, queen of Hungary. 57. Battle of Prague. 60. Capture of Berlin. 62. Catherine II., Russia. 95. Partition of Poland.	59. Quebec taken. 61. Canada ceded to England. 75. Revolutionary war. 76. Declaration of Independence. 81. Surrender of Cornwallis. 89. Washington, president of United States.

A. D.	ENGLAND.	FRANCE.	PRUSSIA.	AUSTRIA.	CONTEMPORARY.	AMERICA.
1800	1. Union with Ireland. 3. War with France. 5. Trafalgar. 8. Peninsular war. 12. War with U. S. 13. Wellington clears Spain of the French. 14. Peace with U. S. 15. Battle of Waterloo. 20. George IV. 29. Catholic relief bill. 30. William IV. 37. Victoria 40. War with China. 48. Trouble in Ireland. 54. Crimean war. 56. War with Persia. 57. Mutiny in India. 66. Atlantic cable. 67. Fenian trouble. Abyssinian war. 72. Genevan confer. 78. Afghanistan war. 79. Zulu war. 80. Famine in Ireland. Land League. 82. War in Egypt. 88. Irish Home Rule discussions. 90. Heligoland ceded to Germany. 91. Overthrow and death of Parnell. 94. Lords reject Home Rule. Gladstone retires.	4. Napoleon I., emperor 5. Austerlitz. 6. Jena. 9. Battle of Wagram. 12. Campaign in Russia. 14. Allies enter France. **Restoration.** Louis XVIII. 15. Fall of Napoleon. 24. Charles X. 27. War with Algiers. 30. Louis Philippe. Conquest of Algiers. 48. **Revolution.** Louis Napoleon, president. 51. Coup d'état. 52. Napoleon III., emp. 59. War with Austria. 60. Savoy and Nice annexed. 63. French in Mexico. 67. Exposition. 70. War with Prussia. Napoleon taken at Sedan. Revolution 71. **Republic.** Thiers, president. 73. MacMahon, pres. 79. Jules Grèvy, president. 83. Occupation of Anam causes trouble with China. 84. French bombard Foo chong 87. Grèvy resigns 88. Sadi Carnot, pres. 89. Boulanger's election to the chamber. 91. Boulanger kills himself. 94. Pres. Carnot slain.	1. Takes Hanover. 6. Battle of Jena. 7. Peace of Tilsit. 8. Serfdom abolished. 13. War with France. 14. Prussians occupy Paris. 15. Germanic confederation. 34. Zollverein includes most of the States. 40. Frederic William IV. 48. Revolution. 50. New constitution. 53. Plot to overthrow government detected. **61. William I.** 64. War with Denm'k. 66. War with Austria. Battle of Sadowa. 70. Invasion of France 71. William made emperor of Germ'y. 78. Attempt to assassinate the emperor. 80. Socialists restless. 82. Imperial rescript. 88. Death of Wm. I. Accession, death of Frederick III. William II. 89. Germans in E. Africa and Samoa. 90. Bismarck resigns. 91. Death of Field-Mar. Von Moltke. 93. Triple Alliance 94. confirmed. William II. visits other rulers.	Empire. 4. Francis. 5. Battle of Austerlitz. 10 Marriage of Maria Louisa. 13. War with France. 15. Treaty of Vienna. Lombardo-Venetian kingdom established. 25. Hungarian diet meets. 35. Ferdinand I. 48. Hungarian war. Francis Joseph. 56. Amnesty to Hungarians. 59. War with France and Italy. Solferino. 61. Disaffection in Hungary. 66. Defeat at Sadowa. Withdrawal from confederation. 73. International exhibition, Vienna. 74. Reforms. 78. Occupation of Bosnia and Herzegovina. 80. Agreement with Germany on Eastern question. 87. Alliance with Germany and Italy. 89. Death of Crown-prince Rudolph. 91. Attempt to assassinate emperor.	1. Alexander, Russia. 8. French in Spain. 12. Burning of Moscow. 14. Ferdinand VII., Spain. 15. Holy alliance. 23. Civil war in Spain. 25. Nicholas, Russia. 27. Battle of Navarino. Greece independent. 43. Isabella, Spain. 49. Victor Emanuel, Sardinia. 54. Siege of Sebastopol. 55. Alexander II., Russia. 59. Sardinia annexes Lombardy. 60. Naples and Sicily taken. 61. Victor Emanuel King of Italy. 68. Rev'lut'n in Spain. 70. Rome, capital of It. Amadeus, K. of Sp. 75. Alfonso XII., Sp. 77. Russo-Turk. war. 79. Humbert, K. of It. 81. Assassination of Alexander II., Russia. 83. Coronation Alexander III. 86. Alfonso XIII., Sp. 88. Italy takes Massowah in Africa. 90. Wilhelmina, Q. of the Netherlands. First Japanese parliament. 94. War between Japan and China.	1. U. S. war with Tripoli, 3. Louisiana ceded to U. S. Hayti a republic. 12. U. S. war with England. 16. Buenos Ayres independent, 18. Chili independent. 20. Florida ceded to U.S. Colombia, Bolivia and Peru independent. 21. Mexico independent. 31. Pedro II., Brazil. 36. Texas a republic. 45. U.S. annexes Texas. 46. War between U.S. and Mexico. 50. Lopez attempt, Cuba. 61. Civil war in U. S. 63. French in Mexico. 64. Maximilian emperor. 67. U. S. buys Alaska. 71. War in Cuba. 72. Alabama claims awarded at Geneva. 77. Canadian and U. S. fishery commission. 78. Lorne, gov.-gen. of Canada. 81. Chili-Peru war. 82. Mexico encouraging railroads. 83. Marquis Lansdowne, gov.-gen. of Canada. 88. Slavery in Brazil abolished. 89. Brazil becomes a Republic. 90. Pan-Amer. confer. sits in Wash'ton. 92, 93. War between Chili and Peru.

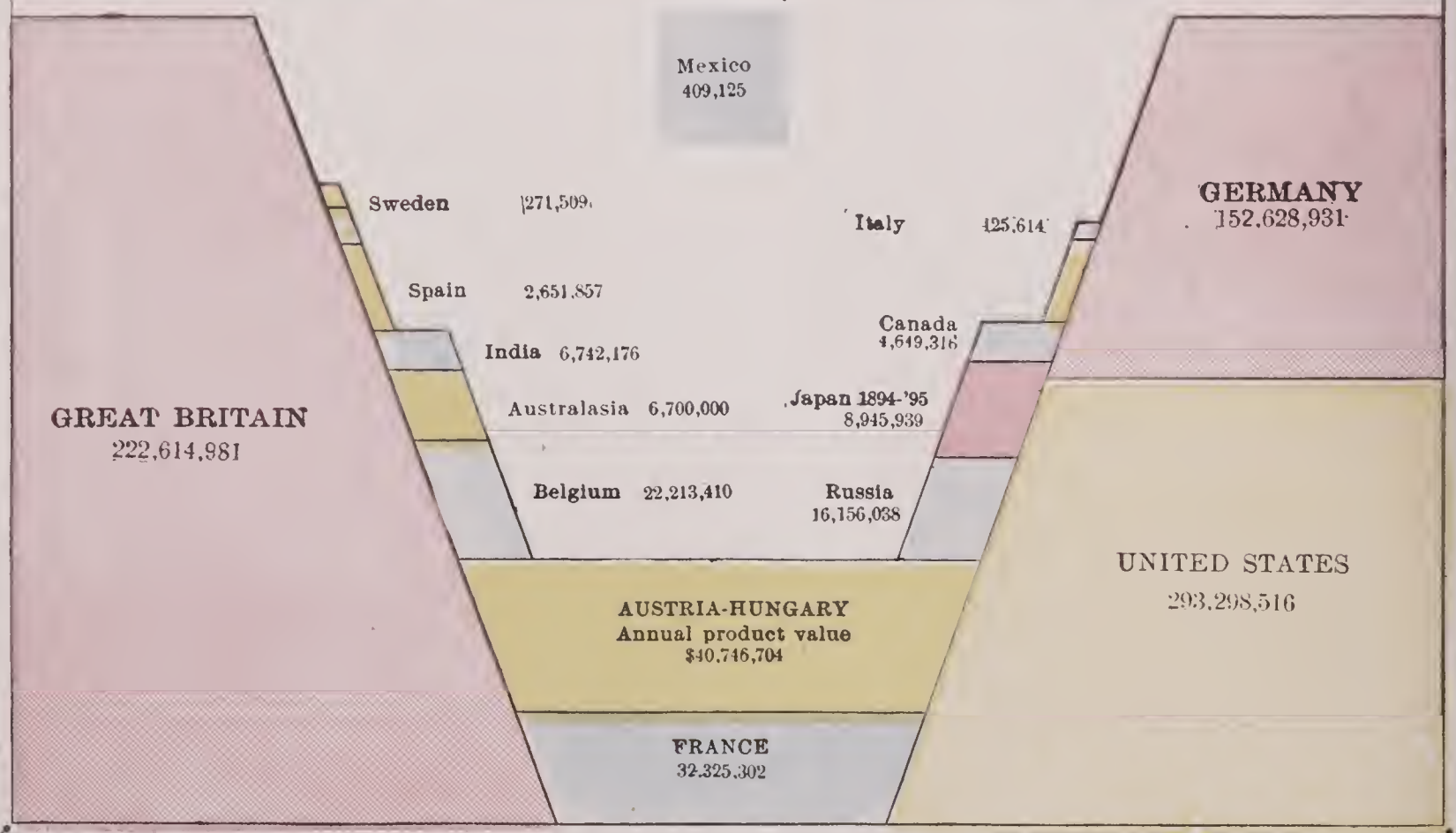
A. D.	ENGLAND.	FRANCE.	PRUSSIA.	AUSTRIA.	CONTEMPORARY.	AMERICA.
1800	96. Jameson raid. 99. Boer war.	96. M. Emil Loubet elected president. 98. Case of Captain Alfred Dreyfus. Discovery of Radium by Madame Curie.	95. Opening of Kaiser Wilhelm canal. 96. Twenty-fifth anniversary of the founding of the Empire. 98. Death of Bismarck.	92. Gold basis established. 95. Freedom of worship established. 98. Assassination of the Empress Elizabeth.	95. Cuban revolution. 97. Turkish-Greek war. 99. Universal Peace Conference.	93. Chicago exposition. 98. Spanish-American war.
1900	00. Indian famine. 01. Death of Queen Victoria. Accession of King Edward VII. of England. 02. Peace established in South Africa.	00. Paris Exposition. 04. Agreement with England concerning Newfoundland.	02. Prince Henry visits America.	00. Public debt exceeded one and one-half billion dollars. 03. Student riots in Budapest	00. Boxer insurrection in China. Assassination of King Humbert of Italy. 02. Palma inaugurated first president of Cuba. 03. Republic of Panama established.	01. Pan-American exposition. Assassination of President McKinley. Organization of the Steel Trust, capitalized at $1,400,000,000. 02. Martinique disaster. Settlement of the Alaska boundary controversy. 04. St. Louis exposition. Work commenced by the United States on the Panama canal.

BITUMINOUS COAL MINED BY MACHINES IN THE UNITED STATES IN SHORT TONS. (1903)



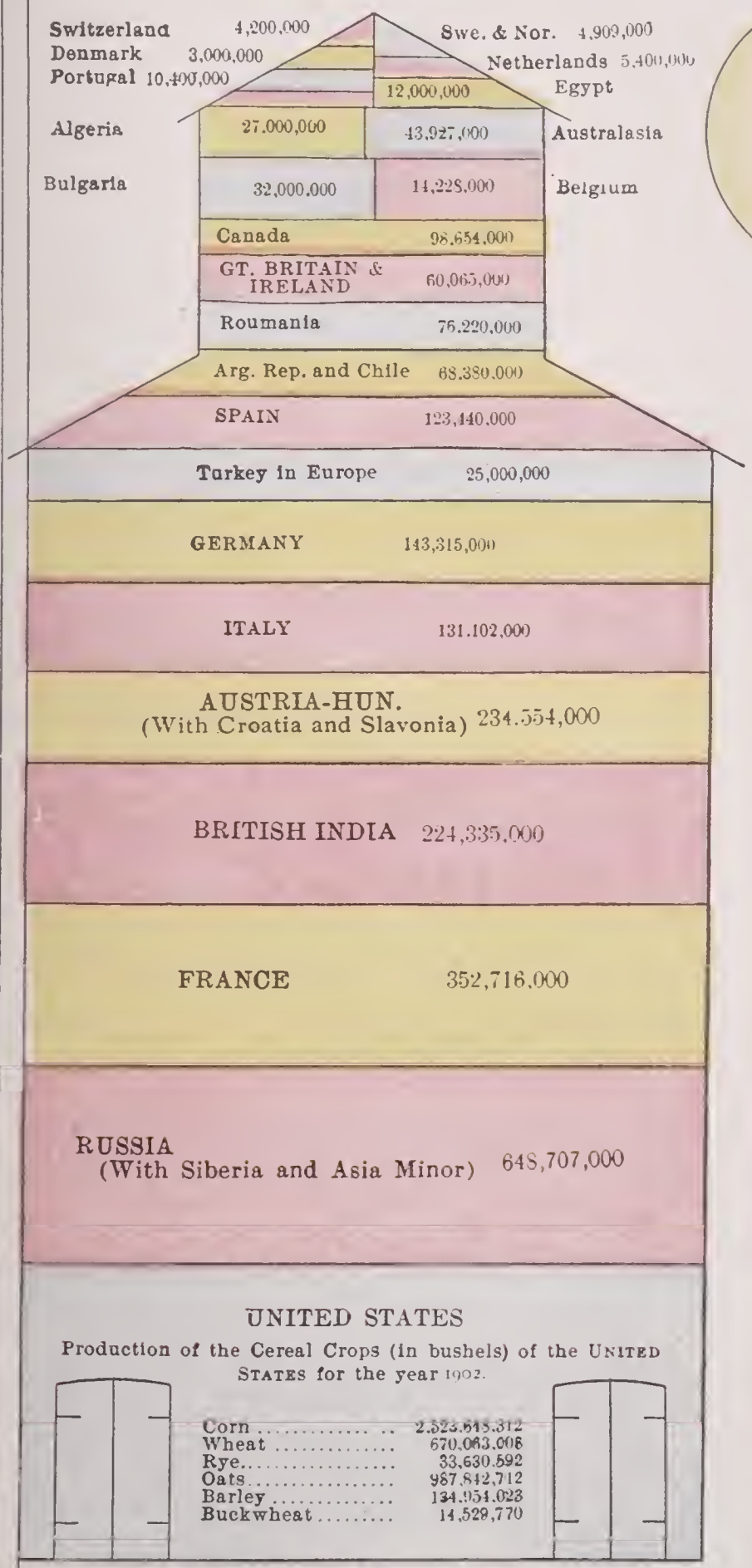
ONE YEAR'S PRODUCTION OF COAL, IN TONS, IN THE WORLD. (1903)

Scale unit. 63,000.



THE GRAIN CROPS OF THE WORLD. (1903)

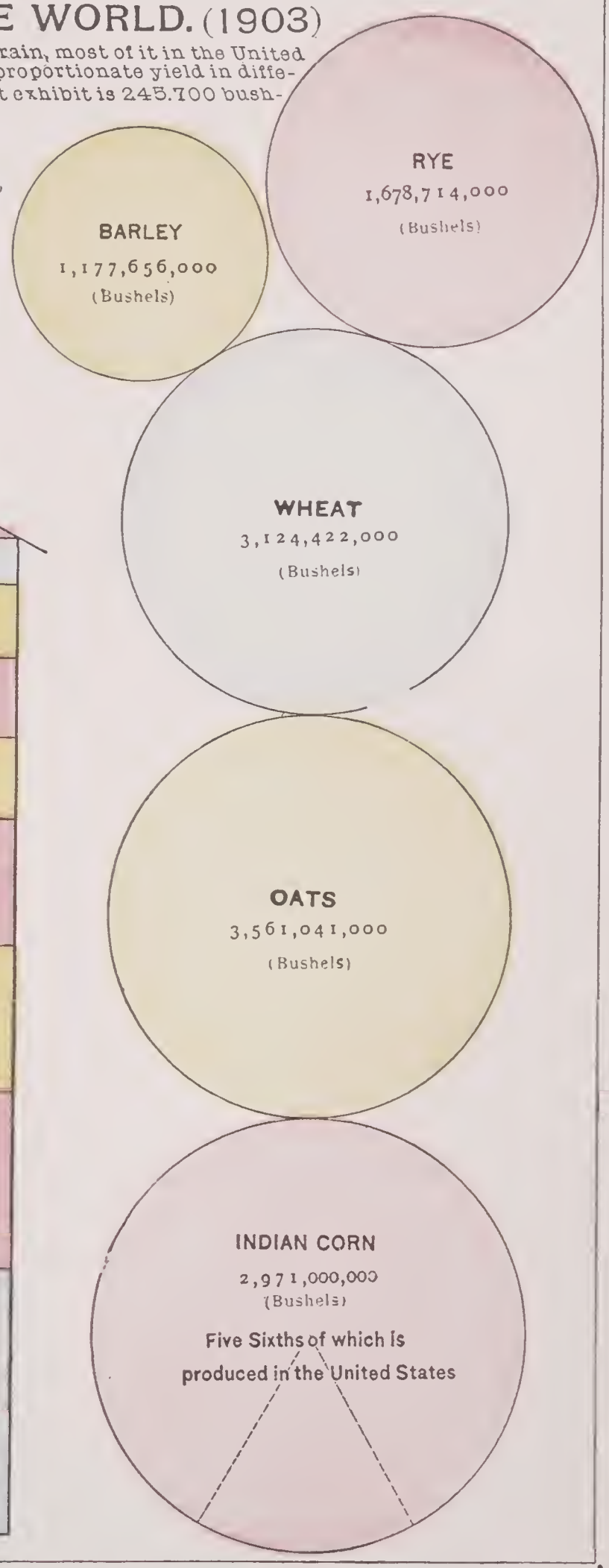
There is more Indian Corn produced than any other grain, most of it in the United States. Wheat being more generally distributed, the proportionate yield in different countries is given. The Scale Unit for the Wheat exhibit is 245,700 bushels. That for the grain cirles is 1,399,500.



UNITED STATES

Production of the Cereal Crops (in bushels) of the United States for the year 1902.

Corn	2,523,648,312
Wheat	670,063,008
Rye	33,630,592
Oats	987,842,712
Barley	134,954,023
Buckwheat	14,529,770

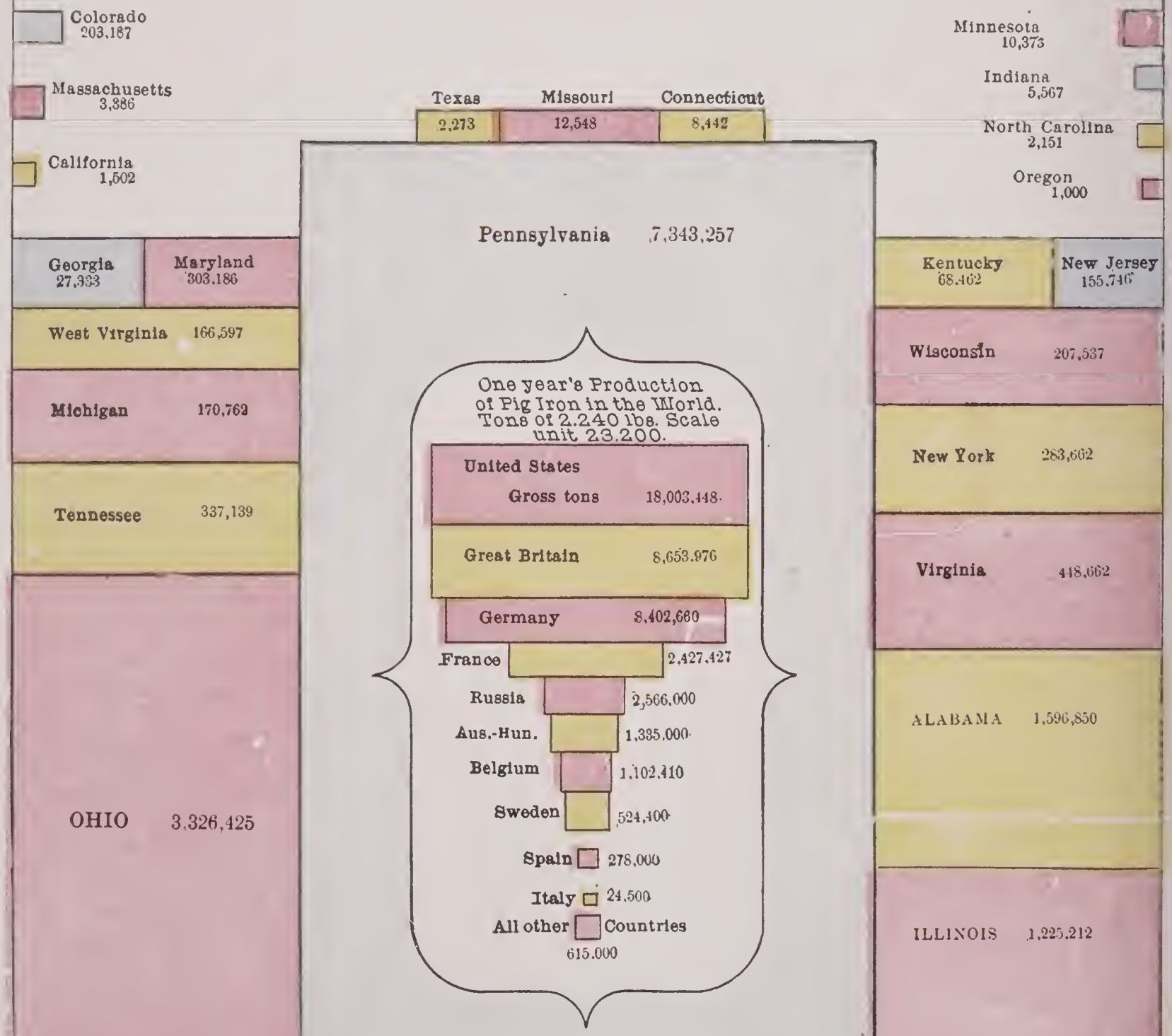


Production of Pig Iron in the United States

IN ONE YEAR. (1903)

From Statistics of American Iron and Steel Association.

IN TONS OF 2,000 LBS. **SCALE UNIT 500.**



Total production of Pig Iron in the world, in metric tons, 44,557,991.

RELIGIONS IN THE UNITED STATES.

Am. Wesleyan Methodists 17,000
Unitarians 71,000
7th Day Advent 98,487
Universalists 52,944

German Evangelical 209,156
Reformed Dutch 110,456
United Presb. 117,232
Friends 118,306
African Methodist 728,354
Shakers 1,000
Mennonites 59,274

Church of God 38,000
Anti-Mission Baptists 40,000
Dunkards 106,191

Christian Union 18,214
Cumberland Presbyterian 180,192
DISCIPLES BAPTISTS 1,207,377
Methodist Protestant 181,097
Free Will Baptist 84,436
Presbyterian South 230,655
Reformed German 176,937

Methodist U. Brethren 277,352
Dowieites 40,000
Congregationalists 650,324
Protestant Episcopal 758,052
TOTAL LUTHERAN 1,745,583

PRESBYTERIANS NORTH 1,024,196

TOTAL METHODIST 6,084,755

Six Principle Baptists 957

METHODIST EPISCOPAL SOUTH 1,518,854

NOTE.
About one third of the whole population is enrolled in Church membership, but a census of believers in Christianity would leave out only a very small fraction.

METHODIST EPISCOPAL NORTH 2,801,798

Jews 143,000

BAPTISTS 4,729,487

Mormons 340,500

Methodist Union Col'd. 3,500
Methodist Primitive 6,520
Gen. Synod Reformed Presbyterian 5,000
Spiritualist 45,030
Swedenborgians 7,095
Reformed Ass. Presb. 7,515
Reformed Episcopal 8,455
Christian Scientists 51,608

ROMAN CATHOLIC 9,401,798

Salvation Army 22,534

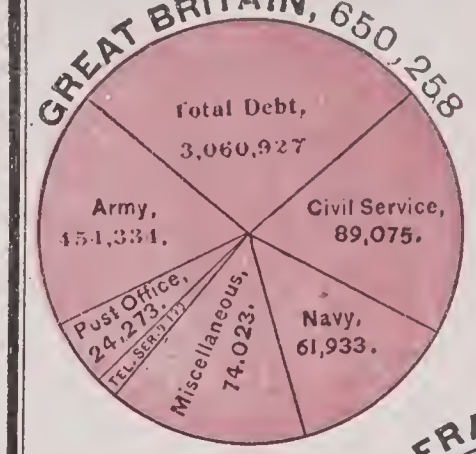
Reformed Presb. 10,574
Adventists 11,100
Moravians 15,505
Welsh Calvinist 12,722
Free Methodists 28,038
Theosophical Society 1,629
United Brethren 277,352

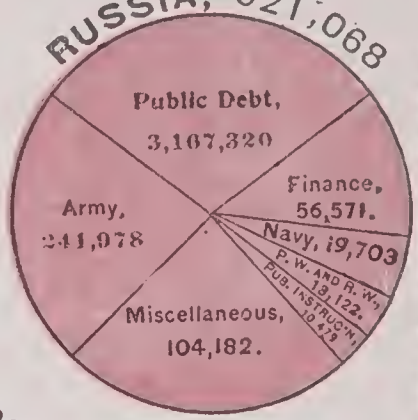
UNITED STATES CLIMATE AND RAINFALL.

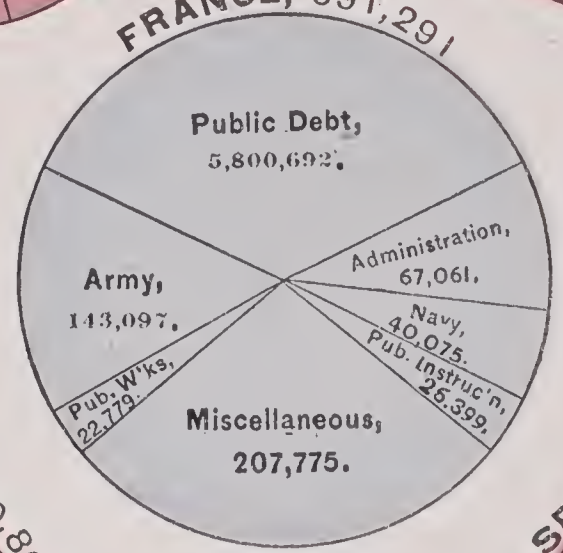
The variations of Temperature and the comparisons of heat and cold, between the States shown at a glance.

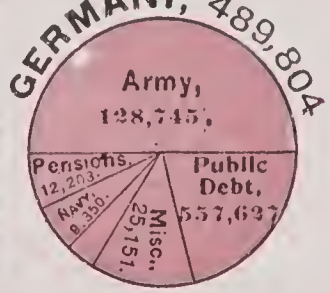
	Highest Temperature at any point, at any time in the State.	*Mean Annual Temperature.*	*Lowest Temperature any part of State.*	*Annual Rainfall and melted Snow.* Inches
Florida	104. Deg.	69	Zero	60.43
Louisiana	107	67.1	14.9 above	58.75
Alabama	106.9	65.9	1.3 above	59.46
South Carolina	104	65.8	5 6 above	58.92
Mississippi	101	65.4	10.5 above	60.54
Georgia	105	63.9	3 above	52.61
Texas	116	63.6	2. 4 Deg.	38.69
North Carolina	107.1	61.4	12	62.05
Arizona	113	61.4	5	11.56
California	110.5	60.8	18	20.90
Arkansas	104.5	60.2	3.8	48.04
Indian Ter.	107.6	60.2	6.9	31.62
Tennessee	104	59.9	20	55.52
Virginia	103	58	16	47.35
Kentucky	104.6	56.6	5	48.34
Maryland	101	55.4	19.5	43.11
Missouri	106.4	55.3	0	42.55
Dis't Columbia	104.3	54.7	21.5	44.39
Delaware	98.1	54	14	32.62
West Virginia	97	53.8	1 above	46.91
Illinois	103	53	10	42.08
Indiana	101	52.7	23	46 03
Oregon	110	52.5	25	32.08
Ohio	103.5	52.4	34	39.15
New Jersey	99	52.2	20.3	46.17
Kansas	108	52.1	10	29.19
Pennsylvania	102.7	51.3	29	40.12
New Mexico	110.2	50.9	16	17.46
Idaho	106.9	50.6	13	16.16
Utah	101	50.3	38	12.75
Rhode Island	92	49.7	20	51.13
Connecticut	100	49.45	9	49.36
Nevada	104	49.4	14	9.74
Iowa	104.4	49.2	23	38.70
Colorado	105.2	48.93	31.5	12.78
Washington	108.7	48.9	37	57.41
Massachusetts	107.5	48.9	26	43.44
New York	100.2	48.7	14	38.91
Nebraska	107	47.3	22.9	22.87
Wisconsin	101	45.6	32	33.33
Vermont	97	45.1	43	28.76
Maine	97	43.9	24.8	45.63
Michigan	100	43.7	21	34.70
Dakotas	109.5	41.2	33.4	20.91
Montana	110.8	41.1	48.2	13.00
Minnesota	103,4	38.8	63.1	26.71
Wyoming	100,5	35.6	47.8	9.84
New Hampshire	74	26.1	53.5	83.53
			50	

CLASSIFIED EXPENDITURE OF NATIONS.

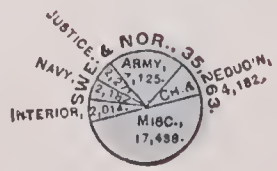


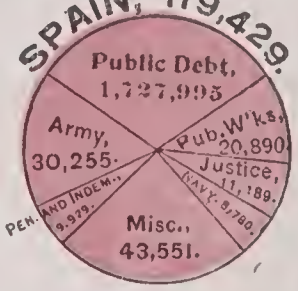


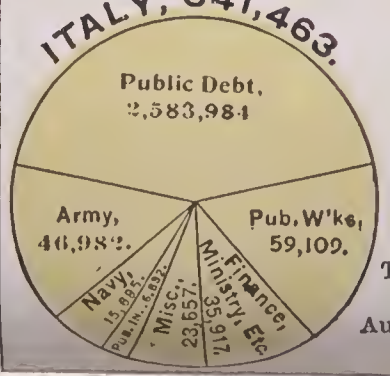




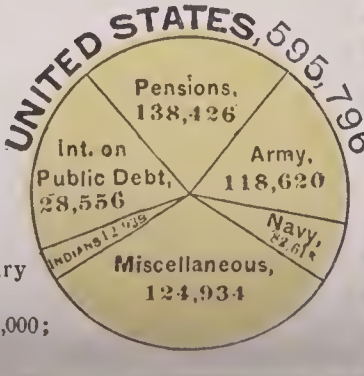
Figures Represent Thousands of Dollars.







The figures for Austria-Hungary are for the Empire proper. Austria spends annually $225,000,000; Hungary, $208,509,000.



Estimated value of the Gold and Silver produced in the United States during 52 years.

From 1849 to 1855 $385,350,000

1856 to 1860 $256,850,000

1861 to 1865 $258,775,000

1866 to 1870 $316,225,000

1871 to 1875 $339,010,912

1876 to 1880 $415,962,880

1881 to 1890 $861,675,000

1891 to 1900 $1,245,952,000

THE WORLD'S PRODUCTION OF THE PRECIOUS METALS IN ONE YEAR. 1903

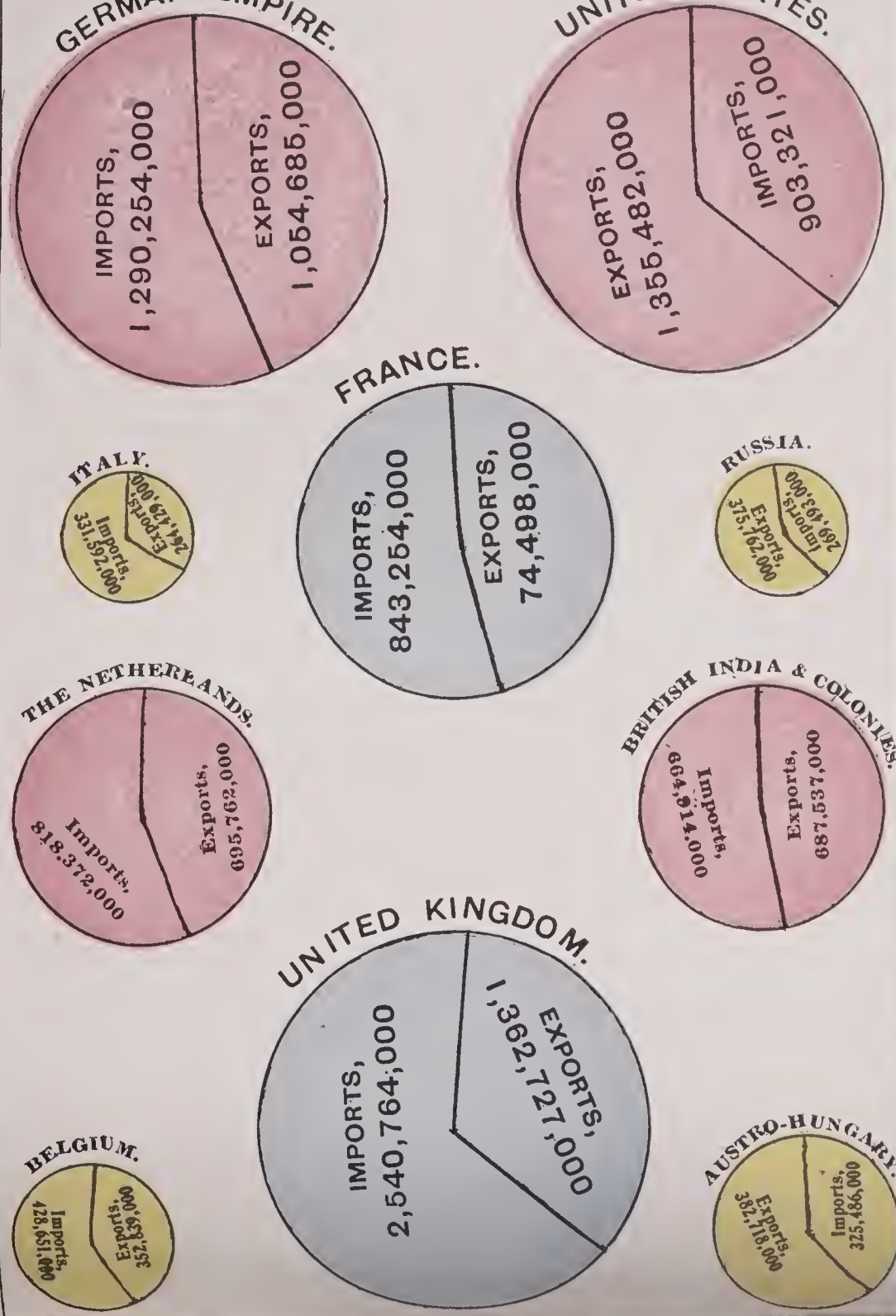
Gold (*Dollars*) *Silver*

Gold		Silver
	629,500	1,478,536 ..... Washington
Alaska	8,345,800	118,950 North Carolina
Oregon	1,816,700	120,630 Georgia
New Mexico	531,100	591,127 South Carolina
South Dakota	6,965,400	439,855 All Others
Arizona	4,112,300	3,934,573
Idaho	1,475,000	7,569,842
Utah	3,594,500	14,004,622
Nevada	2,895,300	4,843,572
	16,792,100 CALIFORNIA	1,164,671
	4,373,600 MONTANA	17,123,297
	28,468,700	COLORADO 20,267,960
	RUSSIA 22,533,400	205,200
	AFRICA 39,023,700	
	10,153,100 MEXICO	77,804,100
12,285,800	SOUTH AMERICAN COUNTRIES	29,233,300
	20,741,200 CANADA	5,564,500
	AUSTRALASIA 81,578,800	10,377,100
Germany	62,500	7,399,000
	Brit. India 9,588,100	
	All other Countries 11,163,100	12,079,600

Value yield of gold mined in the U. S. in the year 1903, $80,006,000

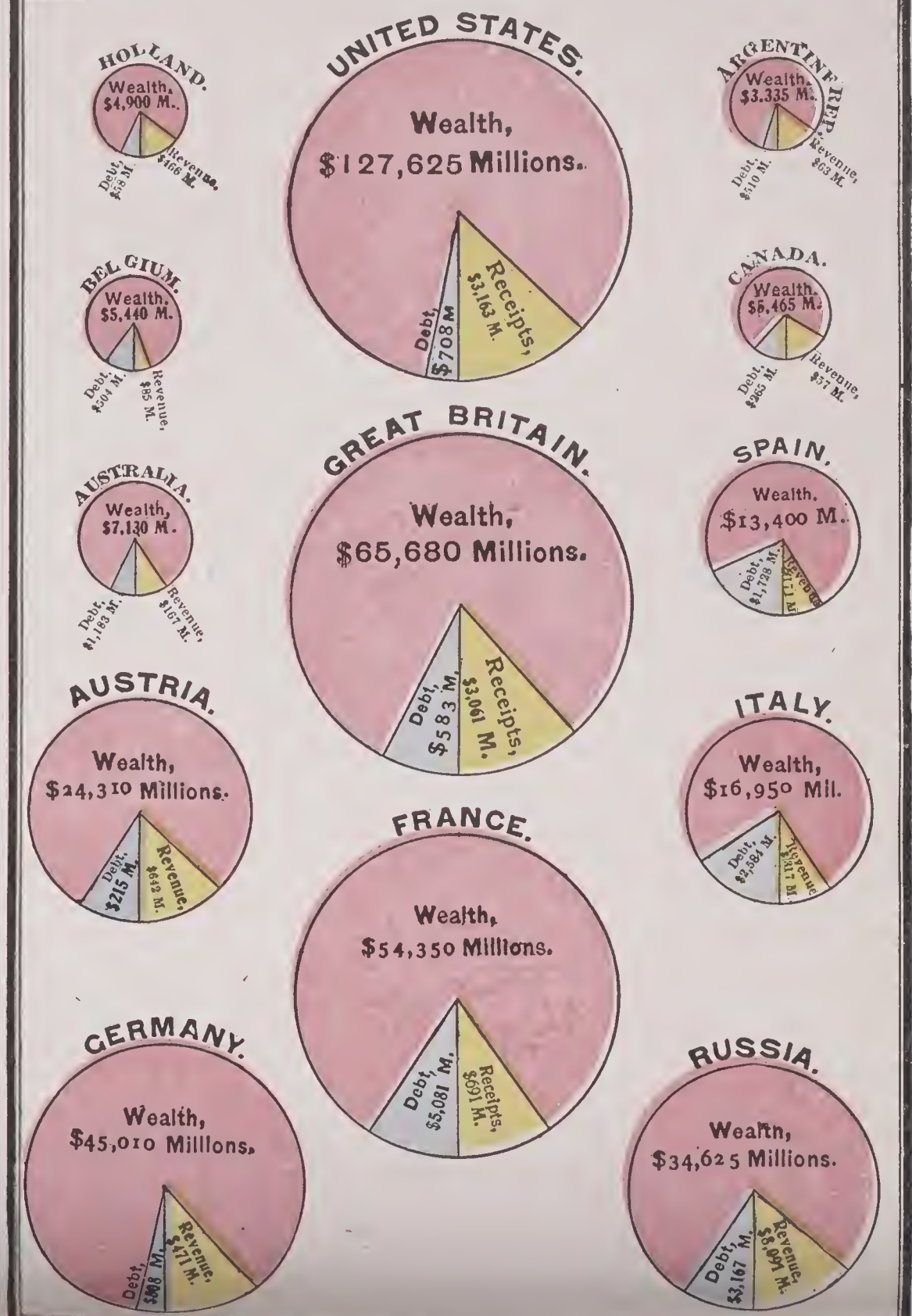
Coining value of silver mined in the U. S. in the year 1903, $71,757,600.

COMPARATIVE COMMERCE OF NATIONS.



COMPARATIVE WEALTH, INCOME AND DEBT

OF VARIOUS COUNTRIES.



Wars of the United States.

Statement of the Number of United States Troops Engaged.

WARS.	FROM.	TO.	REGULARS.	MILITIA AND VOLUNTEERS.	TOTAL.
War of the Revolution	April 19, 1775	April 11, 1783	130,711	164,080	309,781
Northwestern Indian Wars	Sept. 19, 1790	Aug. 3, 1795			8,983
War with France	July 9, 1798	Sept. 30, 1800			4,593
War with Tripoli	June 10, 1801	June 4, 1805			3,330
Creek Indian War	July 27, 1813	Aug. 9, 1814	600	13,181	13,781
War of 1812 with Great Britain	June 18, 1812	Feb. 17, 1815	85,000	471,622	576,622
Seminole Indian War	Nov. 20, 1817	Oct. 21, 1818	1,000	6,911	7,911
Black Hawk Indian War	April 21, 1831	Sept. 31, 1832	1,339	5,126	6,465
Cherokee disturbance or removal		1836 — 1837		9,494	9,494
Creek Indian War or disturbance	May 5, 1836	Sept. 30, 1837	935	12,483	13,418
Florida Indian War	Dec. 23, 1835	Aug. 14, 1843	11,169	29,953	41,122
Aroostook disturbance		1836 — 1839		1,500	1,500
War with Mexico	April 24, 1846	July 4, 1848	30,954	73,776	112,230
Apache, Navajo, and Utah War		1849 — 1855	1,500	1,061	2,561
Seminole Indian War		1856 — 1858		3,687	3,687
Civil War*		1861 — 1865			2,772,408
Spanish-American War	April 21, 1898	Aug. 12, 1898			274,717
Philippine Insurrection		1899 — 1900			60,000

*The number of troops on the Confederate side was about 600,000.

Weather Bureau.

THE WEATHER BUREAU was first suggested in 1817 by Josiah Meigs, then Commissioner of the Land Office, who established a system of meteorological registers in connection with the office. In 1819 a co-operative movement was begun by Surgeon General Lovell of the army, who had weather reports made each month by the officers of different military posts. Some twenty years later the lake system of meteorological observations was established by the Engineer Department. In 1836 predictions of meteorological phenomena began to be made by the Smithsonian Institute and the results of these, together with those of the Land Office and War Department, being published in 1839, formed the basis for a scientific meteorological bureau. In 1869 the "Weather Bulletin of the Cincinnati Bureau" appeared. In 1870 Congress made a money appropriation for the establishment of a Weather Bureau at Washington and ordered arrangements to be made for telegraphic communications between posts of observation all over the country. Until 1891 the Bureau was a bureau of the War Department; in that year it was transferred to the Department of Agriculture.

The Weather Bureau of the United States furnishes daily weather bulletins from its Washington office to the number of 100,000 or more, which contain forecasts of the weather throughout the country. These bulletins are sent by telegraph to the various weather stations, to railway officials, postmasters, and others interested in weather conditions, all of whom are expected to communicate their forecasts to the public. This is done by means of small flags, conspicuously displayed, and five in number.

No. 1. White flag: means clear or fair weather.

No. 2. Blue flag: means rain or snow.

No. 3. White and blue flag: means local rain or snow.

No. 4. Black triangular flag: is the temperature flag.

No. 5. White flag with black square in centre: means cold wave.

When No. 4 is placed above No. 1, 2, or 3 it indicates warmer; when below, colder; when not displayed, the temperature is expected to remain about stationary. During the late spring and early fall the cold wave flag is also used to indicate anticipated frosts.

Weather, Rules for Foretelling.

A Rising Barometer.

A RAPID rise indicates unsettled weather.

A gradual rise indicates settled weather.

A rise with dry air and cold increasing in summer indicates wind from the northward; and if rain has fallen, better weather may be expected.

A rise with moist air and a low temperature indicates wind and rain from the northward.

A rise with southerly winds indicates fine weather.

A Steady Barometer.

With dry air and seasonable temperature indicates a continuance of very fine weather.

A Falling Barometer.

A rapid fall indicates stormy weather.

A rapid fall with westerly wind indicates stormy weather from the northward.

A fall with a northerly wind indicates storm, with rain and hail in Summer and snow in Winter.

A fall with increased moisture in the air, and heat increasing, indicates wind and rain from the southward.

A fall with dry air and cold increasing in Winter indicates snow.

A fall after very calm and warm weather indicates rain with squally weather.

The barometer rises for northerly winds, including from northwest by north to the eastward, for dry or less wet weather, for less wind, or for more than one of these changes, except on a few occasions, when rain, hail, or snow comes from the northward with strong wind.

The barometer falls for southerly wind, including from southeast by south to the westward, for wet weather, for stronger wind or for more than one of these changes, except on a few occasions, when moderate wind, with rain or snow, comes from the northward.

Weight of Articles as Compared with Water.

WHAT is known as the specific gravity of an article is its weight when compared with that of an equal quantity in cubic inches or cubic feet of distilled water at a temperature of 60° Fahrenheit. Thus, a cubic foot of such water is found to weigh approximately 1,000 avoirdupois ounces; but in order to simplify comparisons with the weight of other articles, one-tenth of this weight of water, or 100 ounces, is taken for

tabular purposes. Therefore, if you wish to ascertain the full and true weight of a cubic foot of any of the articles in the comparative table below, you multiply the figures opposite them by 10; *i. e.*, opposite cast iron you find 721, which, as compared with water at 100, shows it to be 721 times heavier than water; and, when multiplied by 10 equals to 7,210, that is, a cubic foot of cast iron weighs 7,210 ounces. And so for all the other articles.

Water	100	Gunpowder	93
Alcohol	84	Honey	145
Ash wood	84	Ice	92
Bar iron	779	Indigo	77
Beech wood	85	Ivory	183
Beer	102	Lead	1,135
Brass	840	Mahogony	106
Butter	94	Maple	75
Cast iron	721	Marble	270
Cedar wood	61	Mercury	1,357
Chalk	279	Oak	117
Cherry wood	72	Opium	134
Cider	102	Pear wood	66
Clay	120	Platina	2,150
Coal	130	Poplar wood	38
Copper	895	Porter	104
Cork	24	Sea water	103
Cow's milk	103	Silver	1,047
Dead Sea Water	124	Steel	783
Diamond	353	Sulphur	203
Ebony	133	Tin	729
Fir wood	55	Turpentine	99
Glass	289	Urine	101
Goat's milk	104	Walnut wood	67
Gold	1,926	Wine	100
Granite	278	Woman's milk	102

Wheat.

The Great Wheat Producing States, 1903.

STATE.	ACRES.	BUSHELS.	VALUE.
Kansas	4,660,376	82,488,655	$45,368,760
Minnesota	4,905,643	51,509,252	32,450,829
California	2,771,226	28,543,628	16,555,304
Washington	1,067,943	25,096,661	12,799,297
Nebraska	2,066,825	24,801,900	13,145,007
Texas	1.271,517	23,395,913	14,973,384
Iowa	1,397,322	21,798,223	12,860,952
Pennsylvania	1,502,321	20,281,334	14,602,560
South Dakota	1,920,244	20,149,634	11,686,817
Missouri	1,507,787	18,846,713	11,873,429
Illinois	1,383,236	17,982,068	11,508,524
Oregon	1,173,769	16,198,012	8,908,907
North Dakota	2,639,023	13,176,213	7,642,204

The Wheat Crop of the World, in Bushels. 1903.

COUNTRIES.	BUSHELS.
United States	670,063,000
Canada	98,654,000
Argentina	56,380,000
Chile	12.000,000
Austria	49.655,000
Hungary	168,899,000
Roumania	76,220,000
Turkey in Europe	25,000,000
Bulgaria	32,000,000
Italy	131,102,000
Spain	123,440,000
Frauce	352,716,000
Germany	143,315,000
Belgium	14,228,000
Great Britain	60,065,000
Portugal	10,400,000
Russia in Europe	567,014,000
British India	224,335,000
Egypt	12,000,000
Algeria	27,000,000
Australasia	43,927,000
Mexico	12,403,000
Russia in Asia	81,693,000
Turkey in Asia	35,000,000
Other Countries	97,291,000
The World	3,124,422,000

Prices in the Chicago Market, 1860-1903.

YEARS.	Months of Lowest Price.	Yearly Range of Prices.	Months of Highest Prices.
1860	December.	$0.66 @ $1.13	April.
1861	June and July.	.55 @ 1.25	May.
1862	January.	.64 @ .92½	August.
1863	August.	.80 @ 1.12½	December.
1864	March.	1.07 @ 2.26	June.
1865	December.	.85 @ 1.55	January.
1866	February.	.77 @ 2.03	November.
1867	August.	1.55 @ 2.85	May.
1868	November.	1.04½ @ 2.20	July.
1869	December.	.76½ @ 1.46	August.
1870	April.	.73¼ @ 1.31½	July.
1871	August.	.99½ @ 1.32	Feb., Apr. and Sept.
1872	November.	1.01 @ 1.61	August.
1873	September.	.89 @ 1.46	July.
1874	October.	.81½ @ 1,28	April.
1875	February.	.83¼ @ 1.30½	August.
1876	July.	.83 @ 1.26¾	December.
1877	August.	1.01½ @ 1.76½	May.
1878	October.	.77 @ 1.14	April.
1879	January.	.81⅝ @ 1.33½	December.
1880	August.	.86½ @ 1.32	January.
1881	January.	.95⅜ @ 1.43¼	October.
1882	December.	.91⅛ @ 1.40	April and May.
1883	October.	.90 @ 1.13½	June.
1884	December.	.69½ @ .96	February.
1885	March.	.73⅜ @ .91¾	April.
1886	October.	.69⅜ @ .84¾	January.
1887	August.	.66⅝ @ .94¾	June.
1888	April.	.71⅛ @ 2.00	September.
1889	June.	.75½ @ 1.08¾	February.
1890	February.	.74¼ @ 1.08¼	August.
1891	July.	.85 @ 1.16	April.
1892	October.	.69⅛ @ .91¾	February.
1893	July.	.54⅜ @ .88	April.
1894	September.	.50 @ .65¼	April.
1895	January.	.48¾ @ .85⅜	May.
1896	June.	.53⅜ @ .94⅜	November.
1897	April.	.64⅛ @ 1.09	December.
1898	October.	.62 @ 1.85	May.
1899	December.	.64 @ .79½	May.
1900	January.	.61½ @ .87½	June.
1901	July.	.63⅛ @ .79½	December.
1902	October.	.67½ @ .95	September.
1903	March.	.70¼ @ .93	September.

White House.

The President's house or executive mansion at Washington is called the "White House" because it is painted white. The corner-stone was laid in 1792, and President Adams was the first President who occupied the mansion. It was completed in 1800. When the British held Washington for a single day in 1814, the White House was burned together with the Capitol and other buildings. Congress authorized its restoration in 1815, and it was again ready for occupation in 1818 and has been occupied by each successive President since that time. Its model was the house of the Duke of Leinster at Dublin. A separate but contiguous structure for executive offices was erected in 1902.

Woman Suffrage.

TWENTY-EIGHT States, a large majority of the Union, have given women some form of suffrage. In Arizona, Delaware, Idaho, Illinois, Indiana, Kansas, Kentucky, Massachusetts, Michigan, Minnesota, Montana, Nebraska, New Hampshire, New Jersey, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Vermont, Washington, and Wisconsin, women have various forms of school suffrage. In Wyoming women have

had the same vote as men since 1869. This right was confirmed by the Constitutional Convention of 1889, and Wyoming was admitted to the Union in 1890. They have generally voted the Republican ticket, that party having been mainly instrumental in enfranchising them. In Utah women voted from 1870 until disfranchised by Congress in the "Edmunds Law" of 1882. A law was passed by the New York Assembly in 1891 enabling women to vote. This bill had been proposed in 1880. No vote was taken in the Senate. In Kansas they have equal suffrage with men at municipal elections. In Arkansas and Missouri they vote, by signing or refusing to sign petitions, on liquor license in many cases. In Louisiana they vote on allowing railroads to run through their parish. In Mississippi they were admitted in 1892 to vote on fence questions by the stock law. In Montana they vote on local taxation. In Delaware suffrage is granted them in several municipalities. In Colorado, Idaho, and Utah they have recently been allowed the same rights of suffrage as men.

Wool.

The World's Production in 1903.

COUNTRIES.		POUNDS.
North America:		
United States	287,450,000	
British Provinces	12,000,000	
Mexico	5,000,000	
Total		304,450,000
Central America:		
And West Indies		5,000,000
South America:		
Argentina	370,000,000	
Brazil	1,500,000	
Chile	7,500,000	
Uruguay	96,000,000	
Venezuela	15,000,000	
All other South America	20,000,000	
Total		510,000,000
Asia:		
Russia	60,000,000	
Central Asia	46,000,000	
British India	85,000,000	
Asiatic Turkey	33,000,000	
China	35,000,000	
All other Asia	15,000,000	
Total		274,000,000
Australasia		500,000,000
Oceanica		50,000
Europe:		
Great Britain and Ireland	134,000,000	
France	103,610,000	
Spain	102,600,000	
Portugal	13,410,000	
Germany	49,590,000	
Italy	21,451,000	
Austria-Hungary	64,300,000	
Russia, including Poland	361,100,000	
Sweden and Norway	8,200,000	
Turkey and Balkan Peninsula	67,500,000	
All other Europe	14,000,000	
Total		939,761,000
Africa:		
Algeria and Tunis	30,425,000	
Cape Colony, Natal, Orange Free State	100,000,000	
Egypt	3,000,000	
All other Africa	1,000,000	
Total		134,425,000
Grand Total		2,667,686,000

Yankee Doodle.

THE air known as "YANKEE-DOODLE" was originally "NANKEE-DOODLE," and is as old as the time of Cromwell. It was known in New England before the Revolution, and is said to have been played by the English troops in derisive allusion to the then popular nickname of the New Englanders; and afterwards the New Englanders, saying that the British troops had been made to dance to "YANKEE-DOODLE," adopted the air.

Yellowstone National Park.

THE reservation known as the Yellowstone National Park, set apart for public uses by an act of Congress passed in 1872, covers a tract of about sixty-five miles in length, from north to south, and about fifty-five miles in width, from east to west, lying chiefly in Northwestern Wyoming, and overlapping, to a small extent, the boundaries of Montana, on the north, and Idaho on the west. This gives an area of 3,312 square miles, a tract that is nearly the area of the States of Rhode Island and Delaware combined, and nearly half as large as the State of Massachusetts. It is a region of hot springs and geysers, mountains and cañons, lakes and waterfalls. The Rocky Mountain chain crosses the southwestern portion in an irregular line, leaving by far the greater expanse on the eastern side. The least elevation of any of the narrow valleys is 6,000 feet, and some of them are from 1,000 to 2,000 feet higher. The mountain ranges which hem in these valleys are from 10,000 to upward of 11,000 feet in height, Electric Peak (in the northwest corner of the park, not far back of the Mammoth Hot Springs) having an elevation of 11,155 feet, and Mount Langford and Turret Mountain (both in the Yellowstone Range) reaching the height of 11,155 and 11,142 feet respectively.

Zodiac, the.

THE Zodiac is a belt extending eight degrees each side of the Sun's path through the Heavens. It is divided into 12 equal parts of 30 degrees each called Signs, and our sun passes through one of these divisions every month. The Ancients believed that each sign exerted a characteristic influence upon individuals born when it was in the ascendency, or when that portion of the zodiac was rising in the East.

Aries, the ram, has for its symbol the horns of a ram or the eyebrows of the human face. People born when the sun is passing through this constellation are first and foremost brain workers and subject to head troubles. Their physical characteristics are a long, narrow face, firm chin, and high cheek bones.

Taurus has for its symbol the head and horns of a bull. Persons born under this sign are violent and reckless of consequences when aroused but under ordinary circumstances are placid, calm, and inclined to be stolid.

Gemini, the twins.—Persons born under the influence of this sign are pre-eminently successful as teachers, musicians, orators, and newspaper men. The head generally rules the heart, but they are kind and self-abnegating and very skilful with the hands.

Cancer, the crab.—Persons born under this sign's dominion are restless, ambitious, anxious, changeable, with epicurean ten-

dencies and exceedingly fond of pets. They are inclined to be combative, inquisitive, and officious, with a mania for fads.

Leo, meaning lion, gives persons under the sway of this sign extreme dignity of character, face, and bearing. The heart controls the head and they are generous, charitable, courteous, and brave, earnest, and trustworthy.

Virgo.— The characteristics of this sign are a small, active body and a diplomatic, critical mind. Persons born under its ascendency are haughty and proud, intolerant of the bourgeois.

Libra, the scales.— A person is deemed fortunate to be born under the kindly influence of this sign. Beautiful in face and figure, they have exquisite taste in all things, are gifted in the professions and possess an innate abhorrence of crudeness. They are born and just arbiters.

Scorpio, the scorpion.— Persons born under this sign are ambitious, politic, with a determination to overcome all obstacles. They have distinctive executive ability, are secretive, and will not shun hard work. Are middle-size and well-set in body.

Sagittarius.— Persons influenced by this constellation are brave, impulsive, strong, and well-formed in body; intense and rapid in thought and deed. They are fond of athletic sports of all kinds and in great danger of accident.

Capricornus was never considered a fortunate sign. Persons born under its influence are inclined to melancholy, lack vital warmth, and crave stimulants. They are careful, plodding, secretive, and economic, and suffer from over anxiety.

Aquarius, the water-bearer.— Persons born under this sign are nearly always handsome. They are fortunate in disposition being humane, benevolent, vivacious, and lovers of truth, and are given to scientific research.

Pisces, the fishes.— Persons under this sign are given to religious enthusiasm. Physically they are generally pale and bloodless-looking with pale eyes, given to corpulency. By nature they are restless, anxious, and changeable, and have a predilection for liquors. Diseases like the gout, dropsy, and scrofula are peculiar to this sign.

Zinc.

THE production of zinc in the world, according to latest statistics, in metric tons, is as follows:

Austria	7,558
Belgium, Holland, Rhine District of Germany	127,170
Germany	166,283
France	37,600
Spain	5,354
United Kingdom	40,244
Russia	5,969
United States	127,751
TOTAL	502,104

The production in the United States in 1901 was 127,751 metric tons, or 140,822 short tons; the distribution being:

Kansas	74,270
Illinois and Indiana	44,896
Missouri	13,083
South and East	8,603

MAGNA CHARTA.

The Steps in the Growth of American Liberty.

IN the year 1213, on August 25th, in England, was organized a movement of which we now, after so many centuries, feel the effects in our nicely balanced constitutions and equitable codes of laws. The liberties for which our American forefathers battled had been defined and foreshadowed by their ancestors, and the political condition of our thriving country may well be shown as the ripened and mellow fruit from the seed sown nearly seven hundred years ago. On that memorable 25th of August the Prelates and Barons tiring of the tyranny and vacillations of King John, founded a Council and passed measures to secure their rights. After two years of contest, with many vicissitudes, the Barons entered London and the King fled into Hampshire, whence he sent word that he would comply with their demands. By agreement both parties met at Runnymede on the 9th of June. The conference lasted till the 19th, on which day the royal seal was affixed and Magna Charta, the glory of England, was born. It was a comprehensive bill of rights, and though crude in form and with many clauses of merely local value, its spirit lives and will live. Clear and prominent we find the motto we ourselves have followed:

"No tax without representation."

It contained sixty-one articles, the thirty-ninth and fortieth of which have had the most lasting effect, and their sentiments are the very marrow of all our State Constitutions.

The original document is in Latin, but a translation of articles 39 and 40 from English Statutes may give an idea of its whole character.

"39. No freeman shall be taken or be imprisoned or be disseised of his freehold, or liberties or free customs, or be outlawed or exiled, or any otherwise destroped; nor will we pass upon him, nor condemn him, but by lawful judgment of his peers, or by the law of the land.

"40. We will sell to no man; we will not deny or defer to any man, either right or justice."

The Mecklenburg Declaration.

Some thirteen months previous to the signing of the great Declaration of Independence there was drawn up a document in Mecklenburg County, N. C., that was almost a model in wording and sentiment of the great charter of American liberty. There are different accounts of the matter, but the most reliable is this:

At a public meeting of the residents of Mecklenburg County, in the State of North Carolina, held at Charlotte on the 20th day of May, 1775, it was

"*Resolved*, That whenever directly or indirectly abetted, or in any way, form or manner countenanced, the unchartered and dangerous invasion of our rights, as claimed by Great Britain, is an enemy of our country—to America—and to the inherent and inalienable rights of man.

"*Resolved*, That we, the citizens of Mecklenburg County, do hereby dissolve the political bonds which have connected us to the mother-country, and hereby absolve ourselves from all allegiance to the British crown, and abjure all political connection, contract or association with that nation, which has wantonly trampled on our rights and liberties and inhumanly shed the blood of American patriots at Lexington.

"*Resolved*, That we do hereby declare ourselves a free and independent people: are and of right ought to be a sovereign and self-governing association, under the control of no power other than that of our God and the general government of the Congress. To the maintenance of which independence we solemnly pledge to each other our mutual co-operation, our lives, our fortunes, and our sacred honor."

Two other resolutions in the same document, regarding administration of the law and regulating the militia, having no present value, are omitted.

THE DECLARATION OF INDEPENDENCE.

IN CONGRESS, July 4th, 1776.

WHEN, in the course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume, among the powers of the earth, the separate and equal station to which the laws of nature and nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident: That all men are created equal: that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty and the pursuit of happiness. That to secure these rights, governments are instituted among men, deriving their just powers from the consent of the governed; that, whenever a form of government becomes destructive of these ends, it is the right of the people to alter or to abolish it, and to institute a new government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to effect their safety and happiness. Prudence, indeed, will dictate, that governments long established should not be changed for light and transient causes; and accordingly all experience hath shown that mankind are more disposed to suffer where evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same object, evinces a design to reduce them under absolute despotism, it is their right, it is their duty, to throw off such government, and to provide new guards for their future security. Such has been the patient sufferance of these colonies; and such is now the necessity which constrains them to alter their former systems of government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute tyranny over these states. To prove this, let facts be submitted to a candid world.

He has refused his assent to laws the most wholesome and necessary for the public good.

He has forbidden his governors to pass laws of immediate and pressing importance, unless suspended in their operation till his assent should be obtained; and when so suspended, he has utterly neglected to attend to them.

He has refused to pass other laws for the accommodation of large districts of people, unless those people would relinquish the right of representation in the legislature—a right inestimable to them, and formidable to tyrants only.

He has called together legislative bodies at places unusual, uncomfortable, and distant from the depository of their public records, for the sole purpose of fatiguing them into compliance with his measures.

He has dissolved representative houses repeatedly, for opposing with manly firmness his invasions on the rights of the people.

He has refused, for a long time after such dissolutions, to cause others to be elected; whereby the legislative powers, incapable of annihilation, have returned to the people at large, for their exercise, the state remaining, in the meantime, exposed to all the dangers of invasion from without, and convulsions within.

He has endeavored to prevent the population of these states; for that purpose obstructing the laws for naturalization of foreigners, refusing to pass others to encourage their migration hither, and raising conditions of new appropriation of lands.

He has obstructed the administration of justice, by refusing his assent to laws establishing judiciary powers.

He has made judges dependent on his will alone for the tenure of their offices, and the amount and payment of their salaries.

He has erected a multitude of new offices, and sent hither swarms of officers, to harass our people, and eat out their substance.

He has kept among us, in times of peace, standing armies, without the consent of our legislatures.

He has affected to render the military independent of, and superior to, the civil power.

He has combined with others to subject us to a jurisdiction foreign to our constitution, and unacknowledged by our laws; giving his assent to their acts of pretended legislation,—

For quartering large bodies of armed troops among us:

For protecting them, by a mock trial, from punishment from any murders which they should commit on the inhabitants of these states:

For cutting off our trade with all parts of the world:

For imposing taxes on us without our consent:

For depriving us, in many cases, of the benefits of trial by jury:

For transporting us beyond the seas to be tried for pretended offenses:

For abolishing the free system of English laws in a neighboring province, establishing therein an arbitrary government, and enlarging its boundaries, so as to render it at once an example and fit instrument for introducing the same absolute rule into these colonies:

For taking away our charters, abolishing our most valuable laws, and altering, fundamentally, the powers of our governments:

For suspending our own legislatures and declaring themselves invested with power to legislate for us in all cases whatsoever.

He has abdicated government here, by declaring us out of his protection, and waging war against us.

He has plundered our seas, ravaged our coasts, burnt our towns, and destroyed the lives of our people.

He is, at this time, transporting large armies of foreign mercenaries, to complete the works of death, desolation and tyranny, already begun with circumstances of cruelty and perfidy scarcely paralleled in the most barbarous ages, and totally unworthy the head of a civilized nation.

He has constrained our fellow-citizens, taken captive on the high seas, to bear arms against their country, to become the executioners of their friends and brethren, or to fall themselves by their hands.

He has excited domestic insurrections among us, and has endeavored to bring on the inhabitants of our frontiers the merciless Indian savages, whose known rule of warfare is an undistinguished destruction of all ages, sexes and conditions.

In every stage of these oppressions we have petitioned for redress in the most humble terms; our repeated petitions have been answered only by repeated injury. A prince whose character is thus marked by every act which may define a tyrant is unfit to be the ruler of a free people.

Nor have we been wanting in attention to our British brethren. We have warned them, from time to time, of attempts by their legislature to extend an unwarrantable jurisdiction over us. We have reminded them of the circumstances of our emigation and settlement here. We have appealed to their native justice and magnanimity; and we have conjured them, by the ties of our common kindred, to disavow these usurpations, which would inevitably interrupt our connections and correspondence. They, too, have been deaf to the voice of justice and of sanguinity. We must, therefore, acquiesce in the necessity which denounces our separation, and hold them, as we hold the rest of mankind, enemies in war, in peace friends.

We, therefore, the representatives of the United States of America, in General Congress assembled, appealing to the Supreme Judge of the world for the rectitude of our intentions, do, in the name and by the authority of the good people of these colonies, solemnly publish and declare, That these united colonies are, and of right ought to be, free and independent states; that they are absolved from all allegiance to the British crown, and that all political connection between them and the state of Great Britain is, and ought to be, totally dissolved; and that, as free and independent states, they have full power to levy war, conclude peace, contract alliances, establish commerce, and do all other acts and things which independent states may of right do. And for the support of this declaration, with a firm reliance on the protection of Divine Providence, we mutually pledge to each other our lives, our fortunes and our sacred honor.

The foregoing Declaration was, by the order of Congress, engrossed, and signed by the following members:

JOHN HANCOCK.

NEW HAMPSHIRE.
Josiah Bartlett,
William Whipple,
Matthew Thornton.

MASSACHUSETTS BAY.
Samuel Adams,
John Adams,
Robert Treat Paine,
Elbridge Gerry.

RHODE ISLAND.
Stephen Hopkins,
William Ellery.

CONNECTICUT.
Roger Sherman,
Samuel Huntington,
William Williams,
Oliver Wolcott.

NEW YORK.
William Floyd,
Philip Livingston,
Francis Lewis,
Lewis Morris.

NEW JERSEY.
Richard Stockton,
John Witherspoon,
Francis Hopkinson,
John Hart,
Abraham Clark.

PENNSYLVANIA.
Robert Morris,
Benjamin Rush,
Benjamin Franklin,
John Morton,
George Clymer,
James Smith,
George Taylor,
James Wilson,
George Ross.

DELAWARE.
Cæsar Rodney,
George Read,
Thomas M'Kean.

MARYLAND.
Samuel Chase,
William Paco,
Thomas Stone,
Charles Carroll, of Carrollton.

VIRGINIA.
George Wythe,
Richard Henry Lee,
Thomas Jefferson,
Benjamin Harrison,
Thomas Nelson, Jr.,
Francis Lightfoot Lee.
Carter Braxton.

NORTH CAROLINA.
William Hooper,
Joseph Hewes,
John Penn.

SOUTH CAROLINA.
Edward Rutledge,
Thomas Heyward, Jr.,
Thomas Lynch, Jr.,
Arthur Middleton.

GEORGIA.
Button Gwinnett,
Lyman Hall,
George Walton.

Resolved, That copies of the Declaration be sent to the several assemblies, conventions and committees, or councils of safety, and to the several commanding officers of the Continental troops; that it be proclaimed in each of the United States, and at the head of the army.

PREAMBLE.

We, the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defence, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America.

ARTICLE I.

SECTION I.

1. All legislative powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.

SECTION II.

1. The House of Representatives shall be composed of members chosen every second year by the people of the several States; and the electors in each State shall have the qualifications requisite for electors of the most numerous branch of the State Legislature.

2. No person shall be a Representative who shall not have attained to the age of twenty-five years, and been seven years a citizen of the United States, and who shall not, when elected, be an inhabitant of that State in which he shall be chosen.

3. Representatives and direct taxes shall be apportioned among the several States which may be included within this Union, according to their respective numbers, which shall be determined by adding to the whole number of free persons, including those bound to service for a term of years, and excluding Indians not taxed, three-fifths of all other persons. The actual enumeration shall be made within three years after the first meeting of the Congress of the United States, and within every subsequent term of ten years, in such manner as they shall by law direct. The number of Representatives shall not exceed one for every thirty thousand, but each State shall have at least one representative; and until such enumeration shall be made, he State of New Hampshire shall be entitled to choose three; Massachusetts, eight; Rhode Island and Providence Plantations, one; Connecticut, five; New York, six; New Jersey, four; Pennsylvania, eight; Delaware, one; Maryland, six; Virginia, ten; North Carolina, five; South Carolina, five, and Georgia three.

4. When vacancies happen in the representation from any State, the executive authority thereof shall issue writs of election to fill such vacancies.

5. The House of Representatives shall choose their speaker and other officers; and shall have the sole power of impeachment.

SECTION III.

1. The Senate of the United States shall be composed of two senators from each State, chosen by the legislature thereof, for six years; and each senator shall have one vote.

2. Immediately after they shall be assembled in consequence of the first election, they shall be divided as equally as may be into three classes. The seats of the senators of the first class shall be vacated at the expiration of the second year, of the second class at the expiration of the fourth year, and of the third class at the expiration of the sixth year, so that one-third may be chosen every second year; and if vacancies happen by resignation, or otherwise, during the recess of the legislature of any State, the executive thereof may make temporary appointments until the next meeting of the legislature, which shall then fill such vacancies.

3. No person shall be a senator who shall not have attained to the age of thirty years, and been nine years a citizen of the United States, and who shall not, when elected, be an inhabitant of that State for which he shall be chosen.

4. The vice-president of the United States shall be president of the Senate, but shall have no vote unless they be equally divided.

5. The Senate shall choose their other officers, and also a president pro tempore, in the absence of the vice-president, or when he shall exercise the office of president of the United States.

6. The Senate shall have the sole power to try all impeachments. When sitting for that purpose, they shall all be on oath or affirmation. When the president of the United States is tried, the chief-justice shall preside: and no person shall be convicted without the concurrence of two-thirds of the members present.

7. Judgment in cases of impeachment shall not extend further than to removal from office, and disqualification to hold and enjoy any office of honor, trust, or profit under the United States; but the party convicted shall nevertheless be liable and subject to indictment, trial, judgment, and punishment, according to law.

SECTION IV.

1. The times, places and manner of holding elections for Senators and Representatives shall be prescribed in each State by the Legislature thereof; but the Congress may at any time by law make or alter such regulations, except as to the place of choosing Senators.

2. The Congress shall assemble at least once in every year; and such meeting shall be on the first Monday in December, unless they shall by law appoint a different day.

SECTION V.

1. Each House shall be the judge of the election, returns and qualifications of its own members, and a majority of each shall constitute a quorum to do business; but a smaller number may adjourn from day to day, and may be authorized to compel the attendance of absent

members, in such manner and under such penalties as each House may provide.

2. Each house may determine the rule of its proceedings, punish its members for disorderly behavior, and, with the concurrence of two-thirds, expel a member.

3. Each House shall keep a journal of its proceedings, and from time to time publish the same, excepting such parts as may in their judgment require secrecy; and the yeas and nays of the members of either House on any question shall, at the desire of one-fifth of those present, be entered on the journal.

4. Neither House, during the session of Congress, shall, without the consent of the other, adjourn for more than three days, nor to any other place than that in which the two houses shall be sitting.

SECTION VI.

1. The Senators and Representatives shall receive a compensation for their services, to be ascertained by law, and paid out of the treasury of the United States. They shall, in all cases, except treason, felony, and breach of the peace, be privileged from arrest during their attendance at the sessions of their respective houses, and in going to and returning from the same; and for any speech or debate in either house, they shall not be questioned in any other place.

2. No Senator or representative shall, during the time for which he was elected, be appointed to any civil office under the authority of the United States, which shall have been created, or the emoluments whereof shall have been increased during such time; and no person holding any office under the United States shall be a member of either house during his continuance in office.

SECTION VII.

1. All bills for raising revenue shall originate in the House of Representatives; but the Senate may propose or concur with amendments as on other bills.

2. Every bill which shall have passed the House of Representatives and the Senate, shall, before it becomes a law, be presented to the President of the United States; if he approve he shall sign it, but if not he shall return it with his objections, to that house in which it shall have originated, who shall enter the objections at large on their journal, and proceed to reconsider it. If after such reconsideration two-thirds of that house shall agree to pass the bill, it shall be sent, together with the objections, to the other house, by which it shall likewise be reconsidered, and if approved by two-thirds of that house, it shall become a law. But in all such cases the votes of both houses shall be determined by yeas and nays, and the names of the persons voting for and against the bill shall be entered on the journal of each house respectively. If any bill shall not be returned by the President within ten days (Sundays excepted) after it shall have been presented to him, the same shall be a law in like manner as if he had signed it, unless the Congress by their adjournment prevent its return, in which case it shall not be a law.

3. Every order, resolution, or vote to which the concurrence of the Senate and House of Representatives may be necessary (except on a question of adjournment) shall be presented to the President of the United States; and before the same shall take effect, shall be approved by him, or being disapproved by him, shall be repassed by two-thirds of the Senate and House of Representatives, according to the rules and limitations prescribed in the case of a bill.

SECTION VIII.

The Congress shall have power—

1. To lay and collect taxes, duties, imposts, and excises, to pay the debts and provide for the common defence and general welfare of the United States; but all duties, imposts, and excises shall be uniform throughout the United States.

2. To borrow money on the credit of the United States.

3. To regulate commerce with foreign nations, and among the several States, and with the Indian tribes.

4. To establish a uniform rule of naturalization, and uniform laws on the subject of bankruptcies throughout the United States.

5. To coin money, regulate the value thereof, and of foreign coin, and fix the standard of weights and measures.

6. To provide for the punishment of counterfeiting the securities and current coin of the United States.

7. To establish post-offices and post-roads.

8. To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.

9. To constitute tribunals inferior to the supreme court.

10. To define and punish piracies and felonies committed on the high seas, and offenses against the law of nations.

11. To declare war, grant letters of marque and reprisal, and make rules concerning captures on land and water.

12. To raise and support armies; but no appropriation of money to that use shall be for a longer term than two years.

13. To provide and maintain a navy.

14. To make rules for the government and regulation of the land and naval forces.

15. To provide for calling forth the militia to execute the laws of the Union, suppress insurrection, and repel invasion.

16. To provide for organizing, arming, and disciplining the militia, and for governing such part of them as may be employed in the service of the United States; reserving to the States respectively the appointment of the officers and the authority of training the militia according to the discipline prescribed by Congress.

17. To exercise exclusive legislation in all cases whatsoever, over such district (not exceeding ten miles square) as may, by cession of particular States, and the acceptance of Congress, become the seat of government of the United States; and to exercise like authority over all places purchased, by the consent of the legislature of the State in which the same shall be, for the erection of forts, magazines, arsenals, dockyards, and other needful buildings; and

18. To make all laws which shall be necessary and proper for carrying into execution the foregoing powers vested by this constitution in the government of the United States, or in any department or office thereof.

SECTION IX.

1. The migration or importation of such persons as any of the States now existing shall think proper to admit, shall not be prohibited by the Congress prior to the year one thousand eight hundred and eight; but a tax or duty may be imposed on such importation not exceeding ten dollars for each person.

2. The privilege of the writ of *habeas corpus* shall not be suspended, unless when, in cases of rebellion or invasion, the public safety may require it.

3. No bill of attainder, or *ex post facto* law, shall be passed.

4. No capitation or other direct tax shall be laid, unless in proportion to the census or enumeration herein before directed to be taken.

5. No tax or duty shall be laid on any articles exported from any State. No preference shall be given by any regulation of commerce or revenue to the ports of one State over those of another; nor shall vessels bound to or from one State be obliged to enter, clear or pay duties in another.

6. No money shall be drawn from the treasury, but in consequence of appropriations made by law; and a regular statement and account of the receipts and expenditures of all public money shall be published from time to time.

7. No title of nobility shall be granted by the United States; and no person holding any office of profit or trust under them, shall, without the consent of the Congress, accept of any present, emolument, office, or title of any kind whatever, from any king, prince, or foreign state.

SECTION X.

1. No State shall enter into any treaty, alliance, or confederation; grant letters of marque and reprisal; coin money; emit bills of credit; make anything but gold and silver coin a tender in payment of debts; pass any bill of attainder, *ex post facto* law, or law impairing the obligation of contracts; or grant any title of nobility.

2. No State shall, without the consent of the Congress, lay any imposts or duties on imports or exports, except what may be absolutely necessary for executing its inspection laws; and the net produce of all duties and imposts laid by any State on imports or exports,

shall be for the use of the treasury of the United States; and all such laws shall be subject to the revision and control of the Congress. No State shall, without the consent of the Congress, lay any duty of tonnage, keep troops or ships of war in time of peace, enter into any agreement or compact with another State, or with a foreign power, or engage in war, unless actually invaded, or in such imminent danger as will not admit of delay.

ARTICLE II.

SECTION I.

1. The executive power shall be vested in a President of the United States of America. He shall hold his office during the term of four years; and, together with the Vice-President chosen for the same term, be elected as follows.

2. Each State shall appoint, in such manner as the legislature thereof may direct, a number of electors equal to the whole number of senators and representatives to which the State may be entitled in the Congress; but no senator or representative, or person holding an office of trust or profit under the United States, shall be appointed an elector.

3. The electors shall meet in their respective States, and vote by ballot for two persons, of whom one at least shall not be an inhabitant of the same State with themselves. And they shall make a list of all the persons voted for and of the number of votes for each; which list they shall sign and certify and transmit sealed to the seat of government of the United States, directed to the President of the Senate. The President of the Senate shall, in the presence of the Senate and House of Representatives, open all the certificates, and the votes shall then be counted. The person having the greatest number of votes shall be the President, if such number be a majority of the whole number of electors appointed; and if there be more than one who have such a majority, and have an equal number of votes, then the House of Representatives shall immediately choose, by ballot, one of them for President, and if no person have a majority, then, from the five highest on the list, the said House shall, in like manner, choose the President. But in choosing the President the votes shall be taken by States, the representation from each State having one vote; a quorum for this purpose shall consist of a member or members from two-thirds of all the States, and a majority of all the States shall be necessary to a choice. In every case, after the choice of the President, the person having the greatest number of votes of the electors shall be the Vice-President. But if there should remain two or more who have equal votes, the Senate shall choose from them, by ballot, the Vice-President.

4. The Congress may determine the time of choosing the electors, and the day on which they shall give their votes, which day shall be the same throughout the United States.

5. No person, except a natural born citizen, or a citizen of the United States at the time of the adoption of this Constitution, shall be eligible to the office of President; neither shall any person be eligible to that office who shall not have attained to the age of thirty-five years, and been fourteen years a resident within the United States.

6. In case of the removal of the President from office, or of his death, resignation, or inability to discharge the powers and duties of the said office, the same shall devolve on the Vice-President; and the Congress may, by law, provide for the case of removal, death, resignation or inability, both of the President and Vice-President, declaring what officer shall then act as President; and such officer shall act accordingly, until the disability be removed, or a President shall be elected.

7. The President shall, at stated times, receive for his services a compensation, which shall neither be increased nor diminished during the period for which he shall have been elected; and he shall not receive within that period any other emolument from the United States, or any of them.

8. Before he enter on the execution of his office, he shall take the following oath or affirmation:—

"I do solemnly swear (or affirm) that I will faithfully execute the office of President of the United States; and will, to the best of my ability, preserve, protect and defend the Constitution of the United States."

SECTION II.

1. The President shall be Commander-in-chief of the army and navy of the United States, and of the militia of the several States, when called into the actual service of the United States. He may require the opinion, in writing, of the principal officer in each of the executive departments, upon any subject relating to the duties of their respective offices; and he shall have power to grant reprieves and pardons for offences against the United States, except in cases of impeachment.

2. He shall have power, by and with the advice and consent of the Senate, to make treaties, provided two-thirds of the Senators present concur; and he shall nominate, and, by and with the advice and consent of the Senate, shall appoint ambassadors, other public ministers and consuls, judges of the Supreme Court, and all other officers of the United States whose appointments are not herein otherwise provided for, and which shall be established by law. But the Congress may, by law, vest the appointment of such inferior officers as they think proper, in the President alone, in the courts of law, or in the heads of departments.

3. The President shall have power to fill all vacancies that may happen during the recess of the Senate, by granting commissions which shall expire at the end of their next session.

SECTION III.

1. He shall, from time to time, give to the Congress information of the state of the Union, and recommend to their consideration such measures as he shall judge necessary and expedient. He may, on extraordinary occasions, convene both Houses, or either of them; and in case of disagreement between them, with respect to the time of adjournment, he may adjourn them to such time as he shall think proper. He shall receive ambassadors and other public ministers. He shall take care that the laws be faithfully executed; and shall commission all officers of the United States.

SECTION IV.

1. The President, Vice-President and all civil officers of the United States shall be removed from office on impeachment for, and conviction of treason, bribery, or other high crimes and misdemeanors.

ARTICLE III.

SECTION I.

1. The judicial power of the United States shall be vested in one Supreme Court and in such inferior courts as Congress may from time to time ordain and establish. The judges both of the Supreme and inferior courts shall hold their offices during good behavior; and shall, at stated times, receive for their services a compensation which shall not be diminished during their continuance of office.

SECTION II.

1. The judicial power shall extend to all cases in law and equity arising under this Constitution, the laws of the United States, and treaties made, or which shall be made, under their authority; to all cases affecting ambassadors, other public ministers and consuls; to all cases of admiralty and maritime jurisdiction; to controversies to which the United States shall be a party; to controversies between two or more States, between a State and citizens of another State, between citizens of different States, between citizens of the same State claiming lands under grants of different States, and between a State, or the citizens thereof, and foreign states, citizens, or subjects.

2. In all cases affecting ambassadors, other public ministers and consuls, and those in which a State shall be a party, the Supreme Court shall have original jurisdiction. In all the other cases mentioned, the Supreme Court shall have appellate jurisdiction, both as to law and fact, with such exceptions and under such regulations as the Congress shall make.

3. The trial of all crimes, except in cases of impeachment, shall be by jury, and such trial shall be held in the State where the said crime shall have been committed; but when not committed within any State, the trial shall be at such place or places as the Congress may by law have directed.

SECTION III.

1. Treason against the United States shall consist only in levying war against them or in adhering to their enemies, giving them aid and comfort. No person shall be convicted of treason unless on the testimony of two witnesses to the same overt act, or on confession in open court.

2. The Congress shall have power to declare the punishment of treason; but no attainder of treason shall work corruption of blood, or forfeiture, except during the life of the person attained.

ARTICLE IV.

SECTION I.

1. Full faith and credit shall be given in each State to the public acts, records, and judicial proceedings of every other State; and the Congress may, by general laws, prescribe the manner in which such acts, records, and proceedings shall be proved, and the effect thereof.

SECTION II.

1. The citizens of each State shall be entitled to all privileges and immunities of citizens in the several States.

2. A person charged in any State with treason, felony, or other crime, who shall flee from justice, and be found in another State shall, on demand of the executive authority of the State from which he fled, be delivered up to be removed to the State having jurisdiction of the crime.

3. No person held to service or labor in one State under the laws thereof, escaping into another, shall, in consequence of any laws or regulation therein, be discharged from such service or labor; but shall be delivered up on claim of the party to whom such service or labor may be due.

SECTION III.

1. New States may be admitted by the Congress into this Union; but no new State shall be formed or erected within the jurisdiction of any other State, nor any State be formed by the junction of two or more States or parts of States, without the consent of the Legislatures of the States concerned, as well as of the Congress.

2. The Congress shall have power to dispose of, and make all needful rules and regulations respecting the territory or other property belonging to the United States; and nothing in this Constitution shall be so construed as to prejudice any claim of the United States, or of any particular State.

SECTION IV.

1. The United States shall guarantee to every State in this Union a republican form of government, and shall protect each of them against invasion; and, on application of the Legislature, or of the executive (when the Legislature cannot be convened), against domestic violence.

ARTICLE V.

1. The Congress, whenever two-thirds of both Houses shall deem it necessary, shall propose amendments to this Constitution; or, on the application of the Legislature of two-thirds of the several States, shall call a convention for proposing amendments, which, in either case, shall be valid to all intents and purposes as part of this Constitution, when ratified by the Legislature of three-fourths of the several States, or by conventions in three-fourths thereof, as the one or the other mode of ratification may be proposed by the Congress; provided, that no amendment which may be made prior to the year one thousand eight hundred and eight, shall in any manner affect the first and fourth clauses in the ninth section of the fifth article; and that no State, without its consent, shall be deprived of its equal suffrage in the Senate.

ARTICLE VI.

1. All debts contracted and engagements entered into before the adoption of this Constitution, shall be as valid against the United States under this Constitution, as under the Confederation.

2. This Constitution, and the laws of the United States which shall be made in pursuance thereof, and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land; and the judges in every State shall be bound thereby, anything in the Constitution or laws of any State to the contrary notwithstanding.

3. The Senators and Representatives before mentioned and the members of the several State Legislatures, and all executive and judicial officers, both of the United States and the several States, shall be bound by oath or affirmation to support this Constitution; but no religious test shall ever be required as a qualification to any office or public trust under the United States.

ARTICLE VII.

1. The ratification of the convention of nine States shall be sufficient for the establishment of this Constitution between the States so ratifying the same.

Done in convention by the unanimous consent of the States present, the seventeenth day of December, in the year of our Lord one thousand seven hundred and eighty, and of the Independence of the United States of America the twelfth. In witness whereof we have hereunto subscribed our names.

GEORGE WASHINGTON,
President and Deputy from Virginia.

AMENDMENTS.

ARTICLE I.

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances.

ARTICLE II.

A well regulated militia being necessary to the security of a free State, the right of the people to keep and bear arms shall not be infringed.

ARTICLE III.

No soldier shall, in time of peace, be quartered in any house without the consent of the owner, nor in time of war, but in a manner to be prescribed by law.

ARTICLE IV.

The right of the people to be secure in their persons, houses, papers and effects, against unreasonable searches and seizures, shall not be violated; and no warrants shall issue but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

ARTICLE V.

No person shall be held to answer for a capital or otherwise infamous crime, unless on a presentment or indictment of a grand jury, except in cases arising in the land or naval forces, or in the militia, when in actual service in time of war or public danger; nor shall any person be subject for the same offense to be twice put in jeopardy of life or limb, nor shall be compelled in any criminal case, to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

ARTICLE VI.

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law; and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defense.

ARTICLE VII.

In suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved; and no fact tried by a jury shall be otherwise re-examined in any court of the United States, than according to the rules of the common law.

ARTICLE VIII.

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishment inflicted.

ARTICLE IX.

The enumeration in the Constitution of certain rights shall not be construed to deny or disparage others retained by the people.

ARTICLE X.

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.

ARTICLE XI.

The judicial power of the United States shall not be construed to extend to any suit in law or equity commenced or prosecuted against one of the United States by citizens or subjects of any foreign State.

ARTICLE XII.

1. The electors shall meet in their respective States, and vote by ballot for President and Vice-President, one of whom, at least, shall not be an inhabitant of the same State with themselves. They shall name in their ballots the person voted for as President, and in distinct ballots, the person voted for as Vice-President; and they shall make distinct lists of all persons voted for as President, and of all persons voted for as Vice-President, and of the number of votes for each; which lists they shall sign and certify, and transmit sealed to the seat of government of the United States, directed to the President of the Senate. The President of the Senate shall, in the presence of the Senate and House of Representatives, open the certificates, and the votes shall then be counted. The person having the greatest number of votes for President shall be the President, if such number be a majority of the whole number of electors appointed; and if no person have such majority, then from the persons having the highest numbers, not exceeding three. on the list of those voted for as President, the House of Representatives shall choose immediately, by ballot, the President. But, in choosing the President, the votes shall be taken by States, the representation from each State having one vote; a quorum for this purpose shall consist of a member or members from two-thirds of the States, and a majority of all the States shall be necessary to a choice. And if the House of Representatives shall not choose a President whenever the right of choice shall devolve upon them, before the fourth day of March next following, then the Vice-President shall act as President, as in the case of the death or other constitutional disability of the President.

2. The person having the greatest number of votes as Vice-President shall be the Vice-President, if such number be a majority of the whole number of electors appointed, and if no person have a majority, then from the two highest numbers on the list the Senate shall choose the Vice-President. A quorum for the purpose shall consist of two-thirds of the whole number of Senators, and a majority of the whole number shall be necessary to a choice.

3. But no person constitutionally ineligible to the office of President shall be eligible to that of Vice-President of the United States.

ARTICLE XIII.

1 Neither slavery nor involuntary servitude, except as a punishment for crime, whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction.

2. Congress shall have power to enforce this article by appropriate legislation.

ARTICLE XIV.

SECTION I.

All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, nor shall any State deprive any person of life, liberty, or property, without due process of law, nor deny to any person within its jurisdiction the equal protection of the laws.

SECTION II.

Representatives shall be appointed among the several States according to their respective numbers, counting the whole number of persons in each State, excluding Indians not taxed. But when the right to vote at any election for the choice of electors for President and Vice-President of the United States, Representatives in Congress, the executive and judicial officers of a State, or the members of the Legislature thereof, is denied to any of the male inhabitants of such State, being twenty-one years of age, and citizens of the United States, or in any way abridged, except for participation in rebellion or other crime, the basis of representation therein shall be reduced in the proportion which the number of such male citizens shall bear to the whole number of male citizens twenty-one years of age in such State.

SECTION III.

No person shall be a Senator or Representative in Congress, or elector of President and Vice-President, or hold any office, civil or military, under the United States, or under any State, who, having previously taken an oath as a member of Congress, or as an officer of the United States, or as a member of any State Legislature, or as an executive or judicial officer of any State, to support the Constitution of the United States, shall have engaged in insurrection or rebellion against the same, or given aid or comfort to the enemies thereof; but Congress may, by a vote of two-thirds of each House, remove such disability.

SECTION IV.

The validity of the public debt of the United States, authorized by law, including debts incurred for payment of pensions and bounties for services in suppressing insurrection or rebellion, shall not be questioned. But neither the United States nor any State shall assume or pay any debt or obligation incurred in aid of insurrection or rebellion against the United States, or any claim for the loss or emancipation of any slave; but all such debts, obligations and claims shall be held illegal and void.

SECTION V.

The Congress shall have power to enforce, by appropriate legislation, the provisions of this article.

ARTICLE XV.

SECTION I.

The right of citizens of the United States to vote shall not be denied or abridged by the United States, or any State, on account of race, color or previous condition of servitude.

SECTION II.

The Congress shall have power to enforce this article by appropriate legislation.

THE FLAGSHIP NEW YORK UNDER FULL SPEED

THE UNITED STATES OF AMERICA

By J. R. G. HASSARD.

Revised by W. FLETCHER JOHNSON.

THE UNITED STATES OF AMERICA, a Federal Republic, occupying the southern part of the North American continent and some Pacific islands; the largest republic and largest highly civilized nation in the world; consisting of forty-five States, one Federal District, and four organized and two partly organized Territories; with various outlying and detached territorial possessions. The geographical range of the United States proper, exclusive of the detached Territories and other possessions, is from 24° 20′ to 49° (at one point 49° 20′ for a few miles) north latitude, and from 66° 48′ to 124° 32′ longitude west from Greenwich. Its greatest extension is thus about 3,100 miles east and west, and 1,780 miles north and south. Its area is 55,370 square miles of water and 2,970,230 square miles of land, not including Alaska and Hawaii. The population in 1900, exclusive of Alaska, Hawaii and the Indian Territory, was 75,693,734.

HISTORY.

Consideration of so vast and complex a subject as that of the United States naturally begins with its historical phases. The history of the United States is largely the history of North America, and indeed of the entire western world. It was upon the shores of this country that the earliest landings of Europeans in America were made. That was in the latter part of the tenth century. A Norse sea rover, from Norway by way of Iceland, either in some daring wanderings or driven out of his way by storms, reached the coast of Greenland, thence crossed to Labrador, and skirted the coast as far as Long Island Sound and New York Bay. At least one colony was planted by the Norsemen, on the shores of Narragansett Bay, in the present State of Rhode Island, to which the name of Vinland was given. But it was short-lived, and by the beginning of the fifteenth century the very memory of it had perished, save in some hero-sagas of the north.

When Christopher Columbus, therefore, formed his project of a western voyage of discovery, the existence of unknown lands beyond the Atlantic was unsuspected. The latter part of the fifteenth century was a period of extraordinary enterprise and restlessness among the chief nations of Europe. Men were fascinated especially by maritime adventure, learning for the first time something of the true shape of the earth, dispelling the fables that had covered the distant seas with impenetrable darkness and encircled the tropics with a zone of fire; and searching out convenient routes to the Indies, a region of romance and mystery which, in the popular imagination, offered inexhaustible wealth of gold, jewels, silks, spices, and all else that was rarest, most precious, and most beautiful. Columbus, who was a Genoese sea captain, had been a careful student of geography, correcting the scanty knowledge of the time by whatever he could learn from the reports of the most adventurous sailors. If any vague rumor of islands in the West reached him he seems to have put no faith in it. Satisfied that the earth was round, but greatly underestimating its size, he believed that he could reach the Indies by sailing due west from Europe, a distance of not more than 2,400 miles; and the fantastic dangers with which scholars and navigators argued that such a route into the void must be beset he knew had no existence. His theory, therefore, embraced an error of no great consequence, with a truth of the first value to civilization. The discovery of America was not an accident, but something reasoned out. As Humboldt says, it was "a conquest of reflection." Columbus spent many years vainly urging his scheme at various European courts. He was listened to at last by the Spanish sovereigns, Ferdinand and Isabella, the queen espousing his cause with especial generosity; and on the 3d of August, 1492, he was enabled to set sail with three small vessels from the port of Palos, in

Andalusia. The voyage was long, and the crews, some of whom had been impressed, were in almost open mutiny, when land was made out on the morning of October 12th, and the adventurers went ashore upon a small green island, of which they took possession in the name of Ferdinand and Isabella. This island, called by Columbus San Salvador, was one of the group now known as the Bahamas, perhaps either the present San Salvador, or the neighboring Watling's Island; but the most careful investigation has failed to identify it positively. Columbus spent three months among the islands, visiting Cuba and Hayti, and returning to Palos in triumph, persuaded that he had reached the Indies and that Cuba was a part of the Asiatic continent. He made four voyages to the new world, discovering the South American continent in 1498, and exploring part of Central America in 1502, but he never became aware of his mistake. Slandered by disappointed adventurers, and grossly ill-treated by Ferdinand, he died in poverty and disgrace.

The Spaniards pushed their explorations with energy. They overran the islands and the neighboring parts of Central and South America. Balboa crossed the isthmus of Darien and waded into the Pacific, the long-sought South Sea (1513). Cortez conquered the rich Indian empire of Mexico (1519–21), and Pizarro overthrew the civilization of Peru (1531–36). Everywhere the Spaniards ravaged the land for gold. They built towns, established vice-regal governments, founded military colonies, drove the Indians to work in the mines, and in less than half a century raised upon lust, murder, avarice, slavery, and pillage, a New Spain, which poured uncounted millions into the treasury of the King. They crossed into the countries now forming the United States, where Ponce de Leon (1512) sought the fountain of perpetual youth in Florida. Panfilo de Narvaez wandered for six years (1528–34) between Florida and Mexico. Hernando de Soto, setting out from Florida on an errand of rapine and slaughter, discovered the Mississippi (1541) and was buried in its waters. Ayllon went as far north as Maryland, and expeditions from Mexico entered New Mexico and California. The Spaniards made the first permanent settlement in the United States at St. Augustine (1565), and the second at Santa Fe (1582). For a century after the discovery they were by far the most redoubtable and most enterprising of the adventurers in the New World, and if the United States had yielded the gold of which they were in search it seems likely that they would have possessed the whole country. Fortunately the wealth of California was not revealed until the Spanish power had recoiled before a higher civilization.

Other nations had not been entirely indifferent to the wonderful things happening across the ocean, but it was long before they realized their opportunity. John Cabot, a Venetian in the service of Henry VII. of England, discovered the North American continent (1497) a year before the mainland of South America was seen by Columbus. He coasted from Labrador (probably) to Virginia, and his son, Sebastian, the next year cruised between Newfoundland and Hatteras. Upon these voyages the English subsequently founded their claims to the country, but at the time no attempt was made to occupy it. Equally barren was the expedition of the Portuguese Cortereal (1500 or 1501), who reached the mouth of the St. Lawrence. Verrazzano, an Italian in the French service, coasting from North Carolina to Maine (1523), was the first to learn that America is not a part of the Indies. The French were more alert than the English, and more moderate in their ambition than the Spaniards. They engaged in the Newfoundland fisheries in the first years of the sixteenth century, and as early as 1534 they attempted the colonization of Newfoundland and Canada. The three expeditions which they dispatched under Cartier between 1534 and 1541 were not successful; but in the combination of missionary and trading enterprise these ventures exhibited the plan of action which the French afterward followed with great profit. Their policy was to secure the traffic in furs by establishing intimate relations with the Indian tribes, and they secured their ascendency more by the influence of the priests than by the show of force. It was not until the beginning of the seventeenth century, however, when Champlain came out with a colony (1605), and the Jesuits established villages of Christian Indians in New England and New York, that the French settlements began to prosper. Quebec was founded in 1608. Champlain discovered the lake which bears his name in 1609.

By this time England also had begun to compete in earnest for the great prize. Henry VIII., Edward, and Mary were too busy at home to trouble themselves with American affairs; but in the reign of Elizabeth the whole nation stirred with a bold and adventurous life. Frobisher and Davis, searching for a passage to India, discovered the straits now called by their names; and Sir Francis Drake, half hero, half pirate, circumnavigated the globe (1577–80), pillaging the Spanish settlements of Chili and Peru, and taking formal possession of California. The first attempt by Englishmen to colonize any part of North America was made in 1583 by Sir Humphrey Gilbert and his half brother, the brilliant Sir Walter Raleigh. Gilbert sailed in command of a fleet, and took nominal possession of Newfoundland where many others were before him; but the colonists, after collecting some worthless mineral supposed to be silver, became disheartened and abandoned the enterprise. Gilbert perished at sea on the way home. Raleigh was not discouraged. He sent out two ships under Philip Amidas and Arthur Barlow to explore further. They brought back so fair a report of the country about Roanoke Island, N. C., that the next year (1585) Ralph Lane was dispatched with a hundred men to plant a colony there, and Raleigh called the new land Virginia, in honor of the "Virgin Queen." Reduced almost to starvation by their own folly and misconduct, and involved in hostility with the Indians, the settlers were glad of the chance offered them the next season to go home with Sir Francis Drake. A second colony brought out to Roanoke by Sir Francis Grenville (1586) and a third led by John White (1587) totally disappeared, and no trace of their fate has ever been discovered. Raleigh could do no more.

The voyage of Bartholomew Gosnold, who discovered Cape Cod in 1602, and made an unsuccessful attempt to plant a colony on Cuttyhunk Island, in Buzzard's Bay,

drew fresh attention to the New England coast, though Gosnold himself afterwards gave his service to Virginia. Merchants of London and the west of England embarked in American ventures as a joint-stock enterprise, and James I. granted letters patent to two companies, with privileges of trade and settlement in all the territory between Cape Fear and the Bay of Fundy, or from the Spanish posts to the French. To the Plymouth Company, whose members were chiefly men of Plymouth, Bristol, and other ports of the West, was assigned all the coast north of latitude 38°. To the London Company, so named because its shareholders were mostly men of London, was allotted all the coast south of latitude 41°. Thus their grants overlapped, the middle portion, from Long Island to the Chesapeake, being a common ground which either might occupy. Before either could avail itself of this privilege, however, a new competitor appeared, dividing the domains of New England and Virginia by a barrier more substantial than a royal patent.

In 1609 Captain Henry Hudson, an Englishman in the service of the Dutch East India Company, searching for a passage to India, entered the Bay of New York, discovered the river which bears his name, and ascended beyond the present site of Albany. The Dutch based extensive claims to the coast upon his voyage. A very small part of their pretensions was ever recognized, but they promptly settled down to their fur trade on the Hudson, and built a temporary fort on the site of the present city of New York in 1613, and a permanent one near Albany in 1614. With their coming the occupation of the coast may be said to have become complete, and the eastern part of America was divided into five regions, known then or soon afterwards as New France, New England, New Netherland, Virginia, and Florida. They were separated from one another by undefined and disputed limits, and on the west they had no boundaries at all.

Settlement of Virginia.

It was the London Company which made the first permanent English settlement in America. The partners sent out three small vessels commanded by Captain Christopher Newport, and carrying 105 emigrants. They arrived in Chesapeake Bay in April, 1607, and the building of Jamestown, on James River, was begun the next month. The government of the colony was lodged in a council named by the King, and the councilors elected a president. The choice of officers was not fortunate, and the settlers, though there were some good men among them, were mostly of the refuse material always abundant in such new ventures. There were only twenty mechanics, with a mob of vagabond gentlemen, servants, soldiers, and idlers. Quarrelsome, mutinous, and improvident, they were kept in something like order solely by the personal influence of Captain John Smith, an adventurer of the best type, who had passed through some strange experiences in the wars against the Turks, and who brought to this Virginia undertaking a knowledge of men, a capacity to command, the daring of an explorer, and the plain sense of a practical colonist. From the first he was the real leader of the community, so far as they consented to have any. He saved them from starvation by getting corn from the savages; he staved off hostilities with the natives; and on several occasions, when he fell into the hands of hostile Indians, he escaped death by his tact and ingenuity.

The legend of his rescue by Pocahontas, the daughter of the powerful chief Powhatan, and of the romantic attachment which the young girl afterwards showed for him, was long a favorite chapter of American history. Late research has thrown much doubt upon the dramatic incidents of this story; but it is certain that Pocahontas showed great friendship for the whites, serving them bravely in their greatest need, bringing them food, and once averting a general massacre by hurrying to the settlement at night and giving warning of the intended attack. After Smith had left the country, the ungrateful colonists took her prisoner by treachery, and held her for ransom. In her captivity she embraced Christianity, was baptized by the name of Rebecca, and, marrying one of the emigrants named John Rolfe, went with him to England, where she was presented at court and gravely recognized as a princess. She died in England, as she was on the point of returning to America.

Even Smith's energy and ingenuity could not save the colonists from themselves. More than half of them perished the first year; and although three parties of recruits were sent out in 1608-9, they were of the same wretched quality as the original shipment. Instead of tilling the ground, they searched for channels to the unknown South Sea, and loaded their ships with useless dirt which they supposed to contain gold. Smith had been elected president in 1608, but the next year he was injured by an accidental explosion of gunpowder, and went to England for surgical aid. His departure, destined to be final, nearly proved the ruin of the colony. He left 490 persons in the settlement, and in six months they were all dead but sixty, most of them by famine.

The survivors built small vessels in which they hoped to reach the English fishermen off Newfoundland, and abandoning Jamestown in June, 1610, they set out upon their melancholy voyage. But in the James River they met an English fleet coming to their aid. It brought a large party of settlers and abundant supplies, and at the head of the expedition was Lord De la Warr, with a commission as governor for life. The deserted houses of Jamestown were now reoccupied; hope was restored; more profitable industries than gold-hunting were encouraged; food was easily raised on the fertile Virginia lands; valuable crops of tobacco were shipped to England; and before long, respectable young women began to emigrate to a country where the planters wanted nothing, perhaps, so much as wives. The improved state of things was owing in no small measure to the wiser policy of the London Company, which had been reorganized, and had received a new patent. The proprietors now began to put away the delusion that Virginia was the gateway of the gorgeous East, and to learn that it offered wealth only as the reward of industry and prudent enterprise.

Lord De la Warr did not remain long in America, and his wise and firm administration was not always imitated by his successors. The Company, moreover, was slow to

understand that thrifty and well-ordered communities were not likely to be created in Virginia by men who were too shiftless or vicious to live in England. Yet, by degrees, the better class of emigrants took control; many of the lazy gentlemen learned to work; and new settlements were established on the James River. The terms upon which the Company granted lands favored the formation of large plantations, and the English practice of selling convicts into servitude in Virginia for a period of years gave the rich proprietors a supply of labor. Prisoners of this class were not always felons, many being transported for political offences during the Scottish and civil wars, and on the expiration of their service they enjoyed the same rights as other colonists. African slaves were first brought in by a Dutch vessel in 1619, and this was the beginning of negro slavery in the United States, though the number of slaves for many years was very small. The growth of a Virginian aristocracy, under all the conditions of the colony, was almost inevitable, and from an early date the division of classes was well marked, and the landed gentry followed as far as they could the social customs of the Old Country.

In 1619 the Company made an important innovation by instructing Governor Yeardley to summon a representative assembly, the first legislature ever chosen in America; and two years later they granted to the Virginia colony a written constitution, by which authority was confided to a governor and council appointed by the Company, and an Assembly, consisting of the council and a house of burgesses, elected by the people. Bills passed by the Assembly, however, required the assent of the governor and the Company. This fell far short of popular self-government, but it was an advance upon the ideas of colonial management current at that time, and a good beginning for the development of political liberties. It is to the credit of the London Company that they so soon perceived the truth which the whole later history of North American colonization has demonstrated — that there is no stability or principle of growth in communities which are not taught to depend upon themselves. The policy of the Company, nevertheless, was little to the taste of King James I., and after futile efforts to obtain from the colonists a surrender of their privileges, he canceled the charter in 1624. But beyond the substitution of a royal governor for one appointed by the Company, there was no immediate change in the administration of the province. The dissolution of the trading corporation which had thus far maintained a more or less restrictive proprietorship over Virginia, rather helped the colonists in taking their interests into their own hands. Under Charles I. they practically ruled themselves, and were allowed to levy their own taxes. Under the Commonwealth they secured the right of electing their governor, although they were conspicuous for their fidelity to the House of Stuart. An aristocratic party obtained the upper hand after the Restoration, kept the Assembly in power beyond the term for which it had been elected, imposed severe taxes, and restricted the suffrage to landowners; but this was a reactionary movement within the colony itself, and not the only instance in our history in which popular government has taken the freak of abridging popular liberties.

Three times in the first half century after the establishment of the Virginia Legislature, the prosperity of the thriving colony received a severe check. Powhatan was always a friend to the whites from the time of the marriage of Pocahontas. After his death, his brother and successor, Opecancanough, comprehending better what the steady encroachments of the settlers foreboded, planned a general massacre, and on the 22d of March, 1622, the savages suddenly attacked the plantations and killed 350 persons. The colonists gathered in fortified towns, and a bloody war followed. In a few days the number of settlements in Virginia was reduced from eighty to eight. The savages suffered severely, as well as the English; yet in 1644 they rose again, killing several hundred of the colonists, and establishing a condition of more or less active hostility, which did not cease until they had been gradually expelled from the fertile coast region.

An Indian war on the border of Maryland (1675) brought on the third crisis in the history of the young colony. Intense dissatisfaction had been excited among the population by the exactions and usurpations of the aristocratic party in the local government and the oppressive policy of the Parliament at home. The plan of compelling the colonies to pay tribute to British tradesmen, which was destined a century later to cost the crown so dear, had already been established, and the navigation laws of 1660 and 1663 forbade the Americans to buy or sell in any country except England, or to ship their produce in any except English vessels. The laws bore severely upon a planting colony like Virginia, and were harshly enforced. So serious was the disaffection that when a popular young planter named Bacon raised an armed force to repel the Indian forays, the governor, Sir William Berkeley, distrusting his ultimate intentions, declared him a rebel and attempted to disperse his followers. Whatever may have been Bacon's designs, this was enough to insure an insurrection. The volunteers first attacked and beat the Indians and then marched against Jamestown, which they burned to the ground (Sept., 1676); but Bacon died of fever in the midst of his triumphs, and the rebellion was thereafter easily suppressed, without having clearly shown its character. After hanging twenty-two of the insurgents Berkeley returned to England, where his conduct was severely condemned. "The old fool," said Charles II., "has taken away more lives in that naked country than I did here for the murder of my father."

The colony, often hampered but rarely controlled by the home government, grew steadily, and developed from its internal forces a type of civilization to which other southern colonies afterwards conformed. The heads of society and leaders in politics were the great landowners, whose estates sometimes reached the dimensions of a principality; and the centres of life were the country mansions, where the planters maintained a lordly and somewhat barbarous state, surrounded by hundreds of slaves. They shipped their tobacco and other crops directly from their wharves on the river to England; they received in the same way their fine clothing, their wines, their furniture, their carriages, and whatever manufactured articles could not be produced by the negro me-

chanics on the plantation. The class next below them in rank consisted largely of white bondsmen who had served their time, or descendants of the original adventurers cursed with hereditary unsuccessfulness. Although emancipated servants were denied no civil rights, the upper walks of life were closed to them, and many of them became the progenitors of those "poor whites" upon whom the South learned to look with especial contempt. The towns of Virginia were few and poor; the shops and workshops were inconsiderable; there was little trade; none of the conditions favored a prosperous middle class; African slavery, putting a stigma upon manual labor, fostered idleness, poverty, and ignorance in the very rank which ought to constitute the chief strength of the state. There were hardly any schools; planters' sons went to England for an education, or studied at home with private tutors. The Church of England was established by law and sustained from the taxes, and all other denominations were prohibited. The clergy were largely drawn from the failures of the profession — jovial, fox-hunting parsons who sat long over the bottle and kept religion as a gentlemanly exercise, for Sunday exclusively.

Yet, in spite of all drawbacks, the Virginia colonists became distinguished for noble characteristics. They were hospitable, generous, chivalrous, and brave. They were ardent lovers of personal freedom. They were full of a manly independence, which gave them a foremost place among the patriots of the revolutionary period, and they had a military aptitude of which Great Britain was to witness impressive proofs.

Settlement of Massachusetts.

The settlement of New England under the auspices of the Plymouth Company, although it was attempted even earlier than the foundation of Virginia, was not accomplished until some years after Jamestown had passed through its worst trials. Captain John Smith made a successful trading and fishing voyage to the territory of the Plymouth Company in 1614, drew a map of the coast, and gave the country the name of New England; and his published reports did something towards stimulating adventure; but the first permanent English colony within the limits of the Plymouth grant was made by accident, and without the Company's knowledge.

The Puritans, separatists from the English church, who fled to Holland rather than submit to what they believed to be popish forms of worship, dissatisfied with their hard life in a foreign country and among people who spoke another tongue, turned their attention toward America, as a land where they could worship in their own way, and listen to the preaching of their own doctrines with neighbors of their own race. After sundry negotiations with the Dutch and other proprietors, they obtained a patent from the London Company for a settlement in Virginia, and then formed a joint-stock partnership with certain London merchants for trading, fishing, and planting, the merchants to furnish money for the outfit, the labor of every adult emigrant to be reckoned equivalent to one share of £10, and the whole property to be divided at the end of seven years. Crossing from Delft Haven to England, the Pilgrims, as they were afterwards called, sailed from Plymouth, September 6, 1620, in the ship Mayflower, one hundred and two men, women, and children, under the leadership of Elder William Brewster. On the 11th of November they cast anchor in what is now the harbor of Provincetown, on Cape Cod. This was outside the limits of the Virginia Company, and their patent was consequently of no use to them; but on ship-board, in order to provide for the emergency, they drew up a schedule of government, "covenanting and combining themselves together into a civil body politic," and chose John Carver as governor. This has been regarded as an important precedent in popular government, but to the Pilgrims it was only a temporary device, and the next ship from England brought them a patent from the Council of New England (1621). After exploring the sandy peninsula and the opposite shore of the mainland, they chose a site for their settlement and called it New Plymouth. The 22d of December is observed as the anniversary of their landing, on a rock still shown as one of the most precious of American relics. In fact, however, it was on the 21st of December (new style, or 11th, old style) that they selected Plymouth for their new home, and it was not until the 25th (old style) that they actually debarked.

They were wretchedly provided for a winter in the wilderness. Scanty and irregular supplies of fish constituted almost their only food; water was their only drink; at one time the stock of corn being divided gave five kernels to each person. About half the company perished during the winter, and Governor Carver died in the spring. The little band, however, was stout-hearted. William Bradford was elected governor in the place of Carver, and to Miles Standish, who had been a soldier in the Low Countries, was committed the military defence. By tact and boldness all serious trouble with the Indians was averted. A treaty of friendship was made with the powerful Massasoit, chief of the Wampanoags; and Canonicus, chief of the Narragansetts, was driven to ask for peace by Bradford's defiant reply to a hostile message. Food became abundant in the summer; reinforcements arrived in the autumn; and a year later (1622) a day of public prayer and praise was appointed in gratitude for a good harvest — the first celebration of the New England festival of Thanksgiving.

Having left England to get rid of the established church, the Pilgrims had no idea of tolerating the introduction of that hated institution into their new home. They banished a preacher named Lyford for holding worship according to the forms of the Church of England; and with Oldham, an exile in the same cause, he settled at Nantasket, now Hull. Thomas Morton, a rollicking free-liver at Mount Wollaston (Quincy), surrounded himself with noisy adventurers, who carried their disorder so far as to set up a May-pole; whereupon the new Plymouth people sent out an expedition, dispersed the settlement, cut down the pole, and shipped Morton to England. So much religious zeal was little to the taste of the London partners, who had gone into the enterprise as a matter of business. A quarrel followed, and as a result the colonists bought out the other shareholders, and divided the property. They were now no longer a trading company, even in name, but a self-governing

125
120
115
110
105
Longitude
100
45
40
35
30
25
20
DOMINION
Plains
Bear Hills
Humboldt
Crowfoot
Chesterfield
Tilley
Suffield
Deer
Bow
Old Bow Ft.
Mt. Head
Ft. McLeod
Kootanie Pass
Lake Pakokee
Swift Current
Regina
Sidewood
Summerberry
Woody Mt.
Dirt Hills
Milk
Maurais
Fort Assiniboine
Ft. Benton
Ft. Browning
Missouri
Cypress Hills
Medicine Hat
Moosejaw
Touchwood Hills
Fort Qu'Appelle
Ft. Ellice
Manitoba House
Brandon
Portage la Prairie
Ft. Pelly
Ft. Dauphin
Lake Winnipegosis
Lake Manitoba
Ft. Ellice
Oakdale
Broadview
Elbow
Qu'Appelle
Assiniboine
Souris
Devils L.
Miniwakan
St. Jo
Ft. Ransom
Ft. Bertbold
Bismarck
Ft. Clarke
Richardson
Glendive
Ridgelawn
Carroll
White Sulphur Springs
Miles City
Yellowstone
Tongue
Powder
Big Horn
Rosebud
Bozeman
Helena
Lodge
Gallatin
Dillon
Virginia City
Salmon City
Salmon
Idaho City
Boise City
Baker City
Galena
Pierce City
Lewiston
Pomeroy
Walla Walla
Umatilla
Columbia
Snake
Cheney
Spokane Falls
Spokane
Heron
Boundary
Waterton Lake
Flat Head Lake
Kootanie
Mt. Nelson
Mt. Baker
Fort Okanagan
Fort Shepherd
Fort Sheppard
Okanagan
Lake Okanagan
Kamloops
Lytton
Yale
Boston
New Westminster
Victoria
Esquimalt
Port Townsend
Mt. Olympus
C. Flattery
Cape Disappointment
Astoria
Pacific City
Salmon
Yakima
Ainsworth
Cape Foulweather
Umpqua R.
C. Arago
Cape Blanco or Orford
Port Orford
Empire City
Eugene City
Oregon City
Salem
The Dalles
Union
Mt. Jefferson
Mt. Pitt
Crescent City
Klamath R.
Humboldt Bay
Cape Mendocino
Yreka
Shasta
Mt. Shasta 14,440
Goose Lake
Lakeview
Albert Lake
Summer Lake
Silver Lake
Humboldt R.
Humboldt
Winnemucca
Carlin
Elko
Paradise Valley
Argenta
Reno
Virginia City
Carson City
Mendocino
Clear Lake
Sacramento
Benicia
Bodega
Oakland
SAN FRANCISCO
Santa Cruz
Monterey
Stockton
Sonora
Mariposa
Ridgepole
Aurora
Walker L.
Mono L.
Owens Lake
Death Valley
Mohave Desert
The Needles
Mt. Whitney
Tulare
Visalia
Tejon
San Luis Obispo
Pt. Conception
Sta. Rosa
Sta. Cruz
Sta. Catalina
San Nicholas
S. Clemente
Pt. Loma
San Diego
Ft. Yuma
Colorado R.
Gila R.
Todos Santos Bay
Cape Colnett
Cape & Pt. S. Quentin
Rosario
Pt. S. Antonio
Guadalupe
Cape Blanco
Sebastian Viscaino Bay
Cedros Isl.
C. S. Eugenio
B. St. Christoval
Las Tres Virginias Mts.
S. Ignacio
Abrejos Pt.
Ballena Bay
Pt. S. Domingo
S. Juanico Lagoon
Sa. Catalina
Cape S. Lazaro
Magdalena Bay
S. Margarita Isl.
Molege
Moledge Bay
Loreto
Carmen
Agabalan
Estero
Concepcion
Santa Anna Bay
Torin
Guaymas
Cochino
Tiburon I.
Angeles
Hermosillo (Pitic)
Horcasitas
Altar
Tubutama
Tucson
Tubac
Santa Cruz
Sonoita
Babisaora
Magdalena
Arispe
Sonora
Batuc
Cabullona
Fronteras
Nacozari
Janos
Casas Grandes
Corralitos
Guzman
Lake Patos
Carrizal
Presidio del Norte
Rio Grande
Ojinaga
Chihuahua
Sta. Rosalia
Parral
Cusihuiriachi
Satevo
Satilla
Batopilas
Alamos
Mocorito
Culiacan
Cosala
Durango
Mazatlan
Rosario
Palmito
Isabel I.
Las Tres Marias Is.
Sanblas
Tepic
Ft. Mitas
Ixtlan
Zuni
Prescott
Ft. Mc Dowell
Phœnix
Maricopa
Florence
Gila R.
Wilcox
Benson
Deming
Ft. Thorn
Lordsburg
Mesilla
El Paso
El Paso del Norte
Ft. Stanton
Las Cruces
Los Lunas
Albuquerque
Ft. Sumner
Lincoln
Rinconada
Alverdo
Socorro
Las Vegas
Tascosa
Canadian
Wichita Falls
Seymour
Seven Rivers
Pecos
Sierra Blanca
Carson
Phantom Hill
Eastland
Graham
Ft. Worth
Denison
Red R.
Ft. Stockton
Ft. Davis
Ft. Lancaster
Fredericksburg
Austin
Burnet
Caldwell
Painted Cave
San Antonio
Fort Duncan
Victoria
Fort Lavaca
Fort Ewell
Corpus Christi
Laredo
Carrizo
Rio Grande City
Matamoras
Monclova
Nadadores
S. Marcos
S. Fernando
S. Rosa
S. Vincente
S. Carlos
Lake de Tlahualila
Mapimi
Boison de Mapimi
Antotonilco
Cerrogordo
Villaldama
Salinas Cargago
Monterey
Saltillo
Parras
Mazapil
Encarnacion
Burgos
Linares
Hidalgo
Santander
Soto de la
Cedros
Salado
Alamos de Catorze
S. LUIS Victoria
Charcas
Palmillas
Venado
Zacatecas
Pinos
Asientos
Ortcasitas
Guadalcazar
S. Luis Potosi
POTOSI
Aguas Calientes
Rio Verde
S. Felipe
Guanajuato
Leon
Tamaulipas
Lake
Cape
Tan
Laguna Madre
Cimarron
Public Land
North Fork
Gardenville
Dodge City
Anthony
Wichita
Great Bend
Ft. Lyon
Pueblo
Colorado Springs
Denver
Hugo
Walker
Logan
Washington
Julesburg
Sterling
Culbertson
Kearney
Cheyenne City
North Platte
Grand Island
Columbus
Norfolk
O'Neill City
Niobrara
Valentine
Chadron
Ft. Thompson
Chamberlain
Ft. James
Redfield
Ft. Sully
Pierre
Hydro
Cheyenne
Deadwood
Rapid City
Black Hills
Custer City
White
Fremonts Peak 13,576
Yellowstone Lake
Yellowstone Nat. Park
Big Horn
Wind R.
Shoshone
Ft. Hall
Frankline
Ft. Bridger
Green R.
Uinta Mts.
Ft. Laramie
Laramie Plains
Benton
Lafarmie City
Evanston
Ogden
Great Salt Lake
Salt Lake City
L. Utah
Provo
Utah L.
Nephi
Fillmore
Sevier L.
Beaver
Parowan
Pioche
Hiko
Gold Mountain
St. Thomas
Callville
Colorado R.
Trout Spring
Mineral Park
Mohave City
Ft. Defiance
Bluff
Ouray
Del Norte
Durango
Spanish Peaks 13,7
La Junta
Trinidad
Ft. Union
Las Vegas
Canadian River
Tascosa
Elizabeth
Public Land
Cimarron
Eureka
Austin
Hamilton
Treasure City
Ruby Mts.
Elko
Carlin
Argenta
Reno
Virginia City
Carson City
Walker L.
Aurora
Ridgepole
Stockton
Sonora
Mariposa
Merced
Tulare
Visalia
Tejon
Bakersfield
S. Barbara
Los Angeles
San Bernardino
Walter
Bagdad
Mohave
Owens Lake
Death Valley
Mono L.
Carson R.
Humboldt R.
Humboldt
Winnemucca
Paradise Valley
Goose Lake
Lakeview
Albert Lake
Summer Lake
Silver Lake
Klamath R.
Yreka
Shasta
Mt. Shasta 14,440
Humboldt Bay
Cape Mendocino
Crescent City
Mt. Pitt
Port Orford
Empire City
Eugene City
Oregon City
Salem
The Dalles
Union
Mt. Jefferson
Cape Blanco or Orford
Umpqua R.
C. Arago
Cape Foulweather
Astoria
Pacific City
Salmon
Yakima
Ainsworth
Columbia
Umatilla
Pomeroy
Lewiston
Pierce City
Walla Walla
Snake
Cheney
Spokane Falls
Spokane
Heron
Boundary
Waterton Lake
Flat Head Lake
Kootanie
Mt. Nelson
Mt. Baker
Fort Okanagan
Fort Shepherd
Fort Sheppard
Okanagan
Lake Okanagan
Kamloops
Lytton
Yale
Boston
New Westminster
Victoria
Esquimalt
Port Townsend
Mt. Olympus
C. Flattery
Cape Disappointment

95 Greenwich 90 85 80 75 70 65

O F C A N A D A

T O B A

Lake St. Joseph

Lake Winnipeg

Lake of the Woods

Lake Superior

Keweenaw

Houghton

Marquette

Sault St. Marie

Michigan

Lake Huron

Georgian Bay

Lake Nipissing

Lake Simcoe

Lake Ontario

Lake Erie

Lake Michigan

Wisconsin

Minnesota

Iowa

Illinois

Indiana

Ohio

Kentucky

Tennessee

Mississippi

Louisiana

Arkansas

Missouri

Kansas

Nebraska

Dakota

Hudson Bay

Labrador

Quebec

Montreal

Ottawa

Toronto

Kingston

Hamilton

Niagara

Buffalo

Rochester

Syracuse

Albany

Boston

New York

Philadelphia

Baltimore

Washington

Richmond

Norfolk

Pittsburgh

Cleveland

Detroit

Chicago

St. Louis

New Orleans

Mobile

Atlanta

Charleston

Savannah

Jacksonville

Tallahassee

Pensacola

Galveston

Vera Cruz

Tampico

Havana

Cuba

Jamaica

Hayti

Bahama Islands

Florida

Gulf of Mexico

Atlantic Ocean

Gulf Stream

Tropic of Cancer

Washington 13 8 3 2 East

"body politic," which, though it never became numerous, maintained a virtual independence until it was absorbed into the greater colony of Massachusetts Bay.

Two months after the Pilgrims left England, the Plymouth Company obtained from King James I. a new concession, afterwards known as "The Great Patent," under which forty persons were incorporated as the Council for New England, with large powers of government, and privileges of trade between lat. 40° and lat. 48° (1620). This is the body from which the Pilgrims obtained their patent in 1621. It was eight years, however, before the Council accomplished any important new enterprise. Then (1628) they allotted to John Endicott and five associates the territory from three miles south of the Charles to three miles north of the Merrimac (that is, from Boston to New Hampshire), and the next year a charter was obtained for the colony in the name of the Governor and Company of Massachusetts Bay, in New England. Endicott went out at once as governor, and settled at Salem. Chartered only as a trading corporation, the chief purpose of the associates was nevertheless the same as that of the Plymouth Pilgrims — to establish Puritan communities secure from interference by the established church or the crown. With this end in view they made haste to remove the governing power under the charter from England to America, by choosing officers from those stockholders who proposed to emigrate, a device which soon made a clear separation of the interests of the colonists from those of the parent organization. Settlers now came out in great numbers, drawn almost entirely from the Puritan party. Whole congregations sometimes removed, with the minister at their head. As a rule they still professed fidelity to the Church of England, whose abuses of ritual and government they deplored; but by degrees the divergence became as marked in doctrines as in forms, and the Puritans adopted a severe Calvinism. Most of the emigrants belong to the substantial middle class; many were gentlemen of education, means, and social position. Never, perhaps, has the settlement of a new country been undertaken by such wholesale transfer of a thrifty, energetic, intelligent, and well-ordered population. In 1630 a party of about 1,000 came out, with John Winthrop as governor, and founded Boston, naming it after the town of Boston in Lincolnshire, to which many of them belonged. In this party there were four ministers.

Toleration was not one of the virtues of that age, and the Puritans of Massachusetts Bay were even more exclusive than the Pilgrims of New Plymouth. They proceeded at once to build their civil government upon the church. Congregations were organized in every settlement, and only those who had been admitted to church membership were allowed the privileges of citizenship. Membership was not easily granted. It required a public avowal of religious experience to which not everybody would submit, and the ministers rejected candidates whose conduct they disapproved or whose opinions they distrusted. Not more than a fourth part of the adult population ever was admitted to church membership under Puritan rule, and the proportion of qualified voters to the adult males was usually much less than a fourth. Besides practically determining who should vote, the clergy had an extensive authority in all secular affairs; while the civic magistrates, on the other hand, were required to enforce religious observances and punish dissent. This stern theocracy, armed with the scourge, the branding iron, and the halter, and exerting the gloomiest, though not the severest, despotism to which an English community ever submitted, has been much denounced as a usurpation. Technically it was such; but it seems to have been maintained with the cordial assent of the great majority of the population, who, indeed, might have put an end to it at any time had they so pleased. When it was finally overthrown, it was not by the people, but by the crown. In all the Puritan communities the introduction of the Church of England was an object of especial dread, and "prelatists" were punished, or expelled as unfit to inhabit the colony. The ferocity of the persecution of the Quakers is not readily understood, even if we remember that leaders of that denomination, in the Massachusetts of the seventeenth century, were sometimes exasperating disturbers. They were imprisoned in chains, seared with hot irons, whipped at the cart's tail — both men and women — from town to town, ruined by fires, shipped to England or Barbadoes. Four were hanged, including a woman, Mary Dyer. The maltreatment of the Quakers was at last made one of the reasons for annulling the charter. Roger Williams was banished for denying the authority of civil magistrates in matters of religion. Mrs. Anne Hutchinson, who instituted meetings of women to discuss theology, and taught that all believers were inspired by the Holy Ghost, was banished (1637), and her adherents were disarmed, lest some direct revelation should instruct them to rise in rebellion.

A belief in witchcraft was almost a natural consequence of the Puritan conception of the spiritual life. Executions for witchcraft took place as early as 1648. In 1688 the fear of witches became a terrible popular delusion, breaking out first in Boston, where an old Irish woman was hanged, mainly on testimony that she spoke her own language, and could not say the Lord's Prayer in English. The panic owed its intensity and duration largely to the sermons and writings of the Rev. Cotton Mather, a mighty divine whose credulity was on a par with his violence. The disorder reached its height in Salem (1692), where a special court was ordered for the trial of witches, and scores of persons were thrown into prison on the word of frightened children or the tattle of ill-natured gossips. In one year twenty persons were put to death; and when the inevitable reaction set in, eight were under capital sentence, one hundred and fifty were in jail, and many of the suspected had fled the country.

Morose, superstitious, bigoted, severe, the Puritans nevertheless exhibited from the first some of the highest qualities of the founders of a free state. They represent, with the Virginians, the chief sources of the national life. Nothing could be more striking or more picturesque than the contrast between the two classes of pioneers. But they had many things in common, especially a brave and self-reliant spirit. The Puritans had less sense of personal freedom than their Southern brethren, but a keener desire for political independence. Their civil govern-

ment being founded on the churches, and the churches having adopted the Congregational practice, every settlement enjoyed a large measure of home rule, and the development of the autonomy of the towns, so characteristic of the New England system, was easy and rapid. The jealousy of English interference, which sprang from special circumstances, ripened into an ardent attachment to the principles of political liberty. The Puritans, moreover, were industrious, enterprising, and full of resources. In spite of the navigation laws, which they evaded when they could, they practiced trades and built ships. They opened schools. They founded Harvard College as early as 1638, and the next year they set up the first printing press in the English-American colonies.

Other New England Colonies.

Maine and New Hampshire were settled under a grant from the Council for New England (1622) to John Mason and Sir Ferdinando Gorges, the latter of whom especially was long active in American adventures. The patentees named their territory Laconia. It lay between the Merrimac and Kennebec rivers. Settlements were attempted at once, Little Harbor (Portsmouth) and Dover being occupied as early as 1623, but for several years only a few weak fishing stations represented English enterprise on this part of the coast. Gorges and Mason afterwards divided their grant, Gorges taking the eastern part and giving it the name of New Somerset, changed to Maine in 1635, and Mason the western, which became New Hampshire. Both were claimed by Massachusetts as lying within her jurisdiction, and after complicated disputes, her authority was acknowledged by the New Hampshire towns, while she secured Maine by buying out the Gorges heirs. In 1680 New Hampshire was made a separate royal province; Maine was not detached from Massachusetts until 1820.

Rhode Island was the consequence of the persecution of Roger Williams. Driven from Boston and from Salem, and threatened with transportation to England, the young preacher fled to the wilderness in the depth of winter, and found hospitality with Massasoit. He founded the town of Providence in 1636, collecting there the first congregation of Baptists in America. At the beginning his colony was a simple democracy in which everything was decided by vote of the whole people; but a royal charter was obtained in 1643. The rule of toleration in religion, adopted by Roger Williams as the foundation of his community, is justly regarded as a chief glory of Rhode Island. But while the magistrates were forbidden to molest any one on account of religion, toleration did not necessarily imply equality of political privileges. A law of Rhode Island, purporting to have been passed in 1683, provided that only Protestant Christians should be admitted freemen and have liberty to vote and hold office. There is dispute as to the source and date of this restriction; but whatever its origin, it was several times re-enacted and was long in force. Jews were refused naturalization under it so late as 1762, and the exclusion of Roman Catholics, common to nearly all the colonies, was not repealed until 1783. Nevertheless, in recognizing the right of dissent, Roger Williams was far in advance of his generation, and after the principle had been admitted the full logical consequences could not be long delayed.

The first settlement in Connecticut was made by the Dutch. One of their captains, Adrian Block, discovered the Connecticut and Housatonic rivers in 1614, and their traders soon established a commerce with the Indians along the shore of Long Island Sound. In 1633 the Dutch Fort Good Hope was built on the Connecticut river, near the present site of Hartford. The English, claiming all this region, and never acquiescing in the Dutch occupation, tried to crowd out their thrifty neighbors. They settled just above Fort Good Hope, and commanded the river by building Fort Saybrook at its mouth. This latter enterprise was the result of a grant to Lord Say and Sele, Lord Brooke, John Hampden, John Pym, and others in England, of the whole coast of Connecticut and half that of Rhode Island. The settlement, named from the two principal proprietors, was afterwards incorporated with the colony of Connecticut. It was a Plymouth party which had established itself near the Dutch fort, but it was not until emigrants from Massachusetts Bay poured in that "the river towns," as they are called, were firmly planted. The movement was a systematic transfer of the churches of Dorchester, Watertown, and Newtown (Cambridge), with their ministers at their head, the largest party coming from Newtown, under Hooker and Stone (1636), and founding Hartford, while the Dorchester and Plymouth people founded Windsor, and those of Watertown settled at Wethersfield. Bringing with them an organization of government both ecclesiastical and civil, the towns began as independent political communities, the authority of a commission from Massachusetts, under which they acted for a year, being little more than nominal. In 1639 they met in mass convention at Hartford and adopted a constitution, the first example in history of a written instrument creating a government and limiting its powers by authority of the people themselves. The towns were recognized as existing political units, with self-derived powers, and the colony of Connecticut, as it was now called, was formed by a union in which the towns reserved certain important rights, such as the regulation of the franchise. The Hartford constitution was a remarkable foreshadowing of the American democratic and federative principles; but like the Mayflower compact, it was, perhaps, an arrangement of immediate convenience rather than the deliberate adoption of a political theory, for the colonists afterwards begged the royal sanction for their government, with apologies for not asking it sooner, and thankfully accepted a charter from Charles II. (1662). Their system of rule, preserved under the charter, was modeled upon that of Massachusetts, except that they did not require freemen to be church members.

Theocracy was rigidly maintained, however, in the colony of New Haven, founded in 1638, by the Rev. John Davenport and a party of English Puritans. They had no patent or other external authorization, and their only title to the land was derived from the Indians. The government which they set up, therefore, in 1639, a few months after the Hartford confederation, was purely

democratic in its source; but by their own votes the settlers decreed almost unanimously that the franchise should be limited to members of the church. They even surpassed the people of Massachusetts in the severity of their Puritanism, adopting the Scriptures as the law of the land, applicable to all cases, and carrying magisterial meddling with private conduct to a length never before imagined. They were united with Connecticut by the charter of 1662, much against their will.

Other Colonies.

The Dutch trading posts on the Hudson river grew slowly, the proprietors in Holland caring much more for the immediate traffic in beaver skins than for the possible advantages of colonization. After the incorporation of the Dutch West India Company (1621), however, more attention was paid to emigration. Thirty families of Walloons (Belgian and Flemish Protestants) were sent out in 1623, and a relic of their settlement is found in the name of Wallabout Bay on Long Island; Albany was begun; Manhattan Island was bought of the Indians for a sum equivalent to $24; Fort Amsterdam was built (1626), on the present site of the Battery; and under its protection grew up the town of New Amsterdam, which was made the capital of the colony. The colony itself was given the name of New Netherland. Extraordinary privileges were granted by the Company to those of its members who were willing to plant settlements at their own expense; and under this system vast estates were allotted on the Hudson to semi-feudal proprietors, known as "patroons." A colony of Swedes established themselves on the Delaware at the present site of Wilmington, but they were compelled a few years later to submit to the Dutch. In spite of a severe Indian war, precipitated by the violence of the colonists under the governorship of William Kieft (1643) New Netherland prospered, and fifty years after its foundation the colony had 10,000 inhabitants, while New Amsterdam counted about 1,500. Both in the capital town and in the outlying settlements there were many English, including sectaries of various sorts who had fled from the intolerance of the English colonies.

England had never ceased to assert her claim to the territory occupied by Dutch enterprise; but there had been no threat of a resort to force, when, in 1664, an English fleet entered the Bay of New York and demanded the surrender of the colony. Gov. Peter Stuyvesant had no means of resistance, and New Netherland passed peaceably to the possession of the Duke of York (afterwards James II.), to whom it had already been granted by his brother, Charles II. The name was now changed, and the administration was assumed by the Duke's appointee, Colonel Nicholls. In the course of the wars which followed between England and Holland, the Dutch recovered the colony as easily as they had lost it (1673), but it was finally restored to the English by treaty the next year. All these changes were accomplished without violence or popular disturbance. The inhabitants, drawn from many nationalities and religions, and occupied with a thriving trade, were ready to acquiesce in almost any tolerable government.

The grant to the Duke of York included what is now New Jersey. This territory the duke conveyed to Lord Berkeley and Sir George Carteret (1664), and it was named from the island of Jersey, in the English Channel, of which Carteret had been governor. There were already some small Dutch settlements in the territory, and under the new rule a number of Quakers soon came out, the rights of Lord Berkeley having been purchased by members of that persecuted sect. When the Jerseys were divided, in 1676, the Quakers were mostly settled in West Jersey; and although the share of Carteret was afterwards purchased by a partnership, in which William Penn, Robert Barclay, and other distinguished Friends were interested, and the prosperity of both colonies was largely owing to Quaker thrift and order, the prevailing influences in East Jersey continued to be Puritan.

George Calvert, first Lord Baltimore, a Roman Catholic, obtained from Charles I. a grant of territory north of the Potomac, which he named Maryland, in honor of Queen Henrietta Maria. It was the first proprietary province in America, and the lord proprietor possessed large powers; but in the charter, drawn up by Lord Baltimore, it was stipulated that no laws should be valid without the consent of the freemen of the colony, or their representatives in Assembly — an admission of the right of the people to a share in legislation not found in any previous instrument. The settlers were also exempt from taxation by the crown, and the right of originating laws was soon conceded to them. Lord Baltimore's principal object was to establish an asylum for Roman Catholics. He died before the charter passed the great seal, and it was issued to his son Cæcilius, second Lord Baltimore (1632), under whose direction the first party of colonists sailed the next year, with Leonard Calvert, brother of the proprietor, as governor. They comprised about twenty "gentlemen adventurers," and over two hundred laborers and servants, most of the latter class being Protestants. Two English Jesuit priests and two lay brothers accompanied them. Landing on an island in Chesapeake Bay, March 25, 1634, they chose a place for their settlement on a small tributary of the Potomac, and called it St. Mary's. There was an Indian village on the spot, and the settlers established the most cordial relations with the red men, buying not only their land but their wigwams, in which they sheltered themselves until they could build houses. They prospered from the first.

Open protection for Catholicism would have been impossible at that day. Lord Baltimore's plan for securing the free exercise of his own religion was to grant complete toleration and equality to all denominations of Christians, and from this policy, in which he anticipated Roger Williams by four years, neither he nor his successors ever departed. The act of toleration passed at his instance in 1649 was the legal ratification of a rule which had been very strictly enforced in the colony from the outset. Lord Baltimore's motives in taking this wise and liberal course have been attacked; but whatever alloy of selfishness may have been mixed with them, the fact remains that Maryland became a refuge for oppressed churchmen from New England and Puritans from Virginia, as well as for Catholics from home. Naturally, in such a gathering of exiles, there were many turbulent

spirits who could not be at rest even in a sanctuary. When Clayborne, a Virginia trader on Kent Island in Chesapeake Bay, refused to recognize Calvert's authority and raised an insurrection, a number of Puritan refugees joined him, and Calvert was driven for a time from the province (1644). After the execution of Charles I., Clayborne was one of the Parliament commissioners appointed to look after the plantations within Chesapeake Bay. With the aid of the Puritan settlers, the proprietary authority was overthrown (1655), and a new government excluded "papists and prelatists" from the benefits of the act of toleration. On the Restoration, the lord proprietor was reinstated and the act of toleration was revived; but when Maryland was made a royal province under William and Mary (1691) the Catholics were again disfranchised, and they remained for three-quarters of a century under heavier exactions and more offensive disabilities in their own colony than anywhere else in America.

Quieter fortunes befell another colony, founded like Maryland and Rhode Island upon the principle of religious freedom. William Penn obtained from Charles II., in 1681, in satisfaction of a debt, a grant of territory west of the Delaware, to which was given the name of Pennsylvania; the present state of Delaware was added to it the next year. The domain was constituted a proprietary province, Penn being the absolute owner and lord of the soil, and the charter was copied in part from that of Maryland. The chief object of the founder was to provide an asylum for Quakers, and most of the early emigrants were of that denomination, including some from Germany and Holland. The first party sailed in 1681; Penn followed in 1682; and in two years the population was about 7,000. It is an impressive commentary upon the Puritan hatred of Quakers that the so-called pernicious sect established the most orderly and peaceful of all the colonies. Soon after his landing Penn concluded a treaty of friendship with a large gathering of Indians, and near the site of the conference he founded the same year the city of Philadelphia. Before his return to England (1684) he established a form of government, with a representative assembly. Freedom of conscience and worship was strictly observed, and no religious test was required for the franchise except a belief in Christianity. For two years (1692–94) Pennsylvania was attached to the royal province of New York; but at the end of that time the rights of the proprietor were restored, and they subsisted in the family until the State of Pennsylvania extinguished them by purchase in 1779. Penn made a second visit to America, and granted his colonists a new charter, enlarging their political privileges.

Between Virginia and the Spanish settlements in Florida still remained a large territory which both England and Spain claimed, but neither had seriously attempted to occupy. A few English Quakers and other adventurous pioneers had straggled into the northern parts of this tract, and Spanish missionaries had been busy among the Indians; but colonization practically began under a grant made by Charles II. in 1663 to Lord Clarendon, General Monk, Lord Ashley Cooper (afterwards Earl of Shaftesbury), Berkeley and Carteret (proprietors of New Jersey), Sir William Berkeley (governor of Virginia), Lord Craven, and Sir John Colleton. The province was called Carolina, and embraced the present States of North and South Carolina, Georgia, Alabama, and part of Florida. At the request of Shaftesbury, John Locke, the famous English philosopher, drew up for the proprietors a complicated scheme of government, providing for a feudal nobility, an established church, and various Utopian institutions grotesquely unsuited to settlers in a distant wilderness; and the attempt to force the vagaries of a theorist upon a somewhat indocile people kept the province in a turmoil for many years. The first settlements were made on the Chowan and Cape Fear rivers, and were known as the Albemarle and Clarendon colonies; the latter (1664) was the beginning of the town of Wilmington. Six years later the Carteret colony was established on the Ashley river, whence it was soon removed to a better situation at the junction of the Ashley and the Cooper; and this became the city of Charleston. Negroes were introduced from the West Indies in 1671, and South Carolina became almost at the outset a community of planters depending upon slave labor. Both the Carolinas were in frequent revolt against the proprietors; at last, in 1729, Parliament purchased the rights of those personages, and the province became the two crown colonies of North and South Carolina.

Shortly after this change, settlements began in what is now the State of Georgia. General Oglethorpe, an English member of Parliament, formed the design of establishing a colony in America, where persons who had been imprisoned for debt, and others of broken fortunes, might begin a new life. At the same time he hoped to interpose a barrier between the weak Carolina colonies and the Spanish power in Florida. Receiving a patent (1732) for all that neglected region south of the Savannah river (Georgia and Alabama), he sailed the same year with 135 persons, and founded Savannah in 1733. The first settlers did not all belong to the unfortunate classes for whom he was especially concerned. They included parties of Jews, Moravians, Scotch Highlanders, and German Protestants, with a great many random adventurers, ill suited to a pioneer enterprise. The colony suffered much both from internal troubles and from Spanish hostilities before it was firmly established. It became a royal province in 1752. Alabama was not detached until after the Revolution.

The settlers of New England were never tender in their dealings with the red men, and their first Indian war was the result of a series of raids and murders in which the savagery was not all on one side. The Pequots, a warlike confederacy whose principal seat was on the river now known as the Thames, in Connecticut, planned a general massacre of the whites, in which they desired the Narragansetts to join them. But this tribe was induced by the persuasion of Roger Williams to side with the colonists, and to furnish more than half the force which, in the spring of 1637, marched against the Pequot strongholds. The Narragansetts were led by their chief, Miantonomoh; there were some Mohegans under Uncas; and Connecticut and Massachusetts sent about 100 soldiers under Captains Mason and Underhill. A fortified Pequot village was surprised at early dawn and set on fire; no quarter was given even to women or children; but the Indians who did not perish in the

flames were killed as they tried to break out. Two weeks later a second crushing defeat was inflicted upon the Pequots; some hundreds were made prisoners and sold into slavery, and the confederacy was permanently broken up.

It was principally for the sake of better protection against the Indians that a confederation of "The United Colonies of New England" was formed in 1643. Delegates from Massachusetts, Plymouth, Connecticut, and New Haven met in each colony by turns, to consult for their common interests. Maine and Rhode Island were excluded on account of heterodox opinions. The confederation was important as a first step towards union, but its immediate results were slight, and before the next general outbreak of the savages it had fallen to pieces. The war with King Philip, chief of the Wampanoags or Pokanokets, on the east side of Narragansett Bay, and son of the early friend of the settlers, Massasoit, began from trivial causes. Driven from his villages and followed into the swamps in the summer of 1675, Philip broke through the lines of his assailants, joined the Nipmucks in the interior of Massachusetts, and roused the whole country. Everywhere the smaller tribes took up arms, and they were far more dangerous than in former years, because now they were supplied with muskets. Towns were attacked and burned. Remote settlers were massacred. Military detachments were decoyed into ambush and destroyed. The Narragansetts had taken no part in the rising, but the colonists distrusted them, and dispatched an expedition under Josiah Winslow, governor of Plymouth, to crush them, as a measure of precaution. "The Swamp Fight," in what is now the town of South Kingston, Rhode Island, repeated the horrors of the Pequot affair, many of the Indians perishing in their burning wigwams; but on this occasion the whites also suffered severely, their losses amounting to about 240 men — a quarter of their whole number. The war was now waged with increased barbarity. Warwick was burned. Providence was partly ruined. The whole of the Plymouth colony was overrun. Towns were deserted. Settlers were murdered. Hostilities lasted until Philip was killed by a deserter from his tribe (1676), and Witamo, the female sachem of Pocasset, who had lately been his chief supporter, was drowned in trying to escape from an attack by Major Church. The heads of Witamo and Philip were set up on poles to celebrate the triumph of the settlers. Prisoners were hanged, or sold into the West Indies, or retained as slaves in New England. The tribes were crushed forever, and from this time fast dwindled away. The colonists, on the other hand, lost six hundred men in battle besides the victims of massacre in the settlements, and twelve or thirteen of their towns were entirely destroyed.

The Colonies and the Crown.

The independent spirit of Massachusetts showed itself at a very early day; for when, in answer to repeated complaints of the rigorous proceedings of the colonial magistrates, a royal commission was appointed by Charles I. to revise the laws of the American plantations (1634), and even the Council for New England appealed to the crown against settlers who sought "to make themselves absolute masters of the country," the General Court hastened to fortify the port of Boston and take other measures for military defence. A demand for the delivery of the charter was refused. Charles I. was soon too busy with other affairs to pay much attention to New England, and the matter was allowed to drop, until the restoration of Charles II. brought it again into prominence. But in the intervening quarter of a century all the colonies had gained the habit of self-reliance, grown accustomed to democratic principles and learned to make sharp distinctions between their own interests and those of the mother country. In New England — in Massachusetts especially — the jealousy of English interference sometimes amounted to positive enmity. At the Restoration the Massachusetts General Court ordered a public thanksgiving; but it also took that occasion to make a declaration of rights, which left hardly any perceptible power either to Parliament or the King, and yet probably did not go much beyond the uniform practice of the colony since its foundation.

Charles II. did not propose at first to revoke the charter, but he required the colony to administer justice in his name, to tolerate the Church of England, and to admit others than church members to the franchise. To these demands the General Court returned evasive answers. When royal commissioners were sent out to investigate complaints and settle boundary disputes, the General Court denied their authority (1664). When a royal commissioner of customs appeared at Boston, empowered to enforce the oppressive laws of trade, of whose violation the English merchants were complaining, the magistrates tore down the notice of his appointment posted on the exchange and the Court created a naval office of its own to supersede him (1680). But Charles, committed now to the high prerogative policy, was no longer in the mood to trifle with the pretensions of the colonists. Under a writ of *quo warranto* the charter of Massachusetts was declared forfeited, and the settlements became a royal province (1684). This was virtually the end of the Puritan theocracy. Before any important change could be made in the administration of the government the King died.

It fell to James II. to carry out the purpose of his brother of consolidating the colonies under royal authority, and checking the rapid development of popular liberties. James was already in possession of the province of New York, where the rule of his deputies, although arbitrary, was not usually harsh. Under Gov. Thomas Dongan (1683), an Assembly was summoned, which framed a declaration of rights and settled the important point of the illegality of taxes imposed without the consent of the representatives of the people. When James became King, however, his policy changed. Sir Edmund Andros was sent to America with a commission as captain-general and governor of all New England (1686), and instructions to set aside the existing charters. New York and New Jersey were presently added to his jurisdiction and included under the name of New England. His appointment was resented, but resistance seemed to be futile. Plymouth had no charter and was easily subdued. Rhode Island yielded after a brief opposition. New

Hampshire was already a crown province. Maine was a part of Massachusetts. In Connecticut the popular spirit was so menacing that Andros marched to Hartford with troops to compel obedience. He appeared at an evening session of the Assembly and demanded the production of the charter. It was laid upon the table; but suddenly the lights were extinguished and the precious instrument, spirited away by some patriotic hand, was hidden in a hollow oak (1687). Its disappearance did not prevent Andros, however, from declaring the charter government at an end. In Massachusetts, where affairs had been administered under temporary devices since the forfeiting of the charter in 1684, the hostility to Andros and the royal chief justice, Dudley, was especially resolute. No measure of the new rule, perhaps, was more angrily resented than the declaration of indulgence, which gave complete toleration to Episcopalians, Quakers, and all other denominations; but the colonists had much more substantial grounds of complaint in the arbitrary taxation, the interference with land titles, and the tyrannical restrictions upon personal freedom.

On the news of the landing of William of Orange at Torbay, the colonists of New England rose at once. Andros and Dudley were imprisoned. The old governments quietly resumed their functions, as far as possible with the old officers. The Council of Virginia tardily proclaimed William and Mary, after threats of a popular revolt. In Maryland a no-popery insurrection, under an agitator named Coode, deposed Lord Baltimore. In New York a more formidable rebellion, ostensibly "for the preservation of the Protestant religion," was led by a militia captain named Jacob Leisler (1689–91), who, with his son-in-law and secretary, Milbourne, was finally hanged for treason. The new King gave the colonists no cause to distrust his Protestant zeal; but his views of the royal prerogative, so far as it concerned America, were not materially different from those of James. To the colonial bills of rights and habeas-corpus acts he returned decided negatives, and he continued the prohibition of printing. For a while, however, the attention of the Americans was diverted to foreign dangers.

The Wars with France.

Since the beginning of the seventeenth century the French had been steadily extending their power through the region of the St. Lawrence, the Great Lakes, and the Mississippi. They were in conflict with the English in Maine, where so early as 1613, one of their mission stations on Mount Desert Island was violently broken up by an expedition from Virginia. They disputed the English claims on the East. They contended for the possession of Northern New York. In their service the priest and the fur-trader penetrated the Northwest. The Jesuit Marquette founded Sault Sainte Marie and was the first to reach the upper waters of the Mississippi (1675). La Salle, the adventurous explorer, sent out by the Governor-General of Canada, navigated the great river to its mouth (1682) and in the name of Louis XIV. took possession of the region thereafter styled Louisiana. Often tortured, burned, or hacked to pieces at the stake, the missionaries nevertheless obtained a strong influence over the savages; and at the end of the century it might have seemed doubtful whether France, with her Indian allies and her chain of colonies and outposts extending from New Brunswick through Canada and the Mississippi Valley, was not destined to be the ruling power on this continent.

When war broke out between France and England (1689), in consequence of the dethroning of James II., the northern colonies were promptly involved in it, New York and New England fighting willingly as for their own existence. In King William's War, as it is called, the English government paid little attention to its American subjects, but left them to defend themselves by their own resources, at their own cost, and in their own way. Both sides made use of the Indians — a practice not then regarded with the horror which it inspired in the authors of the Declaration of Independence — and the campaigns were marked by terrible brutalities. Many of the settlements of Maine and New Hampshire were ravaged, burned, or deserted, and for the disasters here Colonel Church afterwards took a bloody revenge. The Canadian Governor-General, Frontenac, sent out war parties of French and Indians, which surprised Schenectady, N. Y., and Salmon Falls, N. H. (1690), and captured Casco, Me. New York and New England dispatched an expedition of whites and Mohawks to attack Montreal, but Frontenac beat it off. A Massachusetts fleet, in the meantime, under Sir William Phips, devastated the French settlements on the coast of Acadia (Nova Scotia), and then sailed for Quebec, where Frontenac, fresh from his victory at Montreal, baffled their attack. When the treaty of Ryswick brought peace (1697), French and English colonies alike had suffered severely, and neither had gained anything.

In Queen Anne's War (1702–13), springing like the previous contest from quarrels with which the colonists had no direct concern, France was not only much stronger in Northern New York and the West than before, and more definite and earnest in her ambition of American empire, but she was now in alliance with Spain. Hostilities began in Florida, where Governor Moore, of South Carolina, captured St. Augustine, only to retreat on the approach of Spanish vessels of war. Later, with a thousand savages, he fell upon the semi-civilized communities of Christian Indians in Middle Florida and entirely destroyed them. A combined French and Spanish attack upon Charleston (1706) was defeated, and a French frigate captured. In the North the worst excesses of Indian warfare were felt in Massachusetts, where Deerfield and Haverhill — the latter hardly recovered from pillage and burning in King William's War — were scenes of dreadful massacres. In 1710, however, a colonial expedition captured Port Royal, in Acadia. The following year the home government tardily resolved upon an expedition against Canada, sending out a fleet of fifteen ships of war and five of Marlborough's veteran regiments, to which New York, Massachusetts, and Pennsylvania added a large number of men and liberal supplies of money. But the campaign came to nothing. Losing part of his fleet and a thousand men, by wreck in the St. Lawrence, the English admiral abandoned the enterprise and sailed for home, and the advance of the land

forces was thereupon cut short. In her European campaigns, England had been more fortunate than in America, and by the treaty of Utrecht she acquired Newfoundland and Acadia, the latter known henceforth as Nova Scotia.

Thirty years of general prosperity followed, broken by Indian troubles in the Carolinas and Maine, by controversies between the colonists and the home government, and by hostilities between England and Spain, in which colonial troops bore an arduous part. Then came King George's War (1744–48), the most important incident of which was the capture of the strong fortress of Louisburg (1745), constructed by the French on the Island of Cape Breton after their expulsion from Acadia. This exploit was almost wholly a colonial enterprise, the principal part of the force being furnished by Massachusetts, and the commander being William Pepperell, of Maine. The exultant Americans now meditated the conquest of Canada and were eager to raise a colonial army, which the British minister, however, would not permit, lest the provinces should grow too independent. The colonists were only allowed to menace Montreal while a British expedition should attack Quebec. But the British expedition never came; the costly preparations of the provincials went for nothing; a French fleet, on the other hand, alarmed the coasts until it was disabled by fever and dispersed by storms; the frontiers were harassed by Canadians and Indians; and finally the peace of Aix-la-Chapelle (1748) restored Louisburg to France, and gave her also the Islands of St. Pierre and Miquelon off the coast of Newfoundland.

Thus far the colonial wars with France had all sprung from the contests of the European powers. The decisive struggle, known as the French and Indian War, began with the clashing interests of the settlers themselves. At the middle of the eighteenth century the French, although their colonies increased very slowly in population, were steadily strengthening their position on the route from Canada through the Mississippi Valley. They commanded the lakes at Niagara and Detroit; they had founded New Orleans (1718) and made it the capital of Louisiana; and they began to press upon the English frontiers in Western Virginia and Pennsylvania, where pioneers from the tide-water settlements were now crossing the Blue Ridge and the Alleghanies, and turning their attention to the rich valley of the Ohio. Resolved to hold this country, the French built forts at Presque Isle, Le Boeuf, and Venango (Erie, Waterford, and Franklin, Penn.), roused the Indians, and seized English traders. The governors of Virginia and Pennsylvania received orders from England to expel the French wherever they were found within the limits of those provinces. A mission of remonstrance and inquiry from Lieutenant-Governor Dinwiddie, of Virginia, to the French at Fort Le Boeuf (1753), first brought George Washington into public notice. He was in his twenty-second year when he undertook this dangerous winter journey, a dignified, high-minded, truthful, well-bred gentleman, used to a vigorous out-of-door life, knowing so much of the profession of arms as could be learned by militia service, and, for his time and circumstances, a very respectable scholar. He discharged his errand with great discretion, bringing back clear evidence of the French intentions, and recommending the immediate construction of a fort at the junction of the Alleghany and Monongahela rivers, the present site of Pittsburg. The work was begun by a small advance party, but the French drove them out and finished it for themselves, calling it Fort Du Quesne. An expedition of Virginia, New York, and South Carolina troops, was disconcerted by this misfortune; but Washington, succeeding to the command of the Virginia regiment on the death of his superior officer, distinguished himself alike in action and in a judicious and orderly retreat to the Upper Potomac.

There had been no declaration of war between France and England, but the British ministry advised the colonists to hold a convention of delegates from the several Assemblies to provide for the general defence. Representatives of New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, and Maryland accordingly met at Albany in June, 1754, and going somewhat beyond the advice of the ministers, proposed on the 4th of July a scheme of confederation which may be called the germ of the present Constitution. Its author was Benjamin Franklin, then deputy postmaster-general for America. He was forty-eight years of age, distinguished for the vigor and effectiveness of his writings on public affairs, the strength of his attachment to the popular cause, the sagacity of his political and economical teachings, and his acquirements in natural science. The plan of confederation, however, was rejected by the colonies because it left too much power to the crown, and disapproved by the crown because it gave too much authority to the people.

A more practical measure of the ministry was the dispatch to America of two regiments of regular troops, to co-operate with which the provincial Assemblies voted seven or eight thousand men. The British general, Braddock, appointed commander-in-chief, undertook an expedition against Fort Du Quesne with the regulars and a detachment of Virginians, and the provincials were to operate in the North and East. British regular officers knew little of the conditions of campaigning in America. Braddock was unable to move until Franklin, on his own pecuniary responsibility, collected horses and wagons for him from the farmers of Pennsylvania; and when at last on the march, the General haughtily rejected the advice of Washington, who accompanied him as aide-de-camp, that the Virginia rangers should scour the woods in advance. The consequence was an ambuscade, near Fort Du Quesne, July 9, 1755, in which Braddock was mortally wounded, and the British lost more than half their men and all their guns and baggage. Only the gallantry and skill of Washington and the firmness of the provincials saved the remnant. The expedition was abandoned and Washington found full occupation in defending the frontier against the Indians, and organizing new levies.

The chief command, after the death of Braddock, devolved upon Governor Shirley, of Massachusetts. He made an attempt upon Fort Niagara, but accomplished nothing. Gen. William Johnson, superintendent of the Indians of New York, was a little more fortunate, for being dispatched against Crown Point on Lake Champlain, where the Canadians had established themselves

over twenty years before, he defeated the French general, Dieskau, in the battle of Lake George, September 5, 1755, and built Fort William Henry at the head of the lake. Still he was not able to reach Crown Point, or even to prevent the French from fortifying Ticonderoga.

The one entire success of the campaign was the expulsion of the French neutrals from Nova Scotia. These people, remnants and descendants of the Acadians of the last generation, had always remained French in language, religion, and sympathy. Simple, industrious, and peaceable, their neutrality was mainly an affair of sentiment, and the persistent efforts of Canadian agents to rouse them into active hostilities against their English conquerors seem to have met with no response. The English, however, resolved, as a measure of precaution, to remove them from their homes and scatter them among the provinces. An expedition of provincials and regulars, under General John Winslow of Massachusetts, and Colonel Monckton, easily reduced the military posts on the French side of the Bay of Fundy (June, 1755), and then, assembling the Acadians by stratagem in their parish churches, hurried them on shipboard. About 6,000 were deported by this ruthless means; families were separated; the houses, lands, cattle, and crops of the exiles were confiscated; every colony received some of the destitute and heart-broken victims.

War between France and England was declared in May, 1756, and the British government, sending a large body of troops to America, promised a vigorous campaign. The incapacity of the commander-in-chief, Lord Louden, and the arrogant reluctance of the regulars to co-operate with provincials, defeated almost every plan. In strong contrast with Louden's weakness was the conduct of the alert and dashing French commander, the gallant Marquis of Montcalm, who spread panic among the colonists and broke up their campaign by a sudden descent upon Oswego, where he made important captures, and who later, while Louden was making a feeble demonstration against Louisburg, fell upon Fort William Henry and compelled its surrender (August, 1757).

But the accession of William Pitt to the chief seat in the British cabinet now put a new face upon affairs. That able statesman understood the significance of the trouble in America, as none of his predecessors did. He recalled Louden; he sent out a powerful fleet under Admiral Boscawen; he so inspirited the colonists that they raised even more than the 20,000 men asked of them; and at the beginning of 1758 Abercrombie, the new commander-in-chief, found himself at the head of 50,000 troops. Louisburg was captured in July, with 5,000 prisoners; and although an assault upon Fort Ticonderoga was repelled by Montcalm, Fort Frontenac (Kingston, in Canada) was captured with garrison and shipping, and Fort Du Quesne fell into the hands of Washington and his Virginians, and was henceforth called Fort Pitt. General Amherst took Ticonderoga the next summer.

The decisive event of the war was the capture of Quebec. For the attempt upon this formidable and important fortress Pitt selected Brigadier-General Wolfe, a highly accomplished young officer, who had shown marked ability as second in command at the taking of Louisburg. With a fleet and 8,000 troops he ascended the St. Lawrence and debarked near the city, where Montcalm with an equal force was strongly posted awaiting him. Direct assault failed; bombardment, owing to the position of the fortress on a high promontory was impossible. But Wolfe, after two months' disheartening trials, discovered a ravine in the steep bank; and by this path, so narrow and difficult that it had been left virtually unguarded, he led a part of his army at night to the heights of Abraham, in the rear of the town. At daylight on September 13, 1759, the English were drawn up in order of battle. The astonished Montcalm hurried from his camp and attacked with spirit; but the British line was not to be broken. Wolfe was killed at the moment of victory; Montcalm fell mortally wounded while vainly trying to rally his defeated troops. Five days later Quebec surrendered; and although hostilities continued for some time longer, and Montreal was not given up until September, 1760, the fall of Quebec was virtually the fall of the French power in America.

The war in the colonies had been over for three years when the treaty of Paris, in 1763, settled the terms of the peace. France divested herself of all her American possessions. Great Britain obtained everything east of the Mississippi except New Orleans; that town and the territory west of the Mississippi were transferred to Spain; and Florida was ceded to Great Britain in exchange for Havana, which had been captured from Spain during the war.

Prelude to the Revolution.

During the last years of the struggle with France the colonies had been vexed with many Indian troubles among the tribes of the South as well as those on the French frontier; and the close of the war, with the substitution of English for French supremacy in the western country, brought on a rising, led by the Ottawa chief, Pontiac, which assumed a most serious character. The conspiracy of Pontiac (1763) involved an attack upon all the English border settlements from Virginia to the lakes. More than 100 traders were murdered. More than 500 families were massacred or driven from their homes. Detroit was besieged by Pontiac for five months, and after the tribes were at last compelled to sue for peace, the indomitable chief continued for some years to incite war among those of the farther West.

While the surrender of Canada relieved the colonists of their only rival, and gave permanent security to their frontiers, the rejoicings with which they celebrated the conquest were not free from alloy. Seventy years of intermittent war had cost them dear. They had lost thirty thousand soldiers; they had seen many of their towns laid in ruins; they had spent $16,000,000, of which sum the home government repaid only $5,000,000. Their population at this time did not exceed 2,000,000 of whom 350,000 were negro slaves. Virginia stood first, with 300,000 inhabitants; Massachusetts second with 230,000; Pennsylvania, with nearly as many as Massachusetts, ranked third; New York was below the Carolinas, Maryland, and Connecticut. The principal town was Boston, with 15,000 inhabitants, but Philadelphia and New York were

fast overtaking it in population, while Newport, Norfolk, and Baltimore were becoming its rivals in trade. The New England colonies managed to keep up a profitable contraband traffic with the West Indies; but peace found the Americans, upon the whole, depressed, poor, and nearly exhausted with debt.

It was a conjuncture in which a wise home government would have been careful to foster their industries and lighten their burdens. Great Britain made it an occasion for enforcing oppressive laws with new vigor and by hateful means. Ever since the revolution which dethroned James II., the commercial classes had been gaining influence in the British Parliament, and it was their policy to crush the trade and manufactures of the colonies and force them to buy whatever England had to sell. It was the shopkeeper rather than the King against whom America had now to assert her independence. The navigation acts forbade the colonists to ship their products in any but English vessels, or, so far as the principal articles were concerned, to trade except with English countries. To please the London hatters they were forbidden to export hats, or to send them from one colony to another. To satisfy other British interests, they were forbidden to manufacture iron, even so small as a nail; or to send any manufacture of woolen out of the province in which it was produced; and an act was passed to destroy the most important business of New England, which was the exchange of timber with the French West Indies for molasses to be distilled into rum. Such laws inevitably produced an active smuggling trade, and to some extent the royal officers seem to have connived at it. On the accession of the Grenville ministry, in 1763, it was determined to make America pay a share of the English war debt. Grenville undertook to enforce the obnoxious trade laws; to establish a portion of the British army as a permanent garrison in America; and to raise money for the support of the troops by Parliamentary taxation of the colonies. These three measures were the immediate causes of the American revolution.

Grenville might have been warned by the opposition to the "writs of assistance" two years before. When the government granted these general search warrants, authorizing officers of the customs to break into any store or private house suspected of containing smuggled goods, the Americans made such vigorous resistance to what they declared to be an unconstitutional abridgment of their liberties that, although the legality of the writs was finally sustained by the courts, the officers did not venture to execute them. The attempt to tax the people without their consent was certain to be still more violently resented, for it was the invasion of a principle which had been maintained in the leading colonies almost from the beginning. Nevertheless, after the passing of a declaratory act in 1764, Grenville brought forward his scheme of a stamp act. It was a tax imposed upon every legal paper and every document used in trade. Agents were appointed for the sale of the stamps. Violations of the act could be tried in any royal or admiralty court, however distant, and without a jury. Troops were to be sent to America to overawe remonstrance, and the colonists were required to find them "quarters, rum, fuel, and other necessaries." The introduction of Grenville's measure produced a general outcry. The colonists insisted that they could not constitutionally be taxed by a Parliament in which they were not represented. James Otis, who had distinguished himself during the opposition to the writs of assistance in Boston resigned the office of advocate-general in order to defend the cause of the people; Samuel Adams, soon to be known as the most astute of the popular leaders in Massachusetts; and Patrick Henry, the brilliant orator of Virginia, were conspicuous in the agitation. Franklin for Pennsylvania, Jackson for Massachusetts, Ingersoll for Connecticut, were commissioned to argue against the scheme in England. The provincial assemblies drew up protests. Colonel Barré, who had served in America, spoke against the bill in Parliament. Nevertheless, the stamp act passed in March, 1765.

The news was received in America with a burst of indignation. Virginia passed a declaration that the General Assembly had exclusive right to tax the inhabitants, and in debating the resolution Patrick Henry uttered his most famous saying: "Cæsar," he cried, "had his Brutus, Charles his Cromwell, and George the Third"—"Treason, treason!" exclaimed some of the members—"George the Third may profit by their example. If this be treason, make the most of it." Massachusetts instructed the courts to conduct their business without stamps. The distributing agents were forced to resign their offices. "Sons of Liberty" were organized to resist the act. The houses of officials and friends of the crown were mobbed and gutted. On the day appointed for the act to be put in force, flags were hung at half mast, bells were tolled, business was suspended, not a stamp was to be seen. In the meantime, at the request of Massachusetts, delegates from nine colonies met in Congress at New York (October, 1765), and drew up a petition to the King, a memorial to Parliament, and a declaration of rights. They insisted that the colonies could not be taxed except by their own Legislatures; and the several Assemblies at their next sessions cordially approved their proceedings. A committee of correspondence, formed by a popular movement in New York, successfully urged an agreement among the colonies to import no more goods from Great Britain until the stamp act was repealed. The "Daughters of Liberty" fostered the patriotic determination by spinning yarn for the domestic looms.

Against the resolution of the colonists, the dissatisfaction of embarrassed British merchants, and the eloquent denunciation of Pitt, who declared that the Americans would have been slaves if they had not resisted, the stamp act could not be maintained. It was repealed by the Rockingham ministry, March 18, 1766. But scarcely had the rejoicings over this event died away when a new scheme of taxation was put forth by Charles Townshend, chancellor of the exchequer, imposing duties on tea, paper, glass, etc. (June, 1767). The effect was to unite the colonies more firmly than ever in the principle that "taxation without representation is tyranny." The General Court of Massachusetts issued a circular letter inviting the Assemblies to consult for the defense of their rights. The non-importation agreement was renewed. An attempt to seize a sloop belonging to John Hancock,

a rich and popular merchant of Boston, for violation of the revenue laws, led to a riot. The Assembly of New York, having refused to furnish quarters for royal troops, was dissolved. A still more popular Assembly, elected in its place, also refused, and was dissolved. The General Court of Massachusetts was commanded to rescind the circular letter; it refused, and was dissolved. The Burgesses of Virginia were dissolved for protesting against the treatment of New York. The Assemblies of Maryland and Georgia were dissolved for approving the course of Massachusetts and Virginia. Parliament approved the action of the royal governors, and recommended them to send all treasonable persons to England to be tried there for their offenses.

Two regiments were sent to Boston. The town flatly refused to give them quarters, and their commander, General Gage, was compelled to provide for them from his own resources. Their presence was a constant source of irritation. A serious collision at last occurred between a picket guard and a mob, in which five citizens were killed and several wounded (March 5, 1770). In the excited state of the public temper, "the Boston massacre" was greatly magnified. A committee of the people, headed by Samuel Adams, waited upon Lieutenant-Governor Hutchinson and forced him to order the removal of all the troops from the town. Captain Preston and the soldiers of the guard were tried for murder. Defended by John Adams and Josiah Quincy, two of the most ardent of the popular leaders, they were all acquitted except two privates, who were found guilty of manslaughter, and branded in the hand.

Townshend's scheme of taxation had failed as completely as Grenville's stamp act. Its repeal, proposed by the ministry of Lord North, was an obvious political and economical necessity. But to satisfy King George III., who insisted that "there should always be one tax at least, to keep up the right of taxation," the duty on tea was retained. The new measure, presented to Parliament on the day of the Boston massacre, only increased the popular agitation in America. The people pledged themselves to use no tea while the tax remained, and to let none be landed. When news came that three tea ships were on the way to Boston, a mass meeting in that town resolved, on motion of Samuel Adams, that the ships should be sent back. The governor insisted that the cargo should be landed. On the night of December 18, 1773, a band of fifty or sixty men disguised as Indians boarded the ships and threw the tea into the harbor. Other ships, bound for New York and Philadelphia, were turned back without discharging. The resentment of the ministry at these proceedings fell upon Boston, which was, not unjustly, regarded as the hotbed of insurrection. By the Boston port bill the shipping business of that commercial city was entirely interdicted. The capital was removed to Salem. The act for quartering soldiers on the inhabitants was renewed. Seven regiments were stationed in the colony, and General Gage, besides holding the military command, was appointed governor. A new form of government was devised, containing scarcely a vestige of popular authority.

If English statesmen had paid proper attention to American affairs they must have learned, from the indignation with which these measures were received throughout the colonies, and the language of the public protests, that the controversy had already passed beyond the character of a quarrel about taxes, and was fast becoming a demand for popular rights all along the line. Committees of correspondence, formed at the suggestion of Patrick Henry, Thomas Jefferson, Richard Henry Lee, and others, enabled the colonies to concert measures of common interest, and in the spring of 1774 proposals were made by several of the Assemblies for a general Congress. On the 5th of September of that year the first, or "Old" Continental Congress met in Philadelphia under the presidency of Peyton Randolph, of Virginia, with representatives from all the colonies except Georgia. It was a dignified, sagacious, and patriotic body, including among its members Washington, Patrick Henry, and R. H. Lee of Virginia, Samuel and John Adams of Massachusetts, John Jay, Philip Livingston, and James Duane of New York, Roger Sherman of Connecticut, Edward and John Rutledge and Christopher Gadsden of South Carolina, William Livingston of New Jersey, Galloway of Pennsylvania, and Chase of Maryland. A far-reaching declaration of rights, a protest against eleven specific acts of Parliament passed since the accession of George III., a petition to the King and addresses to the people of Great Britain, Canada, and the colonies, were framed, and an "American Association" was established, whose members pledged themselves not to trade with Great Britain, Ireland, the British West Indies, or any American province which should refuse to come into the Association, and not to use any British goods.

In Massachusetts events moved fast towards revolution. General Gage called a House of Representatives, under the new scheme of government, to meet at Salem, but, alarmed at the public temper, he countermanded the summons. Disregarding this second proclamation, the members came together, resolved themselves into a Provincial Congress, removed to Concord, and organized by choosing John Hancock as president. No Legislature ever met again in Massachusetts under royal authority. Almost unnoticed the sovereignty had passed to the people. Having assumed full legislative power the Massachusetts Congress provided for executive functions also, by creating a committee of safety with John Hancock at its head, and authorizing it to call out the militia. "Minute men" were enrolled, pledged to turn out at call; arms and ammunition were collected — the royal stores being sometimes seized — and public speakers began to defend the right of rebelling against oppression. General Gage fortified himself in Boston, and called for 20,000 more troops.

Beginning the Revolution.

On the 19th of April, 1775, General Gage sent 800 soldiers to destroy some arms and ammunition which the patriots had stored at Concord, sixteen miles from Boston. The expedition was to move secretly by a night march, but timely warning was given of its departure, the minute men were roused, and when the troops reached Lexington, at dawn of the 19th, they found sixty or seventy Americans drawn up in arms. The little force was easily

dispersed after eight of the company had been killed and several wounded; but, insignificant as it seemed, the "battle of Lexington" had mighty consequences. The British continued their march to Concord, where they found little to destroy, and were met, moreover, so resolutely by a hastily collected body of 400 minute men that they quickly began a retreat. The whole country was now in arms. The Americans hung upon the line of march, firing from behind trees and fences, and doing such execution that the retreat became a rout, and when the troops were at last rescued by the arrival of reinforcements, they had lost 273 men.

The effect of the battles of Lexington and Concord was electric. For the first time a considerable party in the colonies began to talk of a separation from Great Britain; the people of Mecklenburg county, North Carolina, even adopted a formal declaration of independence (May 31, 1775), but this too hasty movement was not generally sustained. Almost everywhere authority passed from the royal governors to popular assemblies, congresses, or committees of safety. Troops were raised by the several colonies, Massachusetts alone voting 13,000, and before the end of April the Americans had 20,000 men in camp before Boston. The second Continental Congress, meeting at Philadelphia in May, disclaimed the desire for independence, but made provision for war, issued bills of credit, and practically assumed all the functions of government. On the 10th of May, a party of Vermont volunteers, known as Green Mountain Boys, surprised and captured Fort Ticonderoga. To the inquiry of the astonished British commander, in whose name they demanded his surrender, their leader, Ethan Allen, replied, "In the name of the Great Jehovah and the Continental Congress." Seth Warner, with another Vermont party, captured Crown Point; and by these two exploits the patriots secured over 200 cannon and a large supply of powder.

There was neither discipline nor organization in the camp before Boston. Gen. Artemus Ward of Massachusetts, held the precedence among several more or less independent commanders, but he had little real authority. It was under orders from the Massachusetts committee of safety that Colonel Prescott marched secretly from Cambridge after dark on June 16, to fortify Charlestown Heights overlooking the city and harbor of Boston. He was instructed to throw up intrenchments on Bunker Hill; he decided, after reaching the ground, that the safer course would be to construct his defenses on Breed's Hill, an eminence a little nearer Boston. The Americans worked all night without discovery, and continued their labors until nearly noon of the 17th, while the British were preparing an assault. By that time they had completed a redoubt and a breastwork. Prescott was in command. Dr. Joseph Warren, president of the Massachusetts Congress, recently appointed a major-general, served with him as a volunteer. Israel Putnam of Connecticut, a veteran of the French and Indian war, was likewise on the field. The British attacking party, 3,000 strong, crossed the Charles river and advanced up the hill under a covering fire from their ships and batteries. Twice the picked regulars recoiled and fled before the American militia, who reserved their steady and well-aimed fire until the enemy were close to the works. Reinforced for a third attempt, and gallantly led by Generals Howe, Pigot, and Clinton, the British carried the intrenchments at last, only when the powder of the Americans was entirely exhausted. Prescott conducted an orderly retreat across Charlestown Neck, with the loss of the brave and ardent Warren. The number of killed, wounded, and prisoners on the American side was 449; the total number engaged at any one time was about 1,500, but more than that were in action at some part of the day. The British force was probably between three and four thousand, and they lost 1,054. The battle of Bunker Hill, as it has always been called, was a British victory; but it was so little satisfactory to the ministry that Gage was recalled and replaced by Howe, while the provincials derived from it increased confidence in their ability to meet regular troops.

The Congress at Philadelphia in the meanwhile had adopted the motley but brave array before Boston as a Continental army, and appointed George Washington commander-in-chief. When the General reached Cambridge, two weeks after the battle of Bunker Hill, he found about 14,000 men in the ranks, and even this small force was largely composed of short-time volunteers, who had turned out for an emergency, with no idea of regular service. It was necessary during the next few months not only to create the organization of an army, but in a great measure to renew its material. But while the commander-in-chief was performing this delicate work in the face of the enemy, operations elsewhere were not neglected. General Richard Montgomery, invading Canada by way of Lake Champlain, captured Montreal on November 12, 1775, and marched upon Quebec, where Benedict Arnold joined him with a small force which he had led through the Maine wilderness. The assault, delivered in a blinding snowstorm on the 31st of December, was a failure. Montgomery was killed, Arnold was badly wounded, and the Americans lost nearly a third of their expedition. In Virginia, the royal governor, Dunmore, driven out of the capital, collected ships, burned Norfolk (January, 1776), and ravaged the coasts. British vessels of war attacked various seaport towns, but the colonists likewise fitted out cruisers and captured supply ships, with powder and other stores of which they were in great need. A combined land and naval attack upon Charleston, S. C., by General Clinton and Admiral Sir Peter Parker, was beaten off with heavy loss by a small body of men under Colonel Moultrie (June 28th, 1776).

Washington had no sooner brought his army into tolerable condition than he put in execution a bold plan which would force Howe either to evacuate Boston or give battle; and for the latter alternative he was amply prepared. On the night of March 4–5, 1776, the Americans fortified Dorchester Heights as silently as the year before they had fortified Breed's Hill, and in the morning Boston was at their mercy. Howe decided to risk an assault; but a storm delayed him; his officers lost heart; and on the 17th he embarked his whole army for Halifax, leaving valuable stores to the victors. Washington well knew that the intention of the British was to seize New York and while the whole country was rejoicing over the re-

covery of Boston, he hurried his troops to the Hudson, and pushed on the fortifications begun some time before in anticipation of this movement.

The Declaration of Independence.

The conflict of arms was not long in commending to the people the idea of independence. Instructions which virtually implied separation were given to their delegates in Congress by Massachusetts in January, 1776, by South Carolina in March, by Georgia in April, and on the 12th of April North Carolina explicitly directed her representatives to vote for independence. In May, Congress resolved that all authority under the crown ought to be suppressed and all the powers of government exerted under authority of the people. Massachusetts, at an election May 30th, voted unanimously to instruct her delegates for independence.

On the 7th of June, Richard Henry Lee, in obedience to instructions from the convention of Virginia, moved in Congress, "that the United Colonies are, and ought to be, free and independent states." The resolution was debated in secret, John Adams warmly supporting it, and was then postponed to give time for consultation with the people. In the meanwhile, however, Thomas Jefferson, John Adams, Benjamin Franklin, Roger Sherman, and Robert R. Livingston were appointed a committee to prepare a formal declaration. The deferred resolution was called up on the 1st of July and discussed in committee of the whole, John Adams again making an impassioned speech for it. It passed the committee by a vote of nine colonies to four, South Carolina being against it, Delaware and Pennsylvania divided, and New York awaiting the action of a popular convention which had been called but had not yet assembled. When the final vote was taken in the House July 2, all opposition had disappeared. Twelve colonies resolved "that these United Colonies are, and of right ought to be, free and independent states; that they are absolved from all allegiance to the British crown, and that all political connection between them and the state of Great Britain is, and ought to be, totally dissolved." The unanimous assent of the New York convention was given in due course. The discussions of the Congress were held in private. Crowds waited anxiously in the streets until the result of the deliberations was announced by the joyful pealing of the State-house bell, which, by a strange coincidence, bore the following text inscribed upon the metal: "Proclaim liberty throughout the land unto all the inhabitants thereof."

The Declaration of Independence, written by Jefferson, was agreed to on the evening of the 4th of July, and this date has consequently been taken as the American anniversary. John Hancock, president of the Congress, was the only member who signed the document on the 4th, the others waiting until it had been engrossed. But the declaration was immediately published, and everywhere dissension seemed to be smothered in popular rejoicings. (See Declaration of Independence.) The immortal document which is justly regarded as the charter of American freedom had its prototype in a Declaration of Rights, prepared by Thomas Jefferson and adopted by the Virginia Legislature on June 12, 1776, as follows:

"A declaration of rights made by the Representation of the good people of Virginia, assembled in full and free Convention, which rights do pertain to them and their posterity as the basis and foundation of government.

"I. That all men are by nature equally free and independent, and have certain inherent rights, of which, when they enter into a state of society, they cannot by any compact deprive or divest their posterity; namely, the enjoyment of life and liberty, with the means of acquiring and possessing property, and pursuing and obtaining happiness and safety.

"II. That all power is vested in, and consequently derived from, the people; that magistrates are their trustees and servants, and at all times amenable to them.

"III. That government is, or ought to be, instituted for the common benefit, protection, and security of the people, nation, or community; of all the various modes and forms of government, that is best which is capable of producing the greatest degree of happiness and safety, and is most effectually secured against the danger of maladministration; and that, when a government shall be found inadequate or contrary to these purposes, a majority of the community hath an indubitable, unalienable, and indefeasible right to reform, alter, or abolish it, in such manner as shall be judged most conducive to the public weal.

"IV. That no man, or set of men, are entitled to exclusive or separate emoluments or privileges from the community but in consideration of public services, which not being descendible, neither ought the offices of magistrate, legislator, or judge to be hereditary.

"V. That the legislative, executive, and judicial powers should be separate and distinct; and that the members thereof may be restrained from oppression, by feeling and participating the burthens of the people, they should, at fixed periods, be reduced to a private station, return into that body from which they were originally taken, and the vacancies be supplied by frequent, certain, and regular elections, in which all, or any part of the former members to be again eligible or ineligible, as the laws shall direct.

"VI. That all elections ought to be free, and that all men having sufficient evidence of permanent common interest with, and attachment to the community, have the right of suffrage, and cannot be taxed, or deprived of their property for public uses, without their own consent, or that of their representatives so elected, nor bound by any law to which they have not in like manner assented, for the public good.

"VII. That all power of suspending laws, or the execution of laws, by any authority, without consent of the representatives of the people, is injurious to their rights, and ought not to be exercised.

"VIII. That in all capital or criminal prosecutions a man hath a right to demand the cause and nature of his accusation, to be confronted with the accusers and witnesses, to call for evidence in his favor, and to a speedy trial by an impartial jury of twelve men of his vicinage, without whose unanimous consent he cannot be found guilty; nor can he be compelled to give evidence against himself; that no man be deprived of his liberty, except by the law of the land or the judgment of his peers.

"IX. That excessive bail ought not to be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

"X. That general warrants, whereby an officer or messenger may be commanded to search suspected places without evidence of a fact committed, or to seize any person or persons not named, or whose offence is not particularly de-

scribed and supported by evidence, are grievous and oppressive, and ought not to be granted.

"XI. That in controversies respecting property, and in suits between man and man, the ancient trial by jury of twelve men is preferable to any other, and ought to be held sacred.

"XII. That the freedom of the press is one of the great bulwarks of liberty, and can never be restrained but by despotic governments.

"XIII. That a well-regulated militia, composed of the body of the people, trained to arms, is the proper, natural, and safe defence of a free State; that standing armies in time of peace should be avoided as dangerous to liberty; and that in all cases the military should be under strict subordination to, and governed by, the civil power.

"XIV. That the people have a right to uniform government; and therefore that no government separate from or independent of the government of Virginia ought to be erected or established within the limits thereof.

"XV. That no free government, or the blessing of liberty, can be preserved to any people but by a firm adherence to justice, moderation, temperance, frugality, and virtue, and by a frequent recurrence to fundamental principles.

"XVI. That religion, or the duty which we owe to our Creator, and the manner of discharging it, can be directed only by reason and conviction, not by force or violence; and therefore all men are equally entitled to the free exercise of religion, according to the dictates of conscience; and that it is the duty of all to practise Christian forbearance, love, and charity towards each other."

This Declaration of Rights, indeed, was not only the prototype of the Declaration of Independence, but also of a considerable portion of the Constitution of the United States.

The Fight for Independence.

The military situation at the time of the declaration was discouraging. The force with which Washington occupied New York did not exceed 8,000 men; and on the day of the passing of the resolution of independence the first part of a large armament destined by the ministry for the subjugation of America landed on Staten Island. To supplement the regular English troops, 17,000 mercenaries had been hired in the petty states of Germany, most of them from the Prince of Hesse Cassel. General Sir William Howe was appointed to the chief command of the armies, and there was a large fleet under his brother, Admiral Lord Howe. The Howes were empowered to promise a redress of grievances and a pardon to all who would return to their allegiance; but the people were in no mood to listen to any proposals short of independence.

The British plan of campaign was to seize the line of the Hudson river, by an advance simultaneously from New York and from Lake Champlain. Without ships and with a vastly inferior army, Washington was unable to prevent their landing at Gravesend Bay, on Long Island; nor did the battle of Long Island, August 27, 1776, in which the Americans fought well and suffered severely, greatly retard their advance. Brooklyn and New York were now at Howe's mercy; but the American commander, crossing the East river under cover of night and fog, drew off his men and stores, falling back successively to the heights of Harlem and of Fordham, baffling attempts to get in his rear, fighting an indecisive battle at White Plains, October 28, where he deceived his enemy with imitation redoubts of corn-stalks, and finally taking possession of the passes of the Highlands, where the Hudson flows through the gate of the mountains. The British occupation of New York, which lasted till the end of the war, gave a rallying place for the royalists, always strong in that town, and fostered the discontent and distrust among the half-hearted. The American troops also rapidly fell away by desertion and discharge. Washington, however, had shown consummate ability as a strategist, and the highest kind of force, steadfastness, and courage, as a leader. Howe's scheme for isolating New England by the seizure of the Hudson was defeated. Not only did Washington bar the way at the Highlands, but the expedition dispatched from Canada under Carleton failed on Lake Champlain. In a naval engagement on the lake, Benedict Arnold, indeed, was beaten and half his flotilla destroyed (October 11); but the Americans maintained themselves at Fort Ticonderoga, where Carleton did not venture to attack them.

After capturing Fort Washington, at the upper end of Manhattan Island, Howe sent a strong corps under Lord Cornwallis across the Hudson into New Jersey. Falling back before this threatening movement, and adroitly maneuvering the remnant of his army so as to cover Philadelphia, Washington traversed the State in hot haste, and at Trenton crossed the Delaware into Pennsylvania. The two armies went into winter quarters on opposite sides of the river. On the 26th of December, having suddenly recrossed in the midst of a snowstorm, Washington surprised a Hessian detachment at Trenton, capturing a thousand prisoners. When the main body of the enemy under Cornwallis came upon him, he marched around them in the night, and routed their reserves at Princeton (January 3, 1777); and although obliged afterwards to fall back towards Morristown, he was able by harassing operations, in the course of the winter, to expel the British from nearly all their posts in the Jerseys, and to revive the depressed spirits of the people. Congress, which had fled to Baltimore, returned to Philadelphia, and the most active measures were taken to raise the strength and improve the organization of the American army.

The next campaign, however, in the Middle States was a series of disasters. Howe gained possession of Philadelphia after defeating the Americans at Brandywine creek (September 11, 1777), Congress removing to York, Penn.; he repulsed an attack at Germantown, October 4; and later he reduced Forts Mercer and Mifflin, on the Delaware, thus securing free communication with the sea. Washington went into quarters at Valley Forge, on the Schuylkill, about twenty miles above Philadelphia, where he was well placed for observation; but during "the dark winter," as it was afterwards called, his men suffered terribly for the want of food and clothing, and the patriotism of the country sometimes appeared to be nearly exhausted. It was the most critical period of the war.

Nevertheless, there were substantial causes of encouragement. Franklin, Silas Deane, and Arthur Lee, sent to ask assistance from Louis XVI., were kindly though unofficially received at the French court, and through indirect channels obtained large supplies from the royal

arsenals, and what was of vital importance, considerable sums of money. They were permitted, also, to fit out privateers and vessels of war in French ports, with which enterprising American seamen inflicted great damage upon British commerce. Commissions were issued to foreign officers willing to enter the American army; and among those who gave their abilities to the cause were several of distinguished merit — the generous and high-minded La Fayette, who became one of Washington's warmest friends and disciples; the Polish patriots Pulaski and Kosciusko; DeKalb, an Alsatian in the French service, and the Prussian Baron Steuben, whose work in drilling and organizing troops proved of the highest value.

Nor was the military outlook so black as it seemed on the capture of Philadelphia. The British government had made extraordinary preparations for a fresh attempt upon the line of the Hudson river. While Sir Henry Clinton marched from New York to force the passage of the Highlands, a thoroughly equipped army of 8,000 men under General Burgoyne was to move from Canada by Lake Champlain. The Americans had but few troops in Northern New York, and the invaders met with little resistance until they reached Fort Edward, on the Upper Hudson. There General Schuyler had collected about 4,500 men, with whom he obstructed and delayed the advance, gathering reinforcements as he slowly fell back to Stillwater, and giving time for the militia to gather along the lengthening British line. Two flank expeditions, unwisely ordered by Burgoyne, ended in disaster. Colonel St. Leger, who was to have swept the valley of the Mohawk and joined Burgoyne at Albany, was defeated at Fort Schuyler (Rome), and returned in disorder to Canada. An English and Hessian force, detached for an attack upon Bennington, Vermont, was signally beaten by the New Hampshire militia under Stark (Aug. 16). Crippled by his losses, unable either to go forward or to retreat, Burgoyne halted at Saratoga, and fortified a camp. He attacked the Americans under Gates (who had superseded Schuyler) at Bemis Heights, September 19, without decisive result. He was attacked in turn by Gates at Saratoga, October 7, when the Americans gained a decided advantage of position. Burgoyne's only hope now was in Clinton. That general did, indeed, capture Forts Clinton and Montgomery in the Highlands, October 6, but his help came too late. On the 17th of October, Burgoyne surrendered with 5,800 men and 27 pieces of artillery. Clinton returned in haste to New York.

The capture of an entire British army of picked troops by a miscellaneous force of half-destitute provincials and militia was well calculated to dismay the ministry and reanimate the patriots; but its most important effect was in determining France to acknowledge the independence of the United States and make open cause with them. Treaties of alliance and of commerce and friendship were signed with the American commissioners in Paris, February 6, 1778. England at once declared war against France, and a French fleet under Count d'Estaing sailed promptly for America.

In anticipation of the arrival of the French ships, the British hastened to evacuate Philadelphia and transfer themselves to New York. Washington pursued, and coming up with them at Monmouth Court House, N. J., June 28, 1778, fought a severe battle, in which the disasters of the early part of the day were repaired by his personal exertions. Under cover of the night, Clinton (who had superseded General Howe) stole away to the protection of the ships, losing nearly 2,000 men on the field and in the retreat. The French auxiliaries, however, did much less than was expected of them. An attack upon New York proved impracticable, and a combined land and naval expedition against Newport was defeated by a storm; after which d'Estaing sailed for the West Indies. The policy of arming the savages against the insurgent patriots, steadily urged by the King, had its natural result in the terrible massacre of Wyoming (near Wilkesbarre, Penn.), where a settlement of Connecticut emigrants was captured (July 3, 1778), by a force of Tories and Indians under Col. John Butler, and 400 persons were murdered by the red men after the surrender. In Northern New York, where the Mohawk chief, Joseph Brant, held his tomahawk always at the British service; in various parts of the South; and in the West, where Indian raids were instigated by the British commanders of frontier posts, the settlers were kept in constant alarm; and sometimes they were moved to severe retaliation. Sullivan conducted an energetic campaign against the Six Nations and Tories of New York (1779), and the daring pioneer, Maj. George Rogers Clark, surprised the British at Kaskaskia, Detroit, and other places in the West. But the alliance between the King and the savage did its bloody work until the end of the war.

Ravaging expeditions of the British against exposed towns on the coast were more than countervailed by such imposing exploits as the surprise and capture of Stony Point, below the Highlands, by General Wayne (called Mad Anthony) July 16, 1779, or Major Henry Lee's descent upon Paulus Hook, (Jersey City); and especially by the successes of the American armed ships, public and private, in foreign waters, over five hundred British merchantmen having been made prizes. The most famous of the American commanders was John Paul Jones, who sailed from France with a small squadron, fitted out by the help of Dr. Franklin, and off Flamborough Head, on the coast of Yorkshire, fought a battle (September 23, 1779), which has a conspicuous place in all naval histories. With his flagship, the *Bon Homme Richard*, so named in compliment to the "Poor Richard" of Franklin's almanac, he engaged a much finer and heavier ship, the *Serapis*, at close quarters, for three hours, and received her surrender when his own vessel was on the point of sinking.

The discovery of the treason of General Benedict Arnold came upon the country at a time when the military fortunes of the Northern department were so low that Washington doubted his power to hold his suffering and mutinous troops together for another campaign. Arnold had bargained with Sir Henry Clinton to betray West Point into the hands of the British. The post was the key to the Highlands, and its loss might have been a fatal disaster. To complete the details of the plot, Major Andre, an accomplished young officer of Clinton's staff, landed from the man-of-war *Vulture*, and held an interview with Arnold at Haverstraw, on the Hudson, between the English and American lines. Un-

able to return to the ship, Andre crossed the river, spent the night within the American lines, and the next day attempted to reach New York by land in disguise, a course which, by the laws of war, placed him in the position of a spy. He was captured near Tarrytown, with papers on his person which revealed the whole plot, and was hanged, by sentence of a court martial, October 2. Arnold escaped to the *Vulture*, and was rewarded for his perfidy with £6,300 and a commission as brigadier-general.

Washington, whose headquarters were at Morristown, had been unable, since the summer of 1778, to do much more than maintain a watchful defensive. Clinton, on the other hand, disheartened by repeated failures at the North, resolved to strike at Georgia and the Carolinas, and for this purpose withdrew his garrisons from Newport and the forts on the Hudson. Savannah was easily captured, December 29, 1778. The whole State of Georgia submitted, and the Tories took arms. General Lincoln, who commanded the American forces in the South, saved Charleston from an attack by General Prevost; but he was defeated in an attempt to recapture Savannah (October, 1779), where the gallant Pulaski was mortally wounded. Count d'Estaing, who had returned to the American coast, took a spirited part in the siege and assault; but, more cautious than his allies, he sailed away while Lincoln was still belligerent and hopeful, and thus, as at Newport, he put an end to the enterprise. In February, Clinton himself sailed for the South with a strong force. He took Charleston, May 12, plundering the city and shipping the slaves to the West Indies. When he returned to the North he left Cornwallis in command, and upon this officer must rest the chief responsibility for the barbarous and unusual methods by which the conflict in the Carolinas was conducted. Men were forcibly enrolled under the British flag; even prisoners were driven into the ranks; private property was confiscated; murders on one side provoked executions on the other. The worst, but not the only, excesses, were committed by the Tory irregulars. To meet them the patriots organized partisan bands, and the exploits of Sumter, Marion, Pickens, and others soon rang through the country.

Against the advice of Washington, Congress committed the Southern department to Gates, and this mediocre and inflated general, who had filched the laurels of Schuyler at Saratoga and intrigued for the place of Washington, put an end to his own career by a disgraceful defeat at the hands of Cornwallis, near Camden, S. C. (Aug. 16, 1780), the brave De Kalb falling mortally wounded in trying to stay the rout. Washington was now allowed his choice, and he sent to the South Nathaniel Greene, the ablest and most trusted of his generals. In every campaign of the war Greene had displayed signal qualities as a commander—courage, firmness, judgment, ingenuity, and a true military instinct; and latterly he had served with the greatest zeal and success as quartermaster-general of the army. He had some good subordinates at the South, especially Morgan and "Light Horse Harry" Lee, and he was joined after a while by Wayne; but his men were only the phantom of an army, nearly naked, untrained, and, in large part, of poor spirit. For several months the campaign in the Carolinas was a series of baffling marches, adroit retreats, skirmishes, and surprises, in which Greene showed himself a much better strategist than Cornwallis, and much more fertile in resources. Morgan gained a brilliant victory over Tarleton's light division at the Cowpens, in South Carolina, January 17, 1781; and Greene, having been reinforced, ventured to give battle to Cornwallis at Guilford Court House, N. C., March 15, when the pluck of the Continentals held the field after the flight of the North Carolina and Virginia militia. The advantage of the day was with the Americans, but they were too weak to follow it up; while Cornwallis retreated to Wilmington, persuaded that Clinton's plan of overrunning America from the Carolinas was a failure.

It was impossible for Washington to give Greene much help. A dangerous revolt of the unpaid and dissatisfied soldiers of the Pennsylvania line had just been put down, but it resulted in the discharge of nearly all the Pennsylvania troops and the encouragement of a mutinous spirit in the rest of the army. Arnold, with a marauding expedition from New York, was committing havoc along the James river from the sea to Richmond. To this quarter Cornwallis decided to transfer himself. With characteristic boldness, Greene left Cornwallis to be cared for by others, and hurried southward where the British held a chain of posts extending through Central South Carolina and down the line of the Savannah river. Fort after fort fell into his hands, generally after hard fighting; and at Eutaw Springs, September 8, 1781, there was a severe battle in which the losses and the honors were about equal, but the practical advantages were with Greene. By the end of the year the British retained only Charleston and Savannah; and thus, in a single campaign, fought with a small and disaffected force in the midst of a Tory population, Greene restored two States to the Union, and virtually put an end to the war in the South.

But the blunder of Cornwallis in turning his back upon Greene had still larger consequences. After some unimportant demonstrations against Lafayette, who commanded in Virginia, the British general, by Clinton's orders, posted himself on the Yorktown peninsula between the James and York rivers, where it was believed that he would be favorably situated for further operations. But he was safe only while British ships could command Chesapeake Bay. A French fleet under Admiral De Grasse was on the way from the West Indies to co-operate with Washington in an attack upon New York. Washington instantly saw his opportunity. De Grasse was diverted to the Chesapeake, where he defeated a British squadron which arrived a few days later. Lafayette disposed his troops across the head of the peninsula; and Washington, joined by a strong French contingent under Count Rochambeau, which had been waiting idly at Newport since the previous summer, marched with all haste towards Yorktown. Clinton did not discover his destination until he had reached the Delaware and was beyond molestation; and an attempt to arrest the movement by sending Arnold to Connecticut had no effect. By the end of September the trap was closed. Cornwallis was completely invested at Yorktown. After two of his redoubts had

been taken by assault, and he had failed in a desperate effort to cross the York river and break through the lines, he surrendered to Washington, October 19, 1781, with 7,000 men and 100 cannon, while the British ships in the river hauled down their flags to Admiral De Grasse. The allied armies at the siege consisted of 5,500 Continentals, 3,500 militia, and 7,000 French.

The war was over. All America rang with rejoicings; and although George III. still obstinately refused to acknowledge the independence of the States, a resolution in favor of peace passed the House of Commons February 27, 1782; Lord North resigned; and under a new ministry headed by the Marquis of Rockingham, a commissioner was appointed to negotiate a treaty in Paris. Rockingham died shortly afterwards, and it fell to his successor, Lord Shelburne, to complete the work. The American agents were Franklin, John Adams, and John Jay, most of the business being in the hands of Franklin, who crowned with this illustrious service his long and patriotic career at the French capital. A preliminary treaty, signed November 30, 1782, was ratified by Congress in March, and published in Washington's camp on April 19, 1783, the eighth anniversary of the battle of Lexington. The definitive treaty was signed at Paris, September 3, 1783; and on the 23d of December Washington formally resigned his commission and retired to his home at Mount Vernon.

The Constitution.

Troubles crowded thick and fast upon the new States, even before the final treaty was concluded, and not the least of them came from the dissatisfied soldiers. Unpaid, and often suffering, the men in Washington's camp near Newburg became rebellious under their wrongs. A proposal that the commander-in-chief should declare himself king is remembered on account of Washington's indignant reply to it. A more dangerous project, set forth in an anonymous circular, for an organized demonstration against Congress, was defeated by Washington's tact and patriotism. The soldiers had ample cause of complaint; but in truth Congress had no money. Nearly $170,000,000 had been spent during the war; the debt of the United States was $42,000,000; that of the separate States was $20,000,000 more; and the Continental paper currency had become entirely worthless. Trade and manufactures were crushed. Poverty was almost universal. Nor was it easy to find a remedy for the general distress. A common danger, to say nothing of nobler motives, kept a semblance of union among the States during the war; even so faint a form of government as the Articles of Confederation, reported to Congress July 12, 1776, was not adopted until 1781, and in the meantime the States administered affairs more or less effectively by an irregular general consent. But with the advent of peace the disorders became intolerable. Congress lost all consideration, and could hardly command a quorum. The States entered into ruinous commercial rivalry with one another. Abroad, the country was regarded with contempt. At home there was no executive authority to enforce the laws. A rebellion against the collection of taxes, led by one Daniel Shays, in Massachusetts (1786), strengthened the growing popular conviction that it was necessary to substitute for the Confederation a real government.

A convention, authorized by Congress to revise the Articles of Confederation, met at Philadelphia in May, 1787, with Washington as chairman. Its work, however, was not a revision of the existing league, but the construction of a new Constitution. At the very beginning two parties declared themselves with differences which have ever since influenced American politics. The so-called Virginia plan, introduced by Edmund Randolph and favored by the large States — Massachusetts, Pennsylvania, and Virginia — as well as by the Carolinas and Georgia, represented in substance the national principle which was finally adopted, with a central Federal Government complete in all its departments. The New Jersey plan, presented by William Paterson, and supported by the small States — Connecticut, New Jersey, and Delaware — with a majority of the delegates from New York, adhered jealously to the sovereign powers of the separate States, and retained some of the most unfortunate characteristics of the existing Confederation. The instrument at last agreed upon was a compromise, in which the three great concessions, yielded by one party or the other, were the equal representation of States in the Senate, the reckoning of three-fifths of the slaves in the apportionment of representation in the House, and the prohibition of Federal interference with the slave trade before 1808.

The new Constitution required the assent of nine States, or two-thirds; and it was carried only after a hard contest. Delaware was the first to ratify; Pennsylvania and New Jersey quickly followed; the assent of Massachusetts and Virginia was given after a close contest; the vote of New Hampshire, June 21, 1788, completed the two-thirds; New York, Rhode Island, and North Carolina held back until the Constitution had been adopted without them. Under a law of the Continental Congress, the Presidential electors were chosen on the first Wednesday of January, 1789; they cast their ballots on the first Wednesday of February; and the new government was to go into operation on the first Wednesday (the 4th) of March. New York was designated as the temporary capital. As to the Presidency, there was practically no difference of opinion in the country, and George Washington received all the electoral votes. John Adams was chosen Vice-President. The journey of Washington from Mount Vernon to New York was turned by spontaneous popular demonstrations into a triumphal procession. The formal inauguration did not take place until the 30th of April, when the oath of office was administered to the first American President on the balcony of the old Federal Hall, at the corner of Wall and Broad streets. This building, on the site of the present custom house, had been set apart for the use of Congress; but the next year the seat of government was again at Philadelphia.

The first Cabinet consisted of only three officers — Thomas Jefferson, Secretary of State; Alexander Hamilton, Secretary of the Treasury; and Gen. Henry Knox, Secretary of War. In the organization of the government during the trying experimental years of Washington's administration, no man's services, after those of the saga-

cious and high-minded President, equaled Alexander Hamilton's. This brilliant young statesman, the chief inspiration of the rising of the Federal party, whose principles he had signally defended in a series of papers on the Constitution, published while its ratification was in debate, was eminent alike as a political thinker, a party leader, and a practical administrator. He brought the chaotic finances of the country into order, instantly reviving the prostrate national credit; and by causing the Federal Government to assume the Revolutionary war debts of the States, he strengthened the sentiment of union and the respect for Federal authority. This important measure was not carried without bitter opposition, and its adoption was at last secured by a pledge to Virginia that the permanent capital, after 1800, should be on the Potomac. The funding of the debt led necessarily to the passing of a Federal excise law; and Hamilton's schemes were completed by the establishment of a national bank, which he justified on the theory, then new, of implied powers in the Constitution. He was thus not merely promoting a strong government, but he was fostering the idea of nationality at a time when that sentiment was still weak, and the success or speedy failure of the Constitution depended largely upon its interpretation. The leader of the Anti-Federalists, or Republicans, as they soon began to be called, was Thomas Jefferson, a strict constructionist, who honestly dreaded Hamilton's designs, and detested him personally.

Washington was unanimously re-elected for a second term, beginning March 4, 1793, and John Adams again became Vice-President. France at this moment was on the eve of the Reign of Terror. The King had been sent to the scaffold. The Queen, who had been the special friend of America during the war of independence, was to follow him a few months later. But Jefferson and the Anti-Federalists sympathized with the French revolutionists too strongly to be much affected by their excesses, and the strict neutrality which Washington insisted upon preserving when France and England declared war was resented with indecent violence. The grotesque demonstrations of the French faction reached their height when "Citizen" Genet arrived in America in April, 1793, as minister from the revolutionary government. This extravagant person was guilty of diplomatic outrages from the moment of his landing; and when his attempts to embroil the United States in an offensive alliance with France failed, he made a gross attack upon Washington, and otherwise so misbehaved that the President demanded his recall. The rancor of faction, inflamed by this affair, was aggravated by the insolence of the British, whose men-of-war, cruising against the French, committed great injuries upon American commerce, seizing our grain ships bound for French ports, taking all French property from under the protection of our flag, searching our vessels for sailors supposed to be British subjects, and carrying off naturalized and even native Americans to serve in the British navy. Moreover, ten years after the peace of Paris, England still retained her hold upon some of the forts in the Northwest. A treaty negotiated in London by John Jay (1794) procured a partial redress of grievances, and averted the danger of war; but it left the claim of the right of search to be a cause of future trouble, and the treaty was not ratified without an angry contention.

Refusing a third nomination, Washington retired to Mount Vernon in 1797, after publishing a memorable farewell address which has been cherished as a political legacy. Still more impressive than the wise counsels of this document was the example of a noble life, directed by the purest impulses, the calmest judgment, the finest and most unselfish sentiment of justice. For eight years, at the head of his ragged Continentals, he withstood the armies of a great empire; and he achieved the independence of America, not merely by the exercise of a rare military talent, perhaps amounting to genius, but by teaching his uneasy and spiritless countrymen to what heroic heights one may carry the virtues of patience, equanimity, perseverance, and unselfishness. In his civil administration, although he had to deal with many novel and difficult complications, he added fresh lustre to an already glorious name, and strengthened the popular respect and affection with which, in spite of occasional outbreaks of political scurrility, he had long been regarded. Fortunate, indeed, was it for America that during the critical formative period of the new government the guidance of affairs was committed to so sound a statesman and so pure a patriot.

The New West.

By the treaty of 1783 the Mississippi river was recognized as the western boundary of the United States, but most of the region beyond the Alleghany Mountains was still an untrodden wilderness. One of the last acts of Congress under the Confederation was the adoption of an Ordinance for the Government of the Northwest Territory, that district comprising the present States of Ohio, Indiana, Illinois, Michigan, Wisconsin, and a part of Minnesota. The Ordinance of 1787, as it is called, may well be ranked with the Declaration of Independence and the Constitution of the United States, as a foundation stone of the American Government. The first four and sixth articles of it have exerted a vast permanent influence upon the constitutional development of the nation. They are as follows:

"Article I.—No person, demeaning himself in a peaceable and orderly manner, shall ever be molested on account of his mode of worship, or religious sentiments, in the said territories.

"Article II.—The inhabitants of the said territory shall always be entitled to the benefits of the writ of *habeas corpus*, and of the trial by jury; of a proportionate representation of the people in the legislature, and of judicial proceedings according to the course of common law. All persons shall be bailable, unless for capital offences where the proof shall be evident, or the presumption great. All fines shall be moderate; and no cruel or unusual punishments shall be inflicted. No man shall be deprived of his liberty or property, but by the judgment of his peers, or the law of the land; and should the public exigencies make it necessary, for the common preservation, to take any person's property, or to demand his particular services, full compensation shall be made for the same. And, in the just preservation of rights and property, it is understood and declared, that no law ought ever to be made or have force in the said territory, that shall, in any manner whatever, interfere

with or affect private contracts, or engagements, *bona fide* and without fraud, previously formed.

"ARTICLE III.—Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged. The utmost good faith shall always be observed towards the Indians; their lands and property shall never be taken from them without their consent; and in their property, rights, and liberty they never shall be invaded or disturbed, unless in just and lawful wars authorized by Congress; but laws founded in justice and humanity shall, from time to time, be made, for preventing wrongs being done to them, and for preserving peace and friendship with them.

"ARTICLE IV.—The said territory, and the States which may be formed therein, shall forever remain a part of this confederacy of the United States of America, subject to the Articles of Confederation, and to such alterations therein as shall be constitutionally made; and to all acts and ordinances of the United States in Congress assembled, conformable thereto. The inhabitants and settlers in the said territory shall be subject to pay a part of the Federal debts, contracted, or to be contracted, and a proportional part of the expenses of government to be apportioned on them by Congress, according to the same common rule and measure by which apportionments thereof shall be made on the other States; and the taxes for paying their proportion shall be laid and levied by the authority and direction of the legislatures of the district, or districts, or new States, as in the original States, within the time agreed upon by the United States in Congress assembled. The legislatures of those districts or new States shall never interfere with the primary disposal of the soil by the United States in Congress assembled, nor with any regulations Congress may find necessary for securing the title in such soil to the *bona fide* purchasers. No tax shall be imposed on lands the property of the United States; and in no case shall non-resident proprietors be taxed higher than residents. The navigable waters leading into the Mississippi and Saint Lawrence, and the carrying places between the same, shall be common highways, and forever free, as well to the inhabitants of the said territory as to the citizens of the United States, and those of any other States that may be admitted into the confederacy, without any tax, impost, or duty therefor.

"ARTICLE VI.—There shall be neither slavery nor involuntary servitude in the said territory, otherwise than in the punishment of crimes, whereof the party shall have been duly convicted: Provided always, that any person escaping into the same, from whom labor or service is lawfully claimed in any one of the original States, such fugitive may be lawfully reclaimed, and conveyed to the person claiming his or her labor or service as aforesaid."

There were a few small towns in Illinois; Cahokia and Kaskaskia had been founded by the French under La Salle nearly a century before. Vincennes, in Indiana, was a French settlement dating from about 1702. Detroit was begun by the French in 1701. The first permanent settlement in Ohio was Marietta, planted in 1788. Daniel Boone, the famous hunter and Indian fighter, penetrated into Kentucky as early as 1769, and founded Boonesborough in 1775. Nominally a part of Virginia, this remote country practically ruled itself, and at one time under Spanish influence it meditated the formation of an independent sovereignty. It was joined with Tennessee in 1790 to constitute the Territory South of the Ohio, and was admitted to the Union as a State in 1791. Tennessee, originally a part of North Carolina, set up the State of Frankland in 1785, but that vapory commonwealth disappeared about 1788, and Tennessee was admitted to the Union in 1796. Alabama and Mississippi, separated from Georgia in 1798 and became the Territory of Mississippi. Vermont, long in dispute between New York and New Hampshire, was admitted as a State in 1791.

Upon the organization of the Northwest Territory, the movement of emigration across the mountains was greatly hastened. But the Indians in the valley of the Ohio became very troublesome, and their hostility was carefully kept alive by the British at the frontier posts. General Harmer, who was sent against the tribes in 1790, was defeated near the present site of Fort Wayne, Ind., and a more formidable expedition under General St. Clair the next year met with a more complete disaster. Wayne at last conquered a peace. He devastated the Indian country, and after a great victory on the Maumee river (1794) he compelled the tribes to sue for terms.

The third presidential election resulted, after an angry contest, in the choice of the Federalist candidate, John Adams, while, under the constitution as it then stood, the Vice-Presidency went to his next rival, Thomas Jefferson. President Adams began his term March 4, 1797, retaining Washington's Cabinet, which then consisted of Timothy Pickering, Secretary of State; Oliver Wolcott, Secretary of the Treasury, and James McHenry, Secretary of War. He found our relations with France in a critical condition. The Directory, resenting our treaty with England and our refusal to make common cause with the democratic propaganda, had laid intolerable exactions upon our commerce, and grossly affronted our government. Gouverneur Morris, the American minister, had been recalled at the request of the French republic because he was too conservative. His successor, Monroe, had been recalled by Washington because he was too extravagantly radical. C. C. Pinckney, sent to replace Monroe, was not received; and when President Adams appointed a commission (1797), consisting of Pinckney, Elbridge Gerry, and John Marshall, to negotiate for a better understanding, Talleyrand demanded of them as a preliminary a loan for the government and a bribe for the Directory, threatening war in case of refusal. The publication of these infamous proposals created a profound sensation. Every preparation was made to set an army in the field. Washington accepted the chief command, and without any declaration of war the ships of the new navy then in course of organization were hurried to sea to check the depredations of the French cruisers. It was under these circumstances that the historic frigates *Constitution*, *Constellation*, and *United States* began their famous careers, with Samuel Nicholson, Truxton, and Barry in command. All the squadrons made many prizes.

The Directory before long made such offers of accommodation that Mr. Adams appointed a new commission; but when it reached France the Consulate had been established, and it was with Bonaparte as First Consul that the treaty was concluded in 1800.

Distracted during the French troubles by faction quarrels between the followers of Adams and Hamilton, the Federal party was, moreover, discredited in the country by the passing of the alien and sedition acts, the first of

which empowered the President, in his discretion, to banish any alien judged dangerous to the peace and safety of the United States; while the second imposed restrictions upon freedom of speech and the press which, if the law had ever been strictly enforced, would have armed the government with despotic power over its political opponents. At the elections of 1800 the Federalists were overthrown, not so signally, however, but that Adams had 65 electoral votes against 73 cast for each of the Republican candidates, Thomas Jefferson and Aaron Burr. The choice going to the House of Representatives, Jefferson became President from the 4th of March, 1801, with Burr for Vice-President.

Jefferson's greatest service as President was performed in bold disregard of his own theory of a strict construction of the constitution. That instrument certainly gave no express authority to the Federal Government to purchase territory. France, however, by a secret treaty with Spain (1800), had recovered Louisiana, and Jefferson proposed, by way of removing vexatious disputes respecting the navigation of the Mississippi, to buy New Orleans. Bonaparte declined this offer, but agreed to sell the whole province of Louisiana, and the American commissioners took the responsibility of exceeding their instructions by a prompt acceptance. Thus, for the sum of $15,000,000. one quarter of which was to be paid to American citizens in satisfaction of claims against France, the United States acquired the vast region between the Gulf of Mexico and British America, the Mississippi river and the Rocky Mountains.

Jefferson was triumphantly re-elected in 1804, receiving 162 electoral votes against only 14 for C. C. Pinckney, but Burr was dropped and the Vice-Presidency went to Gen. George Clinton.

Brilliant, vicious, and unstable, Burr was almost everywhere distrusted. Of all his political adversaries the one whose opposition he most rancorously resented was Alexander Hamilton. He killed Hamilton in a duel at Weehawken, on the Hudson, opposite New York, July 11, 1804, and, followed by general execration, he fled to the South, where we hear of him a year later embarking his desperate fortunes in a conspiracy whose exact purpose has never been made clear. He seems to have planned the seizure of Mexico by an armed expedition from New Orleans, perhaps, also, the forcible detachment of some of the Western States from the Union. Arrested and put on trial for treason, he was acquitted on technical rulings, and after thirty wandering and unhappy years he died in disgrace.

The Corsair states on the Barbary coast had long levied tribute upon the commercial powers trading in the Mediterranean, most nations choosing the ignoble course of buying immunity from their piratical attacks instead of fighting them. In 1801, however, the United States sent a squadron to teach them moderation. Commodore Preble, with the *Constitution*, imposed terms upon the Emperor of Morocco, and then bombarded Tripoli, where Lieut. Stephen Decatur, with a small schooner, had previously boarded the frigate *Philadelphia*, captured after she had run aground, and, driving off the Tripolitan crew, completely destroyed her. These and other exploits secured a few years of peace.

With both France and England, in the meantime, the relations of the United States had become extremely unfriendly. Each of those powers, in making war upon the other, struck at the commerce which America had acquired by neutrality. British orders in council declared an arbitrary blockade in the English Channel, and forbade neutral vessels to enter a French port without first paying a tax in an English port. Napoleon retaliated by a paper blockade of all British ports, and by his "Milan decree," which confiscated every ship submitting to the English tax or the English "right of search." Congress attempted to meet these high-handed measures by an embargo, which prohibited all vessels, American or foreign, from leaving the ports of the United States; but the law was unpopular and ineffective, and it gave place after a short trial (1809) to a non-intercourse act, forbidding trade with France and England. The old claim of the right of search was enforced by the British with more violence than ever; the Department of State had the names of more than 6,000 seamen, alleged to be American citizens, who had been forcibly taken from American vessels; and the outrages culminated when a British man-of-war fired into the U. S. frigate *Chesapeake*, and took off four of her men. Peace could no longer be kept with honor; but the final responsibility was left for another administration. Jefferson refused to be a candidate for a third term. His party, now beginning to be known as the Democratic, nominated the Secretary of State, James Madison (1808), and he was elected over C. C. Pinckney by 122 out of the 176 electoral votes. Clinton was again chosen Vice-President.

War with England.

When Madison entered office, March 4, 1809, he had to confront not only an imminent foreign war, but a dangerous confederacy of the Indians, who, under the Shawnee Chief, Tecumseh, and his brother, "The Prophet," were known to be organizing hostilities. General William Henry Harrison, governor of the Territory of Indiana, gained a signal victory over them at their principal town on the Tippecanoe river, Indiana (Nov. 7, 1811); but they were soon in arms again as open allies of the British, and their rising, merged in the war between England and the United States, was not quelled until Andrew Jackson inflicted a series of crushing defeats upon the Creeks, ending with a battle at the Horseshoe Bend of the Tallapoosa, Alabama (March 27, 1814).

The President published a declaration of war against Great Britain June 19, 1812. On land, as events soon proved, the country was little prepared for such an emergency. General William Hull, being ordered to invade Canada by way of Detroit, surrendered to General Brock and Tecumseh not only Detroit, but the whole Territory of Michigan (Aug. 16). He was afterwards sentenced to death for cowardice, but was pardoned on account of his services in the Revolution. An expedition against Queenstown Heights, near Niagara, was defeated by the bad conduct of the American militia. General Winchester surrendered to Proctor at Frenchtown (Mich.), and the sick and wounded prisoners were massacred by Proctor's Indians. Harrison successfully withstood a

SPANISH CABILDO, JACKSON SQUARE, NEW ORLEANS, AS IT IS TO-DAY

HERE THE LOUISIANA PURCHASE TRANSFER TOOK PLACE

siege by Proctor and Tecumseh at Fort Meigs, in Ohio, and in various fights on the border the Americans showed gallantry. But the military operations upon the whole accomplished little. Dearborn, the commander-in-chief, was superseded by Wilkinson, a change which failed to restore the lost American prestige.

It was the little half-starved American navy which saved the national honor. The Anti-Federalist or Democratic party had always treated that branch of the service in a niggard, obstinate, and unfriendly spirit. The Southern Democratic members were generally opposed to a naval establishment; and Jefferson insisted upon substituting for ships of war a swarm of harbor gunboats which proved costly failures. Recent events had at last compelled Congress to refit the few available frigates and order the construction of new vessels. At once it seemed as if every disaster on land was to be counterbalanced by a victory on the ocean. The *Essex*, Captain Porter, captured the *Alert*. The *Constitution*, Capt. Isaac Hull, destroyed the frigate *Guerriere* off the Gulf of St. Lawrence (Aug. 19); later, under Commodore Bainbridge, took the frigate *Java* on the coast of Brazil; and under Stewart captured the sloops of war *Cyane* and *Lewant* in a night engagement off the coast of Portugal. The *United States*, Commodore Decatur, captured the *Macedonian* (Oct. 25). The *Hornet*, Capt. James Lawrence, took the *Peacock* (Feb. 1813). The *Enterprise*, Lieutenant Burrows, took the *Boxer* (Sept. 5). The *Essex* under Porter swept the Pacific, making numerous prizes before, by a glaring invasion of neutrality, she was destroyed by two British ships in the harbor of Valparaiso. Of the rare British victories which disturbed this brilliant record, the most important was the engagement between the *Chesapeake* and *Shannon* off Boston (June 1, 1813), when the American frigate was captured by boarding, and her commander, the gallant Lawrence, was mortally wounded, exclaiming as he was carried below, "Don't give up the ship."

Nor was it only on the open sea that the navy maintained the honor of the flag. Oliver Hazard Perry, a young master-commandant, by extraordinary exertions built and launched a few vessels on Lake Erie. Naming his flag-ship the *Lawrence*, and displaying on his flag the famous injunction of the dying commander of the *Chesapeake*, he gave battle to a British flotilla of about equal strength, September 10, 1813, and in fifteen minutes forced it to surrender. This victory gave the Americans control of the lake. Brock and Tecumseh evacuated Detroit, and being followed by Harrison into Canada were defeated at Moravian Town, October 5. Tecumseh was killed. Michigan was now restored to the United States. An invasion of Canada under General Brown in the summer of 1814 was marked by an American victory at Chippewa (July 5) and an indecisive battle at Lundy's Lane (July 25), both near Niagara Falls; the movement had no important consequences.

Reinforced by veteran regiments from Wellington's army, the British General Prevost undertook the invasion of New York by the line of Lake Champlain with an army of 14,000 men, while a squadron under Captain Downie co-operated with him. The Americans offered battle at Plattsburg — less than 6,000 troops under General Macomb posted behind the Saranac river, and a squadron under Commodore Macdonough, far inferior to the British, drawn up at the entrance to Plattsburg Bay. The engagement, lasting two hours, ended in a complete American victory on land and water (Sept. 11, 1814), the invaders retreating in disorder to Canada.

During all these operations on the frontier and on the sea, Washington had been left undefended. In August, 5,000 British soldiers and marines under General Ross and Admiral Cockburn were landed on the Patuxent river, about 40 miles from the capital. Easily dispersing a militia force at Bladensburg on the 24th, they entered the Federal city the same evening, the President and other officers of the government seeking safety in flight. They burned the Capitol, with the library of Congress, the President's house, the Treasury, and nearly all other public buildings except the Patent Office; and after this vandal exploit they returned hastily to their ships, and proceeded to an attack upon Baltimore. Here, however, they were stoutly met. Ross was killed in an unsuccessful land engagement at North Point, and Admiral Cochburn failed in a bombardment of Fort McHenry, after which the enterprise was abandoned (Sept. 12–13). The operations against Baltimore and Washington and the ravaging excursions of Cockburn on the coasts were subordinate to a far more serious undertaking of the British; namely, the reduction of New Orleans and the seizure of the Mississippi. General Jackson, who commanded in the Southwest, hurried to New Orleans to meet this danger; but he was wretchedly provided with men, arms, and money, and when the attacking force — 12,000 veteran soldiers under Sir Edward Pakenham, and a fleet numbering 4,000 sailors and marines — arrived in the Gulf, the American general could muster only 5,000 men, mostly militia. Capturing the American gunboats on Lake Borgne, an arm of the Gulf which lies east of New Orleans, the British marched towards the city over a strip of land having the Mississippi on one side and a morass on the other. Jackson attacked their advance December 23, 1814, enforcing a delay which both sides employed in constructing breastworks, the British using hogsheads of sugar, the Americans bales of cotton. The attack in force was made January 8, 1815. The assailants moved forward in excellent order; but nothing could withstand the American riflemen. Before these western sharpshooters, the red lines melted away. Pakenham was killed; and after a loss of about 2,000 troops the British retreated, and the invasion was at an end. It was a useless battle for, two weeks before it was fought, peace had been signed at Ghent.

From the first the war had been unpopular in New England, which suffered severely in the destruction of commerce and the depredations of the British fleets; and complaints of the failures and misconduct of the government ripened into discontent with the supposed inequalities of the constitution, and projects were put forth for its immediate amendment. A convention of twenty-six delegates from the New England States met at Hartford, December 15, 1814, with closed doors. The most extravagant rumors of treasonable designs, of schemes for secession, nullification, and a separate peace with England, alarmed the administration and excited the

public press. The convention, however, contented itself with a temperate report on grievances, the recommendation of certain constitutional amendments, and provision for another assembly six months later should the causes of dissatisfaction continue. Peace put an end to the whole affair; but the ultimate purposes of the Hartford convention have always remained a subject of discussion.

The principal cause of the war was the impressment of seamen. "If this encroachment is not provided against," wrote officially the Secretary of State, "the United States have appealed to arms in vain." The obnoxious orders in council were revoked almost at the beginning of hostilities. Yet the American negotiators, John Quincy Adams, James A. Bayard, Henry Clay, Jonathan Russell, and Albert Gallatin, were instructed by the President to abandon our essential claim if they could not otherwise obtain peace. In the treaty signed at Ghent, December 24, 1814, the object for which we had been fighting was not even referred to. But peace now prevailed in Europe; England was not in need of sailors; the right of search was allowed to drop; and it is not likely to be revived.

The scandal of the Barbary tribute was finally abolished during Mr. Madison's administration. Peace was no sooner concluded with England than Commodore Decatur sailed with a fine squadron for Algiers, where the crew of an American vessel had been reduced to slavery. Capturing some Algerine men-of-war, he compelled the dey to sign a treaty on board his flag-ship, renouncing tribute from America for all time, and agreeing to pay an indemnity, release all his prisoners, and treat no more prisoners of war as slaves. Indemnities were also exacted from Tunis and Tripoli.

Mr. Madison had been re-elected in 1812, with Elbridge Gerry as Vice-President. In 1816 the Democrats, favored by the popular rejoicings over the peace, were again successful and by an increased electoral majority, James Monroe, Madison's Secretary of State, became President March 4, 1817, with Daniel D. Tompkins as Vice-President.

The Slavery Question.

The administration of Monroe, marked by a decline of party rivalries and a great advance in material prosperity, was called the "era of good feeling." The financial depression of the war period was quickly relieved by a tariff passed in the spring of 1816, which recognized the principle of protection to home industries, recommended by Hamilton in a famous report on manufactures, and called by him "The American System," a title which has ever since clung to it. The Cotton States which afterwards resented the protective tariff as a wrong to the South, ardently supported it in 1816 because it would create a domestic market for their staple product. The bill was reported by Lowndes of South Carolina, and Calhoun was one of its leading advocates. Mr. Monroe found on entering office a full treasury and a definite and successful financial policy. The relations of the country with Spain were disturbed by the open sympathy of the United States with the revolting South American republics, for whose recognition Henry Clay made an eloquent plea in Congress, and by complaints from the Florida border, where neither party seems to have dealt very scrupulously with the other. By the treaty of 1763 Spain ceded Florida to England. By the treaty of 1783 she recovered it, with disputed boundaries on the west, to which the United States gave a practical definition in 1810 by occupying all that portion beyond the Perdido river, the present limit of the State. Spanish Florida became a safe refuge for the hostile Indians, and for large numbers of fugitive slaves. When Gen. Andrew Jackson was charged with a campaign against the Seminoles (1818), he seems to have had reason for understanding that the government would tacitly approve of his seizing Florida in the course of his military operations. He invaded the province, hanged two British subjects on charges of conspiring with the Indians, captured St. Mark's and Pensacola, and shipped the garrison and civil authorities of the latter town to Havana. Diplomatic protests at Washington were answered with the plea of necessity; and Spain was practically forced to accept a long standing proposal of the United States for the cession of Florida (1819). The nominal consideration was a price of $5,000,000; but all this was to be paid American citizens in satisfaction of claims against Spain. On the other hand, by a treaty to define the disputed boundary between the Spanish possessions beyond the Mississippi and the Louisiana purchase, the United States, which had claimed all the country as far as the Rio Grande, accepted the line of the Sabine, thus conceding to Spain what is now the State of Texas.

The independence of the Spanish American states was formally recognized in 1822, and this action led to the announcement in the President's annual message the next year of the political "doctrine" with which his name is inseparately associated. England had privately proposed a convention on the subject of the South American republics, and joint action against the absolutist designs of the Holy Alliance. Mr. Monroe declined to entangle the country in foreign complications; but in his message he made a remarkable declaration, with respect to the supposed designs of the European states, "that we should consider any attempt on their part to extend their system to any portion of this hemisphere as dangerous to our peace and safety"; and, as a more general statement of policy, "that the American continents, by the free and independent condition which they have assumed and maintain, are henceforth not to be considered as subjects for future colonization by any European power."

It was in the administration of Mr. Monroe that the slavery question began to be the supreme issue in American politics, and the defense of the peculiar institution of the South to take the form of a fierce and intolerant propaganda. Natural causes brought about the extinction of slavery in the Northern States, but the expectation of our early statesmen that it would gradually disappear at the South had been disappointed. The astonishing impetus given to the cotton industry by Eli Whitney's invention of the cotton gin created a new demand for slave labor, founded the business of breeding slaves for sale, and stimulated domestic slave traders to fresh brutalities. Since the beginning of the century, the admission of free and slave States alternately had given

the slave party a fictitious strength. Ohio (1802) was balanced by Louisiana (1812), Indiana (1816) by Mississippi (1817), Illinois (1818) by Alabama (1819). In all these instances the North accepted slavery where it was already well rooted. But when Missouri applied for admission as a State (1818), the question was squarely presented whether the United States should deliberately establish human bondage where it had no legal existence — a question affecting not only the condition of Missouri but the whole of the still unorganized Louisiana purchase, and whatever other territory might in future be acquired. The attempt to prohibit or restrict slavery in the new State was hotly resisted by the Southern party in Congress; threats of disunion were heard in the Senate; the debate lasted until March, 1820, when the famous compromise was adopted admitting Missouri as a slave State, and prohibiting slavery forever in all the rest of "that territory ceded by France to the United States under the name of Louisiana, which lies north of 36° 30′ N. lat." — that being the southern boundary of Missouri. To force the assent of Northern members, the friends of slavery coupled the admission of Maine with that of Missouri. The compromise was supported by sincere patriots like Henry Clay, who believed that concessions were necessary for the peace if not for the safety of the Union; but it was a great victory for the slavery propagandists whose claims from this time became more and more arrogant and exclusive.

Monroe and Tompkins were re-elected in 1820, the President receiving all the electoral votes but ten. The weakness of the opposition was only a symptom of the disintegration of parties, which by 1824 had gone so far that there were four candidates in the field — Andrew Jackson, John Quincy Adams, William H. Crawford, and Henry Clay. The choice went to the House of Representatives, and Adams was selected; John C. Calhoun, of South Carolina, had been elected Vice-President. Mr. Adams, the son of the second President, had been Monroe's Secretary of State. Politically his administration was a period of transition, marked not less by the final disappearance of the old Federalist party than by a transformation of the philosophical Democracy of Jefferson — a transformation of which the next administration was to give a signal example. The campaign of 1828 was exceedingly bitter, and Mr. Adams, who was a candidate for re-election, was defeated by Gen. Andrew Jackson, Mr. Calhoun again becoming Vice-President.

Fiscal Problems.

Jackson was imperious, daring, energetic, contentious, and ignorant; and although his patriotism and sincerity ar . beyond question, his administration was distinguished above that of any of his predeccssors for selfish intrigues and mean personal strifes. He introduced into national politics the spoils system, which became so fruitful a source of corruption; and from his time dated the spectacle of a mob of place-hunters thronging the capital at every change in the chief magistracy, to beg pay in appointments for their services to the succcssful candidate. The tone of official life was instantly lowered after his inauguration. A chivalric but ill-judged attempt to force Mrs. Eaton, the wife of his Secretary of War, into Washington socicty, was converted by his violence from a tea-table squabble into an issue of state. Never had an American President so passionately asserted the claims of self as this champion of the Democratic masses.

There was prejudice and obstinacy, but also sincere conviction, in the fight against the United States Bank which convulsed Jackson's terms in office. The charter of the bank being about to expire, he opposed its renewal on the ground that the measure was of doubtful constitutionality, and he complained, moreover, that the directors were using their financial power to influence the votes of Congress. The controversy became a chief issue in Congress and the country. An act renewing the charter passed by large majorities (1832), and Jackson vetoed it. In the elections of that year, Clay, the leader of the bank party, the representative of many formidable interests, personally one of the most attractive men ever known in American politics, was Jackson's competitor and Jackson was re-elected by an impressive vote. At the next session the attack upon the bank, whose charter had still four years to run, was renewed with fresh heat. The President questioned its solvency; and when Congress refused to authorize the removal of the government deposits, he ordered the removal on his own responsibility, dismissing his Secretary of the Treasury, Duane, who declined to execute the command, and appointing in his place Roger B. Taney, soon afterwards made Chief Justice. The Bank of the United States was destroyed, but the evils which Jackson discovered or imagined in its management were intensified by the operations of the favored State banks selected as depositaries of the public money, and a great deal of commercial embarrassment followed.

Nevertheless, the country was generally prosperous under the impulse of great public improvements and enlarging industries. The Erie canal, opened in 1825, brought to market the products of a rich region and created thriving towns. Steam navigation was developed on the rivers; ocean steamships began to make voyages between England and America; railroads, introduced in 1829, were rapidly multiplying; settlers took up public lands in the West; immigration was increasing; manufactures and farming were alike profitable, under the protective tariff. But the cotton planters, who had warmly favored the American system at the beginning, looked upon it with different eyes when it was found that free labor reaped the chief advantage under it. When the tariff was revised in 1828, the South was clamorous and threatening for a reduction of duties. When a more distinctively protective measure was passed, in 1832, a State convention in South Carolina resolved that the tariff acts were null and void, and that any attempt by the Federal Government to collect the duties in that State would absolve South Carolina from all connection with the Union. The Governor called upon the Legislature to "provide for all possible contingencies," and preparations were made for war. In meeting this revolt Gen. Jackson exhibited his strongest and best qualities. He published a proclamation denying the right of either nullification or secession; he warned South Carolina that resistance would be promptly quelled;

he sent General Scott to Charleston with troops and a ship of war; he asked Congress for special and enlarged powers. Two years before (1830), the constitutional question of State rights had been the subject of a memorable debate in the Senate between Mr. Hayne of South Carolina, and Daniel Webster. Now the nullifiers in Congress were led by John C. Calhoun, who had quarreled with Jackson, resigned the Vice-Presidency, and entered the Senate as the champion of that doctrine which was finally to drive the South into a ruinous rebellion. General Jackson would, perhaps, have been glad to try conclusions with the secessionists at once. But the difficulty was settled — or rather postponed — by a compromise in which Henry Clay again appeared as the pacificator. He introduced a new tariff bill, making a gradual reduction until 1842, when the duties were to be fixed at 20 per cent. South Carolina yielded; and the "force bill," introduced at General Jackson's request, was allowed to linger until it was no longer needed, when it was passed.

Jackson retired from office with a reputation for vigor, honesty, and courage which has increased in the lapse of time; and his popularity counted for much in the next campaign, when Vice-President Martin Van Buren was elevated to the Presidency (1836), against a divided opposition known by that time as the Whigs. Mr. Van Buren's administration was mainly a struggle with financial disasters, the country during his first year in office (1837) passing through a monetary crisis of extraordinary severity. As usual in such cases, the government was charged with blame which did not belong to it. The canvass of 1840 was one of unprecedented excitement. Van Buren, again the candidate of the Democrats, was signally defeated, and the Whigs came into power with Gen. William Henry Harrison as President and John Tyler as Vice-President.

Gen. Harrison died on the 4th of April, 1841, just one month after his inauguration. Tyler soon broke with the party which had elected him. He was accused of bad faith in vetoing bills for the creation of a new national bank, to which he was supposed to have signified his assent in advance. He cast his lot finally with the Democrats when he took up their scheme for the annexation of Texas. That country had conquered its independence from Mexico largely by the arms of American adventurers. A treaty of annexation (1844) negotiated by Mr. Calhoun, who had become Tyler's Secretary of State, was rejected by the Senate. The question was taken into the Presidential canvass. With the South and its Northern Democratic allies, the paramount consideration was gaining an area for slavery. The Whigs opposed the project, partly from hostility to slavery and partly from reluctance to go to war with Mexico. The Democrats nominated James K. Polk; the Whigs, Henry Clay. Polk was elected by 170 votes against 105. A joint resolution annexing Texas was passed March 1, 1845, and Mr. Tyler signed it, as one of the last acts of his administration.

Texas, California, and Oregon.

Mr. Polk lost no time in negotiations with Mexico, but ordered Gen. Zachary Taylor to the frontier, with instructions to occupy a district between the Nueces and Rio Grande rivers, to which Mexico had never admitted that Texas had any claim. Here the first battles took place, Taylor, with 2,000 men, defeating Arista's 6,000 at Palo Alto May 8, 1846, and beating the same enemy again, with heavy loss at Resaca de la Palma the next day. The Americans then crossed the Rio Grande, and with a force raised by volunteers to 6,000 pushed into the interior of Mexico, capturing Monterey (Sept. 24) after a three days' battle, while the port of Tampico was taken by a squadron under Commodore Conner, and the province of California was conquered by a handful of explorers and surveyors under Capt. John C. Fremont, and a few ships under Commodore Stockton. The Mexican War, which lasted only a year, was a series of uninterrupted victories for our arms, always gained against heavy odds, and seldom without hard fighting. The Mexicans were brave, but they had few soldierly qualities except courage, and were miserably officered. The Americans, on the contrary, had excellent and well-trained officers of all grades, and a fine body of men in the ranks, the volunteers, according to General Grant, being better than the regulars.

Weakened by the detachment of some of his best troops to serve under Gen. Winfield Scott in a movement against the Mexican capital, Taylor was attacked at Buena Vista (Feb. 23, 1847), by the Mexican President Santa Anna. Although outnumbered four to one, the Americans put their assailants to rout after a terrible battle of ten hours' duration. Scott and Commodore Conner arrived off Vera Cruz in March. That strong place, after a bombardment of four days, surrendered with 5,000 prisoners and 500 guns (March 26), and Scott at once began his march to Mexico. He defeated Santa Anna at the mountain pass of Cerro Gordo (Apr. 18), rested three months among the hills, to let his men recover from the effects of the climate, and in August appeared before the capital. He had only 10,000 men; the garrison of the city was about 30,000; and there were several strong positions to be won before reaching the walls. On the 20th of August Scott carried the fortified camp of Contreras, the castle of San Antonio, and the heights of Churubusco. On the 8th of September he won possession of the fortified Molino del Rey, on the 13th he stormed the heights of Chapultepec and secured two of the gates of the city; and the next morning entered the capital. This was practically the end of the war. By the treaty of peace signed at Guadalupe Hidalgo, March 2, 1848, the United States was not only confirmed in the possession of Texas, with the Rio Grande as the boundary, but Mexico sold for $18,750,000 the provinces of Upper California and Mew Mexico, including Nevada, Utah, Arizona and parts of Colorado and Wyoming. A further strip of territory south of the Gila river, now embraced in New Mexico and Arizona was purchased five years later.

The treaty of peace was not yet signed when the discovery of gold in the Sacramento valley (Feb. 1848), turned the attention of the world upon California. The deposits of the precious metal proved to be rich and widely distributed. The new acquisition of the United States became thronged with adventurers and gold hunters. They made the long voyage around Cape Horn, the dif-

ficult transit of the Central American isthmus, or the long and dangerous wagon journey across the continent. In the year 1849, nearly 100,000 immigrants entered the Territory. The new community, thus suddenly created, was naturally a paradise of gamblers and criminals, and order was not securely established until a vigilance committee in San Francisco (1851–55) had assumed the administration of justice, hanged four ruffians, and banished others.

Utah began to receive settlers a little earlier than California. The Mormons, founded in Western New York in 1830 by an impostor named Joseph Smith, who pretended to a revelation from Heaven, had been driven away from Nauvoo, Illinois, and their prophet had been murdered by a mob (1844). Under Smith's successor, Brigham Young, they removed into what was believed to be the desert (1847), built Salt Lake City, on the great lake of Utah, and established an independent theocratic state, which they called Deseret. Here the doctrine of polygamy, attributed to Smith's revelations, but first taught openly by Brigham Young, was put in general practice, and an autocracy which has ever since been in virtual rebellion against the United States, was founded upon fanaticism and sustained by crime. In 1857 the Mormons massacred, at a place called the Mountain Meadow, a whole company of 120 persons who were on their way to California. Refusing to recognize the laws of the United States or the Territorial officers appointed by the President, they were reduced to quasi-submission by a display of military force (1858), but they have always defied or evaded the statutes against polygamy.

Mr. Webster, while Secretary of State under President Tyler, had negotiated an important treaty with Great Britain for the settlement of the Northeastern boundary. The limits of the two countries on the northwest, where a large disputed territory had long been in their joint occupation, were more difficult to adjust. The United States claimed as far north on the Pacific coast as lat. 54° 40′, or the southern extremity of what was then Russian America. Great Britain claimed as far south as lat. 42°, the northern boundary of California. Both rested their pretensions upon discovery and exploration. A section of the Democratic party in the United States raised the cry of "Fifty-four forty, or fight," but Polk's treaty of 1846, establishing the compromise line of 49° and securing to us Oregon, Washington, and Idaho, met with general acquiescence.

The Free-Soil Campaign.

The renewal of the anti-slavery agitation by the annexation of Texas and the war with Mexico, showed that during the quarter of a century since the supposed settlement by the Missouri compromise, the antagonism between freedom and bondage had been gathering dangerous force. The demands of the South had grown larger and more arrogant. It was now insisted that the preservation and extension of slavery should be the key to the entire national policy. Congress had passed a gag law to prevent the reception of anti-slavery petitions. The mails were rifled to intercept anti-slavery newspapers and documents. On the other hand, the radical Abolitionists, led by Garrison, Lundy, the Lovejoys, Birney, Tappan, and other enthusiastic reformers, though few in numbers, socially discredited, mobbed, and outraged, were spreading ideas which in time roused the spirit and conscience of the long tolerant North. That Texas should be a slave State was a foregone conclusion. When it was proposed to place money at Mr. Polk's command for the purchase of further territory from Mexico, David Wilmot, a Democratic member from Pennsylvania, moved in the House of Representatives (August 8, 1816), a resolution since known as the Wilmot Proviso, that in any territory acquired from Mexico slavery should be forever prohibited. The resolution was not passed; but it presently marked a broad line of division in politics, splitting both parties and pointing the way for the union of all shades of anti-slavery sentiment, on the principle of freedom for the Territories. In the Presidential elections of 1848 the Whigs nominated Gen. Zachary Taylor, who was acceptable to such moderate anti-slavery leaders as Webster, William H. Seward, and Horace Greeley. The regular Democratic nominee was Lewis Cass, representing the anti-proviso majority of his party, while a bolting faction organized with Abolitionists and others, under the name of Free-Soilers, and nominated Martin Van Buren. Gen. Taylor was elected. During the session of Congress between his election and inauguration, an address reported by Mr. Calhoun and signed by forty-eight Southern Senators and Representatives, declared that Congress had no power to exclude slavery from any new territory, nor had the territorial legislature or people any such power. The whole of the public domain must be given up to bondage. Here at last the irrepressible conflict was clearly defined.

The manifesto had much practical significance, because California had already framed a free State constitution and was asking admission. Slavery had no existence there, or in any other part of the Mexican purchase, but the South fought strenuously against admission, sought to extend the Missouri compromise line to the Pacific (which would have cut California in two), and again threatened disunion. Another compromise—the last of this series of delusions—was brought forward by Mr. Clay. It admitted California as a free State, organized the Territories of New Mexico and Utah without either prohibition or permission of slavery, settled the boundary of Texas and gave that State $10,000,000, abolished the slave trade in the District of Columbia, and made stringent provisions for the rendition of fugitive slaves. Defeated as a single bill, it was adopted in the form of separate acts and became law September 9, 1850.

President Taylor died July 9, 1850, and was succeeded by the Vice-President, Millard Fillmore, whose administration is now chiefly remembered for the enforcement of the odious fugitive slave act. In 1852 the Democrats elected Franklin Pierce, the candidate of the extreme pro-slavery and State rights party, the Whigs voting for Gen. Winfield Scott and the Free-Soilers for John P. Hale. The convention which nominated General Pierce passed a resolution condemning all attempts, in Congress or out of it, to revive the slavery controversy or disturb the settlement of 1850. Yet, in less than two years, Stephen A. Douglas, Democratic Senator from

Illinois, introduced his bill to repeal the Missouri compromise and organize the Territories of Kansas and Nebraska, both within the limits which had been solemnly and forever dedicated to freedom, leaving them to establish slavery or not, as the inhabitants pleased. The astonishment and anger of the North were indescribable. But, after many exciting scenes, the iniquitous measure became a law, May 30, 1854, and the South at once began to show how new slave States could be created by "squatter sovereignty." The pro-slavery men poured into Kansas across the Missouri border, often in armed companies, and with no thought of remaining in the Territory longer than might be necessary to vote. The North met the crisis by the organization of emigrant aid societies to send out *bona-fide* settlers. The free State party was a large majority of the population, but elections were carried with the most flagrant fraud and violence by Missourians imported for the purpose, legislatures assembled with hardly a show of legality, governors who attempted to do their duty were removed, outrage was followed by retaliation; for nearly five years Kansas was virtually in a state of civil war, and the whole country was convulsed by the struggle. The free settlers, however, sustained themselves against both border marauders and a hostile Federal administration. Getting a chance to express themselves at the polls at last, they voted down a pro-slavery constitution by a large majority, and Kansas was ultimately admitted as a free State (1861).

The excitement over these transactions was increased by various demonstrations of the Southern temper and purposes. Charles Sumner, for a speech in the debates on Kansas, was brutally and dangerously beaten in the Senate chamber by Preston S. Brooks, a Representative from South Carolina, whose constituents enthusiastically re-elected him when he resigned after a vote of censure. The filibustering attempts of Walker in Central America, which seemed to promise the acquisition of more slave territory, were promoted by the South and hardly opposed by the Administration. In 1854, Mr. Pierce suggested a conference of the American ministers to England, France, and Spain on the subject of getting Cuba, and the result was the truculent report known as the Ostend Manifesto, in which Messrs. James Buchanan, John Y. Mason, and Pierre Soule recommended that if Spain refused to sell the island (she had already refused with emphasis) the United States should take it by force.

The repeal of the Missouri compromise resulted in the sudden and complete breaking up of the old Whig party. For a brief period an organization styling itself the American party, based principally upon the proscription of foreigners and Roman Catholics, and operating through secret lodges, collected many of the Whig fragments; but the "Know Nothing" movement, as it was popularly called, was only an episode of transition, and the anti-slavery men soon began to coalesce under better auspices. The new Republican party held its first national convention at Philadelphia June 17, 1856, and nominated for the Presidency Col. John C. Fremont, famous for his adventurous scientific explorations in the unknown far West. The Democrats named James Buchanan, whose principles were entirely satisfactory to the pro-slavery extremists, and Ex-President Fillmore was the candidate of the expiring American party, which had no real business in the controversy now fairly joined. Mr. Buchanan was elected, with John C. Breckinridge for Vice-President; but the Republicans polled an unexpectedly heavy vote.

Early in Mr. Buchanan's term the Supreme Court of the United States decided in the case of a slave named Dred Scott that a negro could not be a citizen of the United States, and therefore could not sue for his freedom in that tribunal. The opinion of the majority of the judges, delivered by Chief Justice Taney, went still further; it pronounced the Missouri compromise unconstitutional, and declared that Congress had no power to exclude slavery from any United States territory (March, 1857). A forcible dissenting opinion was delivered by Justice Curtis. Instead of settling the controversy, this judicial approval of the Southern claims only added to the excitement. The South began to advocate the reopening of the slave trade; the North began to feel that, as Abraham Lincoln said, "the Union could not exist half slave, half free." In October, 1859, John Brown, a stern and fanatical Abolitionist who had fought for freedom in Kansas, startled the country by a crazy plot to bring about an insurrection of the slaves in Virginia. With a handful of followers he seized the United States arsenal at Harper's Ferry; but the slaves did not rise, the invaders were easily overpowered, and Brown was hanged December 2. His enterprise was almost universally condemned at the North; and yet his death powerfully stimulated anti-slavery feeling.

When the Democratic national convention met in 1860, the Southern delegates were bent upon carrying matters with a high hand. They insisted upon an explicit assertion of the duty of the Federal government to maintain slavery "in the Territories and wherever else its constitutional authority extends." The Douglas faction protested in vain that they could not carry the North with such a platform. The result was the disruption of the party. The Southern Democrats, many of whose leaders already counted upon secession, nominated Vice-President Breckinridge. The Northern wing nominated Douglas, with an evasive promise to "abide by the decisions of the Supreme Court of the United States upon questions of constitutional law." A so-called Constitutional Union party placed in nomination John Bell and Edward Everett. The Republican convention at Chicago was the most memorable assemblage of the epoch. Seward, Chase, Cameron, Bates, and other men who had been conspicuous for many years in the fight for freedom were set aside, and the nomination was given to Abraham Lincoln, of Illinois, whose celebrity, earned by a series of public debates with Douglas in a canvass for the Illinois Senatorship, was only of yesterday. The choice was not a fortunate accident; it was a wise and deliberate selection. None of the older leaders saw so clearly the condition of the conflict at hand. After a stirring campaign, Lincoln was elected, with Hannibal Hamlin as Vice-President. He received all the electoral votes of the free States, except three in New Jersey, and he had none from the South.

The Civil War.

Few persons at the North had believed that the slave States would carry out their threat of secession; but the election of Mr. Lincoln was no sooner assured than the South Carolina Legislature (November 10, 1860), ordered the assembling of a convention, which, on December 20, declared the union between South Carolina and the other States dissolved for the reason, among others, that a President has been chosen "whose opinions and purposes were hostile to slavery." Mississippi seceded January 9, 1861; Florida, January 10; Alabama, January 11; Georgia, January 19; Louisiana, January 26; Texas, February 1. Several of these States entered upon the rebellion reluctantly, and their action was the result rather of a conspiracy at Washington than of their own impulse; but once committed to the cause their people showed no lack of enthusiasm for it. Mr. Buchanan made no effort to maintain the national authority. On the contrary, his annual message in December virtually admitted the right of secession and encouraged the disunionists; and three of his cabinet, Howell Cobb of Georgia (Treasury), John B. Floyd of Virginia (War), and Jacob Thompson of Mississippi (Interior), were among the most active of the conspirators against the Union, even while they still held their offices under it. When Mr. Lincoln was inaugurated, March 4, 1861, a provisional government for the "Confederate States of America" had been established at Montgomery, Ala. (February, 1861), with Jefferson Davis and Alexander H. Stephens for President and Vice-President; forts, arsenals, arms, and military supplies had been seized; and throughout the seceding States the national flag remained only on the forts of Charleston harbor, Pensacola, and Key West. On March 11 a permanent constitution was adopted at Montgomery, and under it Messrs. Davis and Stephens were afterwards elected President and Vice-President for six years.

In an admirable inaugural address Mr. Lincoln declared that he had neither the right nor the desire to interfere with slavery in the States. He denied the right of secession, and he expressed his determination to enforce the laws throughout the national jurisdiction. For the principal posts in his Cabinet he chose his principal rivals at the Chicago convention. Mr. Seward became Secretary of State, Mr. Chase Secretary of the Treasury, Mr. Cameron Secretary of War, Mr. Bates Attorney-General. The other places were filled by Gideon Welles (Navy), Caleb B. Smith (Interior), and Montgomery Blair (Postmaster-General).

The war began April 12, 1861. Apprised of the intention of Mr. Lincoln to reinforce Fort Sumter, in Charleston harbor, the Confederates opened fire upon that work, and after sustaining a bombardment of thirty-four hours, Major Anderson and the garrison of 80 men were forced to surrender (April 14). The next day the President issued a call for 75,000 volunteers. Never had the country beheld such a patriotic uprising as now took place. The troops hurried forward; the quotas of the loyal States were filled at once, and a further call for 42,000 volunteers and 40,000 men for the regular army and navy was answered with as much enthusiasm as the first. On the other hand, North Carolina, Tennessee, and Virginia cast in their fortunes with the Rebellion, thus giving the Confederacy eleven of the fifteen slave States — all it ever obtained. The Confederate capital was removed to Richmond in July.

The first operations were encouraging to the Confederates. They gained possession of the navy-yard at Norfolk and the arsenal at Harper's Ferry. A secessionist mob made a murderous attack upon Massachusetts troops passing through Baltimore (April 19), and for a short time severed direct communication between Washington and the North. In an important engagement at Big Bethel, near Fortress Monroe, the Union troops under General Butler were worsted. To compensate for these Federal misfortunes, Generals McClellan and Rosecrans gained a series of victories in West Virginia. In the meantime both combatants were mustering their main force in front of Washington. On the 21st of July a Union army of about 18,000 under General McDowell attacked the Confederates under Beauregard at the crossings of Bull Run, near Manassas Junction, Va. The battle was in McDowell's favor until late in the afternoon, when the Confederate general, Joseph E. Johnston, eluding Patterson, an estimable militia general who had been ordered to keep him in check at Winchester, arrived on the field with fresh troops. The undisciplined Federal volunteers were seized with sudden panic and driven into the defenses of Washington, having lost about 3,000 men against a loss of 2,000 on the other side. This disaster only strengthened the courage and determination of the North. Congress authorized the enlistment of 500,000 volunteers and voted an appropriation of $500,000,000. General McClellan was called from West Virginia to reorganize and command the Army of the Potomac, and, on the retirement in November of the aged General Scott, was made general-in-chief. Missouri and Kentucky had proposed to remain neutral during the struggle; but the Confederates treated this absurd policy with scant ceremony. In Missouri a strong secession party, with which Gov. Claiborne F. Jackson was implicated, sought to carry the State out of the Union by force. Until the end of the year the tide of battle swept back and forth with varying success, McCulloch and Sterling Price leading Confederate invasions from Arkansas, and Lyon, Sigel, Fremont, Hunter, and Halleck commanding the forces by which Missouri was finally saved for the Union.

Immediately after the attack on Fort Sumter, President Lincoln proclaimed a blockade of all the Southern ports, and to enforce this measure extraordinary efforts were made to increase the navy. By the purchase and armament of merchant vessels efficient fleets were soon collected, and in the course of 1861–62 a number of naval and military expeditions were dispatched to close important Southern harbors. Port Royal, Pamlico and Albemarle Sounds, Newbern, Fernandina, Jacksonville, St. Augustine, Darien, Brunswick, and Savannah were thus sealed, or made dangerous for blockade runners; and England and France were deprived of the excuse for which they were watching to declare the blockade invalid. On the first news of the first shot of the war, the British government, with headlong speed, issued a proclamation of neutrality conceding to the Confederates all

the rights of a belligerent power; and British subjects entered actively into the business of running arms and other supplies through the blockade and bringing out cotton. The governing classes in England were largely in sympathy with the South. The Emperor of the French was urging England to join him in recognizing the independence of the Confederacy. Our foreign relations were in this critical condition when the indiscretion of a gallant naval officer gave Great Britain grave cause of complaint. Capt. Charles Wilkes, of the United States frigate *San Jacinto*, stopped the British passenger steamer *Trent* on the high seas, and took off Messrs. Mason and Slidell, Confederate commissioners to London and Paris (Nov. 8, 1861). The act was indefensible, and was promptly disavowed by the President, but it was loudly applauded throughout the country, and in yielding to the demand of the British government for the release of the prisoners, all Mr. Seward's astuteness was called for to make the surrender palatable to the American people. He took the doubtful ground that Capt. Wilkes was justified in searching the *Trent* and seizing the envoys as contraband, but that he ought to have sent the vessel into port for adjudication.

In January, 1862, Mr. Cameron became Minister to Russia, and was succeeded as Secretary of War by Edwin M. Stanton. Harsh, often unjust, at times tyrannical, Mr. Stanton was a man of remarkable force and of high patriotism, and his energetic administration of military affairs was felt in every branch of the service through the rest of the war.

At the beginning of the year the number of men under arms, Federal and Confederate, was not far from a million, and the two sides were well matched, both in the character and spirit of the soldiers and the capacity of the officers. The Confederates held the Mississippi from its mouth to the southern boundary of Kentucky, with a line of strong positions extending through Kentucky and Tennessee to Virginia, and a large force between the Potomac and the Rappahannock, covering Richmond and threatening Washington. The Federals confronted them with two western armies, one under Halleck, with headquarters at St. Louis, the other under Buell, at Louisville, while fleets of gunboats and rams were prepared for service on the Mississippi. In front of Washington, McClellan had formed the Army of the Potomac into a fine organization of nearly 200,000 men. The earliest important engagement of the year was at Mill Spring, in Kentucky, where Gen. George H. Thomas, with a part of Buell's army, gained a signal victory in which the Confederate General Zollicoffer was killed. A little later a movement was undertaken by Brigadier-General Grant, then just rising into notice as an enterprising commander under Halleck, and Flag Officer Foote with a flotilla of gunboats, for the reduction of the Forts Henry and Donelson, which barred the entrance into western and middle Tennessee by the Tennessee and Cumberland rivers. Fort Henry was reduced by the fleet February 6; Fort Donelson, a stronger work, surrendered to a land attack, with over 10,000 prisoners, February 16. It was here, in answer to General Buckner's request for terms, that Grant used the phrase, soon in every one's mouth, "No terms except unconditional and immediate surrender can be accepted."

These victories obliged the Confederates to abandon Nashville, and the strong fortifications of Columbus, on the Mississippi. Grant and Buell followed the retreating enemy southward. At Shiloh, or Pittsburg Landing, on the Tennessee river, Grant was attacked, April 6, by a superior force under Albert Sidney Johnston, and in a terrible battle, lasting all day, was severely handled. During the night Buell arrived with fresh troops, and on the 7th the combined Union armies won a complete victory. Johnston, one of the ablest of the Confederate generals, was killed on the first day, and Beauregard replaced him. Halleck took command of the forces of Grant and Buell, and cautiously advanced as far as Corinth, Miss., where an important strategic position was abandoned at his approach.

The river fleets nobly sustained the fame of the American navy. Flag Officer Foote co-operated with General Pope in the capture of a formidable stronghold at Island No. 10, in the Mississippi, on the day of the victory of Shiloh, April 7; and Capt. C. H. Davis, destroying a Confederate flotilla, forced the evacuation of Fort Pillow, June 4, and the surrender of Memphis, June 7. For the reduction of New Orleans, a fleet of forty-five ships, gunboats, and mortar-boats under Flag Officer David G. Farragut, was ordered to the Lower Mississippi. Forts Jackson and St. Philip, situated on opposite banks of the river, seventy-five miles below New Orleans, were the principal defenses of the city. After a bombardment of six days from the mortar-boats under Capt. David A. Porter, Farragut, with the rest of the fleet, himself leading the way in the flag-ship *Hartford*, boldly passed the forts under a furious cannonade (April 24, 1862), cutting a barrier of chains and spars, and engaging a flotilla of sixteen vessels, nearly all of which were captured or destroyed. New Orleans, evacuated by its garrison, surrendered to him on the 25th and was occupied by an army under General Butler, and the forts surrendered to Captain Porter.

Among the prizes obtained by the Confederates, when Norfolk fell into their hands, was the steam-frigate *Merrimac*. They converted her into a powerful ram with a slant roof of railroad iron covering her deck and sides, against which the heaviest guns had no effect. On the 8th of March, 1862, she attacked the Federal fleet in Hampton Roads, sinking the *Cumberland*, burning the *Congress*, and retiring with impunity on the approach of night. When she came out the next morning to renew her work she was met by a nondescript little craft which the sailors called "a cheese-box on a raft." This was Capt. John Ericsson's turret iron-clad monitor, just arrived on her first voyage, under command of Lieutenant Worden. She fought the ram for five hours, receiving no damage, and at last driving the *Merrimac* back to Norfolk, whence she never reappeared.

In the summer the Confederates made extraordinary efforts to repair their disasters in the West. An invasion of Kentucky was undertaken simultaneously by Kirby Smith, who occupied Lexington and Frankfort and for a while threatened Cincinnati, and by Braxton Bragg, who, after a victory at Munfordsville (Sept. 17), advanced

towards Louisville. Buell, by forced marches from Nashville, reached Louisville one day before his adversary, and, after collecting reinforcements, slowly pushed the Confederates back. Bragg and Kirby Smith united at Frankfort and, on October 8th, Buell fought them at Perryville. His campaign had been skillfully conducted, and the battle of Perryville put an end to the invasion; but Bragg carried off an immense quantity of supplies, and Buell, a victim to the Government's unreasonable expectations, was superseded by Rosecrans. This officer, already distinguished by victories over Price and Van Dorn at Iuka and Corinth, gained fresh laurels by the defeat of Bragg in the two battles of Stone River, near Murfreesboro, Tenn., December 31, 1862, and January 2, 1863.

Relieved of the command of all the armies except his own, McClellan began his advance against Richmond in March, 1862, choosing the route by the Yorktown peninsula, between the York and James rivers, and landing over 100,000 men from transports at Fortress Monroe. The march was slow, his forces being detained in front of Yorktown a full month, and the Confederates under Gen. Joseph E. Johnston had ample time to strengthen their defenses. McClellan gained the battle of Williamsburg, May 5, and advanced within seven miles of Richmond. General Wool took possession of Norfolk, where the enemy blew up the ram *Merrimac* before retiring. The Federal gunboats entered James river. There was panic in Richmond, and the Confederate Congress hastily adjourned. But the golden opportunity was not perceived. Before quitting the Potomac, McClellan had been instructed to leave a strong force for the protection of the capital. Deciding that the scattered and somewhat inefficient commands designated for that purpose were not enough, the President detached McDowell's corps from the Army of the Potomac, and held it in front of Washington. McDowell might still have co-operated with McClellan by a movement against Richmond from the north; but the Confederate General, T. J. Jackson, popularly known as "Stonewall," suddenly burst into the Shenandoah valley, and swept down towards the Potomac, driving General Banks across the river, checking General Fremont at Cross Keys, June 8, defeating Shields at Port Republic, and filling the North with alarm for the safety of Washington. McDowell was turned aside and sent after Jackson; and Johnston seized his chance to fall upon McClellan's left, which had been pushed across the Chickahominy. On the 31st of May, when the river and its swampy borders were so filled by a heavy rain that communication between the two wings of the Army of the Potomac was difficult and uncertain, the Confederates made a determined attack at Fair Oaks (or Seven Pines), and were beaten only after a hard battle, in which the Union loss was greater than theirs. General Johnston was badly wounded, and the chief command was soon afterwards conferred upon Robert E. Lee, son of "Light Horse Harry" of the Revolution, and the one great character of the Confederacy whose personal and professional merits have been unanimously admired by both sides. Reinforced by Jackson, who had now left McDowell's corps where it could do no harm, Lee attacked the Union right at Gaines's Mill, June 27, drove it across the Chickahominy with heavy loss, and severed McClellan's communications with his base of supplies at White House, on the Pamunkey, while Stuart's Confederate cavalry rode entirely around the Federal lines.

McClellan's position, astride a swamp and a treacherous river, was untenable. He resolved upon the delicate maneuver of a change of base, from the York river to the James, by a flank march to the left. The movement, lasting from June 28th to July 1, was carried out with skill, the troops marching all night and fighting gallantly all day. Lee attacked them at Golding's Farm, Savage's Station, White Oak Swamp, etc., and the series of engagements known as the Seven Days' Battle closed at Malvern Hill, near the James, where the Confederates were signally repulsed. McClellan then fortified himself at Harrison's Landing, with the gunboats in his rear. He had lost 15,000 men during the change of base, and Lee nearly as many.

Halleck, in the meantime, had been called to Washington, with the rank of general-in-chief, and the corps of McDowell, Banks, and Fremont had been united under the command of Pope. But Pope and McClellan were so placed that neither could help the other. McClellan was ordered to abandon the peninsula and transfer his whole army by water to the Potomac. As soon as the movement was developed, Lee hurled his army against Pope, pressing him back from the line of the Rapidan, while Pope stubbornly contested the ground. From the 26th of August to the 1st of September there was an almost continual battle, a part of it taking place on the old field of Bull Run. McClellan's troops were pushed forward, as they tardily arrived, and the contest at many points was gallantly maintained; but Pope was outgeneraled and outnumbered; Stonewall Jackson, passing through an undefended gap in the mountains, menaced his rear, and he fell back in disorder to the defenses of Washington, where the army passed again under the command of McClellan.

Lee now invaded Maryland, crossing the Potomac at Leesburg, while Jackson captured Harper's Ferry. McClellan attacked and defeated Lee at South Mountain, September 14, 1862, and on the 17th encountered the whole Confederate force on Antietam creek, near Sharpsburg. A severe battle lasted all day and left both combatants exhausted. Practically it was a Union victory, for it put an end to the invasion; but Lee retired unmolested, and McClellan declined to move further until his army had been thoroughly refitted.

The position of President Lincoln with respect to slavery had become a cause of dissension in the Republican party, by the advanced section of which his cautious and conservative policy was viewed with increasing impatience. That policy was tersely expressed in his answer to a public letter from Horace Greeley: "My paramount object is to save the Union, and not either to save or destroy slavery. If I could save the Union without freeing any slave, I would do it—if I could save it by freeing all the slaves, I would do it—and if I could save it by freeing some and leaving others alone, I would also do that. What I do about slavery and the colored race, I do because I believe it helps to save this Union, and what I forbear, I forbear because I do not believe it would help

to save the Union." But when he wrote this, the President had already resolved to proclaim emancipation as a war measure on the morrow of the next Union victory; and the battle of Antietam gave him the opportunity. The proclamation, issued September 22, 1862, announced that on the 1st of the next January all slaves in States or designated parts of States in rebellion should be "then, thenceforward, and forever free," and should be so treated by the civil, military, and naval authorities of the United States. The final proclamation in accordance with this preliminary announcement was duly issued at the appointed time.

General McClellan, who had written an extraordinary letter to the President from Harrison's Landing, after the failure of the Chickahominy campaign, warning him that "a declaration of radical views, especially upon slavery," would disintegrate the army, consulted his friends after the appearance of the proclamation of freedom, to decide whether he should not throw down his sword and refuse to serve an Abolitionist government. He had begun to move against Lee, however, when, in November, he was relieved from duty, and the Army of the Potomac was intrusted to General Burnside. This gallant officer, who had shown high qualities on smaller fields, was unequal to the command of 100,000 men, and his short campaign was a complete disaster. Attacking Lee at Fredericksburg on the Rappahannock, December 13, 1862, he repeatedly stormed the heights behind the town, only to be beaten back with cruel loss, and on the night of the 15th–16th he withdrew across the river after a vain sacrifice of 12,000 men. In January, he was replaced by General Hooker, who was able in the spring to resume the advance upon Richmond with 120,000 men. He crossed the Rappahannock above and below Fredericksburg, and met Lee at Chancellorsville, about five miles from the scene of Burnside's failure. The battle was fought through the 2nd and 3rd of May, 1863. A sudden onslaught by Stonewall Jackson's corps surprised and routed the Union right, hurling the fragments in confusion upon the centre, and Lee then fell with his main force upon the left grand division of Sedgwick, separating it from the rest of the army, and pressing it back to the river. Again the Army of the Potomac recrossed the Rappahannock under cover of the night, the losses by this failure amounting to about 17,000 men.

Lee at once marched for the North, crossing into Pennsylvania, advancing as far as Chambersburg, and menacing Washington, Baltimore, and Philadelphia. The Army of the Potomac followed him, covering the capital. On the 28th day of June Hooker was superseded by Gen. George G. Meade; and under this commander the Federal forces met the invaders at Gettysburg on July 1, 1863. The battle, lasting three days, was by far the most severe in which Americans had ever engaged. The opposing troops were about equal in numbers — 100,000 on each side — equal in spirit, and equally well handled. When the Confederates made their last desperate charge, on the evening of the 3d, against Meade's firm lines, and were beaten back, the Confederacy received its death wound, for it never recovered from the exhaustion of this campaign. On the 4th Lee retreated to the Potomac. He had lost 30,000 men and Meade 23,000.

On the very day of Lee's retreat from Gettysburg, the Confederates suffered an equal disaster in the West by the surrender of Vicksburg. Situated on high ground on the east bank of the Mississippi, and difficult of approach on the north owing to the nature of the country, that stronghold had resisted several Federal attacks, when General Grant conceived a bold plan for approaching it from below. He marched his army down the west bank of the Mississippi to Bruinsburg, where the fleet under Commodore Porter, having run the formidable batteries of Vicksburg, ferried him across the river. Then cutting loose from his base, living on the country and fighting as he moved, he hastened to intercept an army under Joseph E. Johnston, which was coming from the east to relieve Vicksburg. This force was thoroughly beaten at Jackson, Miss., May 14, 1863, by the corps of McPherson and Sherman; and the Union army then turned upon Pemberton, who with the garrison of Vicksburg was advancing from the opposite direction to meet Johnston. Two defeats drove him back to his defenses; but Grant twice failed to carry the city by assault, and it was only after a siege of forty-five days that Pemberton and his 27,000 men surrendered July 4. The capture of Port Hudson by General Banks four days later gave the Federal fleets and armies permanent control of the whole Mississippi, and cut the Confederacy in two. Rosecrans began an advance from Murfreesboro about the end of June, driving Bragg out of Middle Tennessee and back beyond Chattanooga. Reinforced from Johnston and Lee, Bragg offered battle at Chickamauga, and a severe engagement was fought September 19th and 20th, ending in a rout of the Union right wing, which only the stubborn resistance of Thomas on the left prevented from becoming general. But Bragg did not venture to press his victory and Rosecrans fell back to the strong position of Chattanooga. There he was superseded by Thomas in command of the Army of the Cumberland in October, while the general charge of operations in the West was committed to Grant. Joined by Sherman with the Army of the Tennessee, and by Hooker with two corps from the Potomac, Grant assailed Bragg's position in front of Chattanooga, Hooker carrying Lookout Mountain by storm, November 24, and the main army sweeping over Missionary Ridge the next day. Knoxville, where Burnside had been withstanding a trying siege, was now relieved. Bragg was deprived of his command.

Against these Union triumphs the Confederacy had little to show during the year except riotous opposition to the draft in New York, plots of disloyal organizations at the West, and above all else, the operations of the *Alabama* and other cruisers, the best of them built in England and largely manned by English sailors, which nearly ruined the foreign shipping trade of the United States. The *Alabama*, under Capt. Raphael Semmes, after destroying more than 60 merchant vessels, was sunk off the harbor of Cherbourg, June 19, 1864, by the *Kearsarge*, Captain Winslow. The ships were equally matched, and the result was due to the better gunnery of the *Kearsarge*.

By the spring of 1864 the Administration, having learned the cost of divided councils and found a general whom it trusted, was prepared to reorganize the military

forces under a single head. Grant was made general of all the armies March 2, 1864, with the rank of lieutenant-general. He took personal charge of the operations in Virginia, leaving Meade in immediate command of the Army of the Potomac, while the three western armies of the Ohio (Schofield), Tennessee (McPherson), and Cumberland (Thomas), were united under General Sherman.

Both great organizations, eastern and western, were ordered to advance about the 1st of May. The Army of the Potomac crossing the Rapidan, May 4, near Chancellorsville, found itself on a difficult, thickly wooded tableland called the Wilderness, through which it was necessary to fight a way at great disadvantage. Lee attacked on the 5th and the battle lasted, with little intermission, until Grant was out of the woods on the 9th, and concentrated at Spottsylvania Court House. He had lost 20,000 men in the Wilderness; in ten days' engagements near Spottsylvania he lost 10,000 more. On the 11th he telegraphed to Washington: "I propose to fight it out on this line if it takes all summer." At the end of May he had reached McClellan's old battle ground on the Chickahominy. There he was repulsed in two terrible assaults upon Lee's lines at Cold Harbor, in the second of which (June 3) he lost 10,000 men in twenty minutes. But Lee also had suffered terribly, and, unlike Grant, he had nothing in reserve, for the Confederacy had drafted its last man.

Throwing his army across the James, to approach Richmond from the south, Grant was obliged first to reduce the strongly fortified town of Petersburg. Attempts to take it by assault repeatedly failed (June and July) and at last the Federal commander settled down to a regular siege. Lee sought to shake his hold by making a diversion in the Shenandoah valley. Early swept through that harassed region, entered Maryland, made a futile demonstration against Washington (July), and burned Chambersburg, Pennsylvania; but General Sheridan in a rapid campaign practically broke up Early's command, and so stripped the valley that the Confederates could never again draw supplies from it.

Sherman moved from Chattanooga on the 7th of May with 100,000 men. His first object was the capture of Atlanta. Opposed to him were 60,000 Confederates under Johnston, who not venturing upon a general engagement, skillfully obstructed and delayed the advance. Impatient at this defensive policy, President Davis replaced Johnston by Hood, who gave battle and failed, July 20 and 26, and by a masterly movement of Sherman's was driven out of Atlanta, which the Union army entered September 2. Then, burning the town, destroying the railroads and telegraph in his rear, cutting loose from all connections, and detaching Thomas to take care of Hood, Sherman with 65,000 men began, November 14, his famous march to the sea. He was uncertain at starting where he should come out, and for nearly a month nothing was heard from him at the North. Extended over a breadth of forty miles, and gathering vast quantities of supplies and cotton, his army traversed Georgia with little fighting, and appeared before Savannah, where Fort McAllister was taken by assault on December 13, the city being evacuated on the 20th. On the 1st of February, 1865, he started northward to co-operate with Grant. He seized Columbia, forced the evacuation of Charleston, fought Johnston at Fayetteville, and was joined at Goldsboro by Schofield and Terry. There he halted.

In the meantime Hood had invaded Tennessee, where Thomas awaited him at Nashville. Disregarding the urgency of the President and the General-in-Chief, Thomas would not strike until he was thoroughly prepared. Then he fell upon Hood, December 15, and crushed him in a two days' battle.

The harbor of Charleston had been closed to the Confederates since the summer of 1863, when the batteries of General Gilmore and the squadron of Commodore Dahlgren reduced Fort Wagner, demolished Sumter, and enabled the blockading ships to enter the port. Mobile was closed on August 5, 1864, when Farragut forced his way past forts Gaines and Morgan and demolished the Confederate flotilla in the bay, leading the fight lashed to the rigging of the *Hartford*. Wilmington, the only important port remaining to the Confederates east of Texas, was defended by Fort Fisher, which fell before a combined land and naval attack by Terry and Porter on January 16, 1865.

The situation of Lee was now desperate. In the hope of breaking through Grant's lines and uniting with Johnston, he made a fierce assault upon Fort Steedman on March 25, but was repulsed with heavy loss. Grant pressed his advantage, extending and strengthening his left, where, on April 1, Sheridan gained a great victory at Five Forks. This was the decisive battle. Lee evacuated Petersburg and Richmond the next day, and retreated toward Lynchburg, closely followed and flanked by Grant. The Confederates are supposed to have had 50,000 or 60,000 men when they abandoned their capital. In six days these were reduced one-half by capture and other casualties of the hasty retreat, and many of the remainder had lost or thrown away their arms.

On April 9, 1865, the Army of Virginia surrendered to Grant at Appomattox Court House, Virginia, twenty-eight thousand men giving their parole and then dispersing quietly to their homes. Johnston surrendered 37,000 men to Sherman on April 26, and one by one the other Confederate commands laid down their arms or broke up, and disappeared. Jefferson Davis was captured by the Federal cavalry at Irwinsville, Georgia, and long confined at Fortress Monroe on an indictment for treason, but at last he was released on bail furnished by Horace Greeley and other northern men, and the prosecution was dropped. The great Rebellion, which had cost 600,000 lives, was ended.

The New Union.

The tremendous burdens of the war were borne by the North with an ease which has no parallel in the history of such conflicts. Expenses were met by an increase in the tariff, by internal taxes, popular loans, and the issue of Treasury notes; and although the evils of inconvertible paper money were not escaped, industries were stimulated by the tariff, the creation of a national banking system gave a safe and stable currency, and peace was

followed by a rapid extinguishment of debt, a reduction of taxes, and an appreciation of the legal-tender notes. In the South, on the contrary, which under the slave system could not manufacture what it needed, and by the blockade was cut off from foreign trade, the distress was extreme. All the obligations of the government became worthless, and nearly the whole population was reduced to poverty.

Mr. Lincoln had been re-elected in 1864 by an enormous majority over the Democratic candidate, General McClellan; and in his second inaugural address, March 4, 1865, there was a memorable passage which disclosed at once the depth and nobility of his character, and his feeling towards the suffering people of the shattered Confederacy: "With malice towards none, with charity for all, with firmness in the right as God gives us to see the right, let us strive to finish the work we are in, to bind up the nation's wounds, to care for him who shall have borne the battle, and for his widow and orphans; to do all which may achieve and cherish a just and a lasting peace among ourselves and with all nations." But on the 14th of April, five days after Lee's surrender, the President was assassinated in the theatre at Washington by an actor named John Wilkes Booth, who, shouting "*Sic semper tyrannis!* The South is avenged!" escaped for a time in the confusion. On the same night one of his accomplices named Payne made a desperate attempt upon the life of Secretary Seward. Booth was afterwards killed in resisting arrest. Payne and three others were hanged.

The death of the President stirred the nation with profound emotion. No one since Washington had taken so firm a hold upon the popular trust and attachment; no ruler in our history has risen so steadily in the estimation of mankind. When his great heart was stilled the South lost its best friend.

The Vice-President, Andrew Johnson, of Tennessee, succeeded to office with a rancorous feeling against traitors. But he soon changed his tone, quarreled violently with the Republican majority in Congress, vetoed bills for the protection of the colored people, and adopted a scheme of reconstruction which would have restored the Confederate States to the Union with the disloyal element in full control and the freedmen helpless and unrepresented. There was little disposition among the vanquished secessionists at that date to accept the political consequences of the war, and they lost no time in showing, by brutal vagrancy laws and other devices, that their purpose was to reduce the ex-slaves to a servitude as harsh in some respects as the former bondage. Congress had already proposed to the States a thirteenth amendment, ratifying the proclamation of emancipation by a constitutional prohibition of slavery, and in December, 1865, it was declared adopted by the necessary three-fourths. A fourteenth amendment was now proposed, to secure the freedmen in the right of citizenship, to provide that those who are denied the suffrage shall not be counted in the basis of representation, to disqualify certain classes of Confederates from holding office without the consent of Congress, to affirm the validity of the United States debt, and to prohibit the payment of the rebel debt or claims for the emancipation of slaves. Whenever this amendment should be adopted, Congress offered to readmit to representation the rebel States accepting it. Tennessee ratified the amendment at once, and, having a loyal government, was restored to the Union without waiting for action elsewhere. The other ten States of the Confederacy rejected the amendment with something like contempt and defiance. Congress thereupon placed them under military rule, to await reconstruction under more stringent conditions.

This animosity of the President towards the two houses of Congress, sometimes strangely emphasized by Mr. Johnson's personal foibles, had now become a deplorable scandal. A tenure of office act was passed (March, 1867) to limit his power of making removals. He flouted it by removing Mr. Stanton from the office of Secretary of War. For this and other offenses he was impeached by the House of Representatives March 5, 1868, and tried by the Senate under the presidency of Mr. Chase, who had been appointed Chief Justice in 1864. The exciting trial ended in May with a vote of one less than the two-thirds necessary to convict.

The purchase of Russian America (Alaska) for $7,200,000 in 1867, is the event by which Mr. Johnson's administration is most favorably remembered.

The Republicans in 1868 nominated General Grant for the Presidency, with Schuyler Colfax for Vice-President, and he was easily elected over Horatio Seymour, whom the Democrats, after an effort to take up Chief Justice Chase, presented on a platform which declared the reconstruction acts unconstitutional, revolutionary, and void, and demanded the payment of the national debt in depreciated paper. The fourteenth amendment became a part of the constitution in July of this year, and eight of the rebel States, having accepted it, were restored to representation in Congress and took part in the election. Even thus early, however, in the history of reconstruction it became evident that the rights of the freedmen, guaranteed by the amendments, could not be maintained without the active intervention of the Federal authority. The new voters, maltreated by their natural leaders, and left to their own ignorance or the arts of adventurers, administered State affairs extravagantly and corruptly; and the whites met them with murder, terrorism, and an abuse of the forms of election almost too brutally frank to be called fraud. General Grant's administration was much occupied with these difficulties, and it cannot be said that they were solved. Virginia, Mississippi, and Texas, the last of the unreconstructed States, were readmitted in January, February, and March, 1870. The fifteenth constitutional amendment, declaring that "the right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, or previous condition of servitude," was proclaimed as adopted March 30, 1870.

The signal achievement of General Grant's administration was the settlement of the long-standing controversy with Great Britain over the aid furnished by that power to the Confederacy. By the treaty of Washington (1871), the so-called Alabama claims were referred to a tribunal of arbitration at Geneva, which found Great Britain responsible for the depredations of the *Alabama* and several other cruisers, and awarded

$15,500,000 to the United States as damages (Sept. 14, 1872). A dispute respecting the northwest boundary was referred to the Emperor of Germany, and decided in favor of the United States. The question of the compensation to be made by this country for fishery privileges on the British North American coast was not so satisfactorily adjusted. A commission of arbitrators, meeting at Halifax, awarded Great Britain (1877) the extravagant sum of $5,500,000 for twelve years' use of the inshore fisheries by American vessels; besides which Canadian fish and fish-oil were, by the treaty, to be admitted to the United States free of duty. Since the expiration of this arrangement, the fishery difficulties with Canada have been renewed with many circumstances of exasperation.

General Grant was ill-served by many of his friends and office-holders, and his somewhat drastic methods in dealing with the South were disapproved by a considerable party among Northern Republicans. The Liberal movement in 1872 was a protest at once against "bayonet rule" and administrative abuses. The President's renomination by the regular convention being certain, the Liberal Republicans met at Cincinnati in May, and named for the presidency Horace Greeley, the founder and editor of the New York *Tribune*. In July the Democratic national convention at Baltimore also nominated Mr. Greeley, and the strange spectacle was presented of the party of slavery and secession supporting one of the ablest and most ardent of their life-long enemies. Mr. Greeley had strong qualities as a candidate; his pure transparent character, his honesty, and his unselfishness had caused his name to be affectionately cherished in thousands of homes; and at one time his election seemed highly probable; but in the end General Grant's triumph was signal. Crushed by private sorrows heaped upon his public disappointments, and cruelly hurt by the scurrilities of an exceptionally angry campaign, Mr. Greeley died a few weeks after the election. Over his grave all parties united in tributes to his noble nature, and in appreciation of the great and permanent usefulness of his busy life.

The Democratic party soon recovered from the defeat of 1872 and three years later, with the aid of the "solid South," it held a majority of the House of Representatives for the first time since the beginning of the Rebellion. For the Presidential campaign of 1876 it nominated the ablest of its Northern leaders, Mr. Samuel J. Tilden. The Republicans, after an animated demonstration by the friends of Ex-Speaker Blaine, named Rutherford B. Hayes. The election was claimed for Hayes by a majority of one electoral vote; but the result depended upon contested returns from the States of Louisiana, Florida, South Carolina, and Oregon. Unable to agree upon a joint rule for counting these votes, the two houses of Congress referred the case to an Electoral Commission, composed of five Senators, five Representatives, and five judges of the Supreme Court; and by this body the election was awarded to Mr. Hayes. The administration of Mr. Hayes is memorable for the removal of the military force which had thus far sustained republican governments in the reconstructed States, the practical extinction of the Republican party throughout the territory of the Confederacy, and the practical elimination of the freedman as an element in Southern politics. Financial matters occupied much of the attention of Congress; and on the 1st of January, 1879, the Treasury and the banks resumed specie payments, suspended since the early part of the war. The act under which this important result was accomplished had been framed by Senator Sherman, and it was his fortune now to carry it into effect as Secretary of the Treasury.

In the Republican convention of 1880 a resolute effort of the friends of General Grant to nominate him for a third term was defeated by the equal ardor and good management of an opposition which attached itself principally to Mr. Blaine. The prize, however, went to Gen. James A. Garfield, and he was elected by a majority of 59 electoral votes over his Democratic competitor, General Hancock. A man of force, of broad mind, of political experience, and of high impulses, General Garfield promised to make a successful President; but four months after his inauguration he was shot at Washington by a disappointed office seeker named Guiteau (July 2, 1881), and he died after great suffering, September 19. Guiteau was hanged June 30, 1882.

The Vice-President, Chester A. Arthur, succeeding to the vacant chair, administered affairs with credit, and was a prominent candidate for the nomination in 1884; but Mr. Blaine's popularity with the Republican masses was no longer to be overlooked, and he was named by the convention, with John A. Logan for Vice-President. After an exciting campaign, determined at the last moment by a sudden change of votes in New York, the Democratic candidates, Grover Cleveland of New York and Thomas A. Hendricks of Indiana, were elected by a small majority. In December, 1884, the Washington Monument at Washington was completed, and a World's Industrial Cotton Centennial Exposition was opened at New Orleans. In February, 1885, the President-elect, in a letter to Congressmen, urged the suspension of the purchase and coinage of silver; advice which unfortunately was not acted upon. In March the new administration entered office. Mr. Cleveland was strongly committed to the principle of Civil Service Reform, but did not in that respect command the entire sympathy of his party, which, having been out of office for twenty-five years, was naturally desirous of reaping the fruits of victory. Some friction consequently arose between him and some of the party leaders over that subject. In the end he relaxed slightly the rules he had at first sought to maintain, but on the whole preserved the public service from wholesale looting by spoilsmen. In September, 1885, occurred a hideous massacre of Chinamen at Rock Springs, Wyoming, their only offense being that they went industriously to work for honest wages in the place of strikers. The United States government was afterward constrained to pay China a handsome indemnity for the outrage. In March, 1886, widespread strikes occurred on the railroads of the southwest, compelling the use of Federal troops to maintain the free transportation of the mails. Anarchists in Chicago committed wholesale murder with dynamite bombs at the "Haymarket," in May, for which a number of them were afterward put to death. The policy of the Democratic party in favor

of a lower tariff led to the introduction of a new tariff bill by Representative Morrison, in February, 1886, but it was rejected by the House in June. The Interstate Commerce Commission was established in February, 1887. In September, 1887, the centenary of the United States Constitution was elaborately celebrated. In June, 1888, a Commissioner of Labor was appointed, under act of Congress, from which office the Secretaryship of Commerce and Labor has since grown.

Another effort to revise the tariff in the direction of reduction was made in the summer of 1888, under the leadership of Congressman Mills, of Texas. His tariff bill was passed by the House on July 21, but was beaten in the Senate, which had a Republican majority, in January, 1889. In August, 1888, the President suggested a measure of retaliation against Canada in the dispute over the North Atlantic fisheries, which had been in progress for many years, and a Retaliation bill was promptly passed by the House, but was laid aside by the Senate. In September a law was enacted prohibiting the entrance of Chinese to the United States, excepting officials, teachers, students, merchants, or travellers for pleasure. In the Presidential campaign of that year Mr. Cleveland was a candidate for re-election, and in a notable utterance he made his platform one of sweeping tariff reform in the direction of free trade. The Republicans nominated for President Benjamin Harrison of Indiana, and for vice-President Levi P. Morton of New York. After an unusually exciting campaign the Republican candidates were elected by a large majority of the electoral votes, though they had a minority of the popular vote. Four new States; namely, North and South Dakota, Montana, and Washington, were provided for in January, 1889, though not actually admitted until October and November following.

Benjamin Harrison became President on March 4, 1889, with a Republican majority in each House of Congress. On April 22 the new Territory of Oklahoma was opened for settlement, and on April 29–May 1 the centenary of Washington's inauguration as first President of the United States was widely celebrated. A Pan-American Congress was opened at Washington in October. In December the Farmers' Alliance and other bodies were organized into a new political party, which, under the name of Populists, a little later played an important part in national affairs. In March, 1890, owing to persistent poaching by British sealers in Alaskan waters, the President issued a proclamation warning all persons against entering Behring Sea for purposes of sealing, and the seizure of poachers was begun, which presently led to a controversy with Great Britain which had finally to be referred to international arbitration. The most important pieces of National legislation of the year 1890 were the McKinley Tariff bill, a strong Protectionist measure, and a bill to protect trade against the improper restraint of trusts or monopolies. An act was also passed for the regulation of the currency, providing for the purchase of not more than 4,500,000 ounces of silver per month at not more than one dollar for 371¼ grains and the coinage of 2,000,000 ounces a month until July 1, 1891, and thereafter as necessary. Idaho and Wyoming were admitted as States in July. In October, in order to remove objections to the admission of Utah to Statehood, the Mormon church at a general conference, declared polygamy to be thenceforth abolished. The fall of this year was marked with serious Indian disturbances, owing to the "ghost dances" and "Messiah craze" among the Sioux, Comanches, Cheyennes, and Arapahoes. These were suppressed only after serious fighting, in the course of which the famous Sioux chief Sitting Bull was killed. The outbreak was not fully ended until January, 1891.

Early in 1891, a serious international complication was occasioned by the lynching of eleven Sicilians in the parish jail of New Orleans. The chief of the New Orleans police force, David C. Hennessy, was killed upon his own doorstep on the night of Oct. 15, 1890, the last words of the dying man being that he had been shot by "Dagos." The lowest Italian residents in New Orleans had been responsible for many murders and assaults, and had frequently succeeded in escaping punishment, partly by avoiding detection and partly owing to the fact that many had bound themselves to give perjured testimony whenever they should be called as witnesses against one of their countrymen. The belief that there was a "Mafia," or oath-bound society of assassination, appeared to many to be confirmed by this latest outrage on law and order. On Nov. 20, 1890, the grand jury returned indictments for the murder of Chief Hennessy against eleven suspects and held eight as accessories. When the cases of nine of these came to trial, six were acquitted and three received no verdict. Perjury of witnesses and bribery of the jury were the reasons at once assigned by the public in explanation of the result. Mob passion was aroused, and on March 14, 1891, great throngs of people began to assemble and denounce the trial. The populace entered the jail, and the leaders, apparently with little opposition from the police, shot down the eleven Sicilians.

When intelligence of the massacre reached Rome, the Italian government made formal protest to the Secretary of State for the United States, who answered that under the Constitution such cases belonged independently to the state, and that the Federal Government had no power to consider anything but an indemnity. For a time the diplomatic relations of the two governments seemed on the point of rupture, but, ultimately, the United States Treasury paid over to Italy the sum of $25,000 as an indemnity to the relatives.

In 1891, the right to take seals in the Bering Sea became a subject of negotiation with Great Britain. The question was submitted to arbitration, and a satisfactory settlement obtained thereby.

When the Congressional Junta came into possession of Santiago, Chili, on the downfall of Balmaceda, the populace of that city and the provisional government also evinced great dislike of the United States citizens there. The Chilians charged the American minister, Egan, with having given asylum to enemies of the Congressional party, and the cruiser *Baltimore* with carrying important information to the fallen president. In October, 1891, some sailors from the *Baltimore* were set upon by a mob in the streets of Valparaiso, maltreated, imprisoned, and two of the number killed. President Harrison

ordered two cruisers to that harbor, and demanded an apology, with reparation, and that the Junta should withdraw its surveillance of the American legation. This demand was treated with contumely, and the Chilian minister at Washington was directed by the Junta to publish his case without submitting it to the government of the United States. Much irritation ensued, but in January, 1892, the Chilian Minister of Foreign Affairs made ample apologies, and in October, on the termination of a legal inquest, three of the rioters were imprisoned, and an indemnity of $75,000 was paid to the United States for distribution among those who had suffered in the Valparaiso mêlée.

In February, 1892, the proprietors of the Louisiana lottery gave up their struggle against the laws of the Union, and, by the more enlightened public opinion of their own state, the lottery was legally abolished. The headquarters of the company, however, were transferred nominally to Central America, and by various evasions the company was able, in great measure, to baffle the postal administration. Where it could not make use of the post-office it had especial contracts with express companies; and through them it carried on an immense business in the United States from its rendezvous in Honduras. In the closing hours of the Fifty-third Congress, in March, 1895, an anti-lottery bill became a law. By it, the introduction of any intelligence or tickets of foreign lotteries into the United States, the use of the mails for transacting business with them, or the carrying of any papers in their interest from one state to another, were made punishable by fine and imprisonment.

On July 7, 1892, the Republican. National Convention met at Minneapolis. President Harrison, Secretary Blaine and Governor McKinley of Ohio were the most favored, the nomination being at length unanimously given to the first. The Democratic National Convention assembled in Chicago on June 21, 1892, and a unanimous nomination was given to ex-President Cleveland, who was elected President in November. The electoral vote was, for Cleveland, 277; for Harrison, 145; and 22 for Weaver, the candidate of the People's party.

When the Civil-Service Act was passed, in 1883, it affected only fourteen thousand offices; in 1895 it included over fifty-five thousand. On the 6th of May, 1896, the President issued an order extending the provisions of the civil-service law to thirty thousand more persons employed by the government. The jurisdiction of the Civil Service Commission, under these regulations, embraces, with less than one thousand minor exceptions, the entire service between mere laborers and unskilled workmen and those officials whose appointment must be confirmed by the Senate under the law. In 1893 the state of New York adopted a system similar to that of the general government, and placed its civil service under a state commission. In the following year Massachusetts enacted like provisions, and in 1894 an optional civil-service-reform law, providing the competitive plan for the appointment of all subordinate municipal officers, was passed in Illinois and adopted by the voters of Chicago in November of that year. There is still room for further development along these lines.

The presence of Chinese laborers in this country in large numbers, particularly in the state of California, had long been regarded with hostility by those American citizens whose labor came into competition with theirs. The parsimony of the Oriental, and his manner of living, made it possible for him to thrive on wages which seemed degrading to his competitors. In 1893 the Geary Act providing for the registration or deportation of Chinese laborers was tested in the Federal courts. The number registered under this act up to 1895 was 105,312. The government then had three Chinamen arrested in New York and taken before the United States circuit court. They could show no certificates of registration, and their deportation was forthwith ordered. An appeal was taken to the supreme court, which decided that the law was constitutional. It had previously been decided in the supreme court that a Chinaman cannot become a citizen of the United States by naturalization, on the ground that no alien race can obtain that privilege by inference, but only when that race is expressly granted the right by statute. Yet a child of Chinese parentage born on the soil may exercise the right of citizenship.

On May 1, 1892, President Harrison sent out invitations to the leading nations to join the United States in a monetary conference, and acceptances came from all the principal European powers. On November 22d the conference was held, at Brussels. As the United States had been the prime mover in the matter, it devolved upon the delegates from this country to open the discussion and submit a line of procedure. This was done by Mr. Allison, on November 25th, who submitted for discussion the following resolutions:

1. That the re-establishment and maintenance of a fixed parity between gold and silver and the continued use of both as coined money of full debt-paying power, would be productive of important benefits to the world.

2. That these ends can be accomplished by removing the legal restrictions which now exist on the coinage of silver into full legal-tender money, and restoring by international agreement the parity value between the metals which existed prior to 1873, at such a ratio as may be decided upon by this conference.

3. That the essential provisions of such an international arrangement should be (*a*) unrestricted coinage of both gold and silver into money of full debt-paying power; (*b*) fixing the ratio in coinage between the two metals; (*c*) establishing a uniform charge, if any, to the public for the manufacture of gold and silver coins.

The conference refused to discuss this proposal, on the ground that it dealt with fundamental principles and not with matters of special reference to the conference. On the 17th of December the conference adjourned to meet May 30, 1893, provided the governments represented should approve, but as the necessary approval was lacking, the conference did not reassemble.

Among the most important events of the year 1893 was the projected annexation of Hawaii to the United States. Within the previous six years revolution had been attempted no less than five times, and with every failure the idea of annexation to the United States had been urged as the only solution to the troubles of the kingdom. Queen Liliuokalani, in January, 1893, attempted to abrogate the constitution in favor of a despotism, and disorder followed. The American minister, J. L. Stevens, in response to a request from American citizens, ordered Commander Wiltse of the United States steamship *Boston* to land sailors and marines for their protection. On January 17th the government buildings were seized by the revolutionists and the supreme court of the kingdom declared the throne vacant. The Committee of Public Safety then issued a proclamation establishing a provisional government, and requested recognition of the same from the representatives of foreign powers. On the same day Minister Stevens officially recognized the new government on behalf of the United States. On learning of the recognition of the new government by the United States, the queen surrendered the police station and the barracks as demanded by the committee. On Feb. 1, 1893, Minister Stevens, at the request of the provisional government, placed the islands under the protection of the United States, and the United States flag was hoisted on the government buildings. A commission of American and English residents of Hawaii reached Washington, Feb. 3, 1893, and by the 11th had negotiated a treaty of annexation, which on the 14th was transmitted by President Harrison to the Senate with his approval. Owing to pressure of business in the Senate the treaty still remained unratified when Mr. Cleveland became president. On March 9, 1893, he requested its return to the State Department. He was opposed to the acquisition of distant territory, and sent, as special commissioner to Hawaii, Mr. James H. Blount, of Georgia, who withdrew the American protectorate and returned the sailors and marines on guard to the United States steamship *Boston*. Both branches of the American Congress subsequently passed resolutions unfavorable to Hawaiian annexation. The provisional government thereafter decided upon adopting an independent republican constitution, which briefly postponed annexation.

From May 1 to Oct. 31, 1893, the World's Columbian Exposition, commonly called the World's Fair, organized to commemorate the discovery of America, was held in Chicago, the total admissions, including passes, being 27,539,521. Important exhibitions were also held in San Francisco in 1894 and in Atlanta in 1895.

Early in the summer of 1893 a severe financial panic swept over the United States, making the number of suspended banks reach the remarkable total of 158 during the year ending Oct. 31, 1893. While 65 of the suspended banks were insolvent, at least 86 afterward resumed business. The public distrust grew out of the fact that measures for changing the financial system of the country, and especially one for reducing customs duties, were being agitated in Congress, during which time an element of uncertainty was intruded into all contracts and time engagements. The timidity of capital was strikingly illustrated.

On July 17, 1894, President Cleveland signed the enabling act which permitted Utah to draw up a constitution, with a view to its admission into the Union as a state. In May, 1895, the convention called to draft the constitution completed its labors. A notable feature of the constitution was its grant of complete suffrage to women, to hold office and to sit on juries. There was no objection by the Mormons to the permanent prohibition of plural marriages. Jan. 4, 1896, President Cleveland signed the proclamation admitting Utah into the Union, and Frank J. Cannon and Arthur Brown were elected United States Senators and took the oath of office January 27th.

In 1892 the Homestead strike, involving 4,000, the Buffalo switchmen's strike, involving several thousand, and the New Orleans street-car strike, involving 2,000 men, gave evidence of increasing industrial unrest. In the Homestead strike a political element was introduced by the employment of a large body of Pinkerton detectives to police the mills, at the expense of the owners. The strikers claimed that they were citizens, ready to be sworn in as deputies of the sheriff, and desirous to enforce the public peace. The bringing of armed men at private cost from another state to perform police duty became a question of wide interest, and led to what are known as the PINKERTON LAWS, prohibiting such action. The year 1894, however, was marked by the most bitter and disastrous labor revolts in the history of the nation. A hatters' strike at Danbury, Connecticut, and a silk-weavers' strike at New York were among the opening skirmishes of the three great struggles which followed, namely, the coal strike in Pennsylvania, the Great Northern railroad strike, and, the most notable of all, the Pullman boycott. Preliminary to the great coal strike of April was the outbreak among the Hungarian and Slav operatives in Fayette and Westmoreland counties, known as the Connellsville coke region, in Pennsylvania, which occurred on the 2d of April. English-speaking laborers were driven from their work, mines and machinery were blown up and destroyed by dynamite, and the chief engineer of the Frick Coke Company at Connellsville, J. H. Paddock, was murdered by a mob of two hundred Hungarians. In May the riotings broke out again at Scottdale, but the rioters were dispersed by deputy sheriffs armed with Winchester rifles.

A general strike of the miners of bituminous coal throughout the country on the 11th of April, to go into effect on the 21st of that month, was ordered by John McBride, president of the United Mine-workers of America. The intention of the strike was to call out of the mines about two hundred thousand miners and close all the mines in an area covered by ten states and one territory, embracing Pennsylvania, Ohio, Indiana, Illinois, Michigan, Iowa, West Virginia, Tennessee, Kentucky, Alabama and Indian Territory.

The strike began as ordered, on the 21st of April,

and in a few days after its inauguration the whole bituminous coal region of the United States was a scene of insurrection against the civil authorities and lawless violence. In Illinois the strike grew to the proportions of a rebellion. For more than a week the coal region of the state was a pandemonium, with mobs threatening miners, closing mines, wrecking coal-trains, firing on trainmen, defying military and civil authorities, and putting a complete embargo on all kinds of business. In Indiana the governor brought out the militia of the state and checked the lawlessness which had gained such headway in Illinois. In Ohio the governor called out the state troops and sent them to the districts where mines had been closed, trains stopped, bridges burned and tracks torn up. Similar outbreaks were reported from West Virginia, at Charleston; in Maryland, at Cumberland, Frostburg and other points; and at various places in Iowa and other states. By the 5th of June the strike had spent its force. A conference was called to meet at Columbus, Ohio, on the 8th of June, at which an agreement was made and signed on the 11th, which put an end to the conflict. It is estimated that during this strike the miners lost in wages $12,500,000, while losses of other kinds were put at $20,000,000 more.

The trainmen on the Great Northern road struck on the 13th of April, 1894. The strike was against a new schedule of wages which went into effect in April, under which the pay of the men was reduced from 15 to 33 per cent. On the 19th Eugene V. Debs, president of the union, addressed to Mr. Hill, president of the road, a request for a conference, Mr. Hill consented to meet the committee on the 21st. The efforts to settle the strike by conference; failed, and on the 27th Debs issued orders for a strike on all the Minnesota divisions of the Great Northern road, which completed the tie-up from St. Paul to the Pacific Coast. On the 28th the Brotherhood of Locomotive Engineers and Firemen held a conference with President Hill, and as a result of the conference Mr. Hill agreed to raise the schedule of both engineers' and firemen's wages to their last July rate if they would go to work on the 30th instant, which was agreed to. Subsequently arbitration was agreed upon, the question of wages amicably settled, and the strike declared off.

Following immediately upon the termination of the coal strike came the troubles at Pullman, Chicago, which had their climax in the boycott of the Pullman cars by the American Railway Union, and the fierce conflict that ensued. With the close of the World's Fair came business depression, which became general throughout the entire country, the reaction and curtailment being felt at Pullman as elsewhere. Reduction in wages and hours of labor followed decrease in the number of employees. The cutting of wages was resorted to until the reductions averaged 33⅓ per cent, but, while there was such a reduction in wages there was no reduction in rents or water-rates, which the company collected monthly of its employees. On the 5th day of May, 1894, the Pullman carpenters met and organized Union No. 208 of the American Railway Union, and this was followed shortly after by the formation of a Blacksmiths' Union. After ineffectual appeals for better remuneration the union men in secret on May 10th, and unanimously, voted to strike on Saturday, May 12, 1894. The company learned of these proceedings, and closed the works at noon on May 11, 1894. On June 22, 1894, notice of a boycott was served on the company, to commence June 26th, if they did not meantime arbitrate. Obtaining no satisfaction, the union, through its president Eugene V. Debs, ordered the boycott on the date last named. The order carried with it a threat to strike on every railroad in the United States that hauled Pullman cars. In the evening the boycott began. Switchmen, engineers and firemen left their trains, and passenger and freight traffic came to an end. The strike involved nearly all the roads entering Chicago, and extended northward to Milwaukee and St. Paul and westward to the Pacific states. The transportation of mails was practically abandoned, the tracks of the various roads being blocked by overturned freight cars. On the 28th United States Attorney General Olney directed his district attorney at Chicago to have the obstructors arrested. On July 2d a Cabinet meeting was held at Washington, and the next day Federal troops from Fort Sheridan were ordered to Chicago, and soon after soldiers from other posts arrived. In the southern portion of the city, mob rule and rioting prevailed, and trains could be moved only under guard of the soldiers. Six hundred cars and locomotives were burned or wrecked, 96 cars overturned and 9 buildings destroyed by fire. Several engagements between the troops and the rioters resulted in a number of deaths of the latter. On the 10th of July Debs was arrested by the United States authorities. The force of the strike having spent itself, the railroads gradually resumed business. Debs and other directors of the American Railway Union were sentenced to imprisonment in jail for disobeying an injunction of the United States court forbidding interference with the movement of the mails. The total cost of the strike to all concerned was estimated at over $7,000,000.

The governor of Illinois, John P. Altgeld, protested against the sending of Federal troops into his state without a request from the state executive, as contrary to the Constitution of the United States; but the administration claimed to be charged with the protection of the mails, and to have acted within its lawful powers. Thus the question of state-rights was raised anew, and became a matter of political consideration in the national conventions for the nomination of a President and Vice-President in 1896.

A strike of the street-railway employees in Brooklyn, New York, ordered by the Knights of Labor, began the 14th of January, 1895, and continued 16 days. It involved 48 trolley-lines, and over five thousand men were thrown out of employment. The cause was mainly an attempt of the companies to obtain increased profit on capital without giving labor any corresponding benefit. (Report of New York State Assembly Committee.) Mobs obstructed the tracks and one thousand cars were damaged. Arbitration failing, the governor sent troops to quell the

disturbance. The strikers were defeated. It is computed that the employees lost $225,000 in wages and the companies $750,000 in business.

To secure an eight-hour working day, the electrical workers of New York City inaugurated a strike in February, 1895, which, through sympathy, involved other trades to the number of eight thousand men. A conference of the Council of Conciliation, walking delegates and master builders, resulted in an agreement, March 20th, and the strike came to an end, the strikers gaining the eight-hour day for which they had contended.

At Massillon, Ohio, a coal-miners' strike, causing great destitution among the miners, was ended Jan. 16, 1895, by the miners agreeing to work at the wages offered.

March 16th a strike of ten thousand coal-miners in the Pittsburg, Pennsylvania, region began, which spread rapidly. The men demanded an advance from 55 to 59 cents per ton. Most of the mine-owners yielded, and 17,000 out of 22,000 miners secured the advance.

July 28, 1895, the United Brotherhood of Tailors declared a strike, and within a few hours more than fifteen thousand workers in New York and Brooklyn quit work. The strike extended to Newark, New Jersey, and later to Boston, Massachusetts. It was aimed at the sweat-shop system as opposed to regular hours of work. By the middle of August most of the contractors had yielded the main points of contention, and nearly all the tailors began work again. But in December the contractors repudiated the agreement they had made in July, and four thousand tailors in New York and two thousand in Brooklyn again quit work. To avert a general strike, the contractors, on Jan. 25, 1896, agreed, in conference with representatives of the Brotherhood, to conform to the agreement of the previous August and to resort to arbitration for the settlement of future disputes.

Early in July, 1895, began a strike of five thousand miners in the iron regions of Ishpeming and Negaunee, northern Michigan. The miners demanded $1.50 to $2.00 a day in place of $1.35 to $1.50. The companies refused the increase in wages. Under the protection of militia the companies operated the mines and the strike collapsed. The movement was disastrous to the miners, the daily loss in wages being nearly six thousand dollars. The daily expense to the county for militia was nearly one thousand dollars.

Dec. 17, 1895, the employees of the Union Traction Company of Philadelphia, Pennsylvania, to the number of over five thousand, struck for a ten-hour work-day at two dollars per day, and against the discharge of union men without other sufficient cause. Mobs attacked motormen and cars were damaged. Many committees of the employees had conferences with the company, a settlement was reached through the intervention of a citizens' committee, and the strike came to a conciliatory end. But new men to the number of nineteen hundred displaced as many of the old employees.

May 4, 1896, twelve hundred street-railway employees of Milwaukee, Wisconsin, struck for an increase of one cent per hour in wages and a reduction in the working-day from 12 to 10 hours. The strikers instituted a boycott on the street-cars, which became very effective on account of the sympathy of the public. The strikers fitted up wagons and omnibuses and carried passengers. The boycott continued for five weeks, when the strike was declared off. Many of the old employees asked to return to work, but were mostly put on the company's waiting-list.

From the report of Carroll D. Wright, Commissioner of Labor, for the years 1881 to 1894, it appears that in that time there were in the United States 14,380 strikes, involving 69,167 establishments, and throwing out of employment 3,714,406 persons. The loss in wages is estimated to be $163,807,866 from strikes and $26,685,516 from lockouts; the loss to employers $82,590,386 in strikes and $12,235,451 in lockouts. The strikes were successful in 45 per cent of the cases, and partly so in 12 per cent. Twenty-five per cent of the strikes arose from an effort to raise wages; 13 per cent to reduce the hours of labor; 8 per cent to resist reduction of wages; 7 per cent were sympathetic.

Early in the spring of 1894 a movement, growing out of the disturbed condition of labor and capital, was started by J. S. Coxey. The organization was known as the "Commonweal Army" or the "Industrial Army," and was formed for the purpose of marching to Washington, District of Columbia, to urge upon Congress the passage of laws which Mr. Coxey and his followers believed would prove a panacea for the ills of which the wage-workers of the country complained. The first of these armies was Coxey's, which had a maximum strength of 500 men. Next was Frye's detachment, from Los Angeles, California, with 1,000 men. Kelly's contingent, from San Francisco, reached a maximum of 2,000; Randall's, from Chicago, 1,000; Hogan's, from Montana, 500; and one from Oregon, 900. This gives a total of about 6,000 in the leading organizations. Smaller bands from other sections would swell the total to about 10,000.

Coxey's army entered Washington on the 29th of April, and numbered 336 men, and on the 1st of May paraded through the streets to the capitol grounds. Coxey and his lieutenants were arrested for carrying a banner in the capitol grounds and for trespassing on the grass. They were convicted, and sentenced to twenty days' imprisonment with five dollars' fine. The army had a hard time in Washington, suffered for want of food, was forced to camping-grounds out of the city, where its members were arrested for vagrancy, both by the officers of Virginia and Maryland, and it rapidly disintegrated and went to pieces. The other "industrial armies" gradually melted out of existence.

In Aug. and Sept., 1899, a further strike and boycott of a menacing aspect occurred at Cleveland, O., occasioned by the refusal of the street railway company to recognize the union organizations of their employees. Considerable violence was resorted to by the strikers, who also attempted for a time to boycott every one who rode in the cars or who sup-

ported the company in its antagonism to the men. A counter boycott on the part of the business community ensued, when the strikers either returned to their duties or were replaced by new employees.

During the year 1900 the labor world in the United States manifested more or less restlessness, which in various centers revealed itself in strikes. In the months of February and March, Chicago was greatly disturbed by a lockout in the building trade and by a strike among the piano makers. In March there was a strike among those employed in the granite quarries of New England, which was happily settled by a compromise between employers and employed. In May and June St. Louis had disagreeable experience of a strike among the employees of the City Transit Company, who showed much lawlessness and disregard for the convenience of the citizens. The most extensive revolt of labor during the year happened, however, in September in the Pennsylvania anthracite coal fields, where about 125,000 men struck out of a total of nearly 140,000 employed in the region. The strike appears to have been ordered by the "United Mine Workers of America," a Western organization which the capitalist operators and railroad corporations in the State were loth to recognize. As usually happens, the justice of the strike was not in every item of grievance apparent; had this been otherwise arbitration no doubt would have settled the issues. The miners demanded, with increase of wages, the abolition of the company's stores; semi-monthly instead of monthly payments; reduction of the price the miners have to pay for blasting powder; and revision of the methods of weighing and measuring the coal. Answers to these grievances were made by the operators of the mines, but they were not deemed satisfactory by the strikers, though later on the differences were amicably settled.

One feature of the strike was the embarrassment it occasioned party manœuvrers in the Presidential campaign of 1900. The political aspects of the strike were not long in showing themselves, the Democrats holding the McKinley administration responsible for this and other wrongs of labor. These tactics are understood to have brought about conferences between the managers of the Republican National campaign and the financiers in control of the anthracite coal roads. As a result, important concessions to the miners were agreed to be made, with a ten per cent advance in wages. President Mitchell, of the United Mine Workers, on the other hand, refused to accept any terms other than those demanded by the miners at the Hazleton convention, and stated that no new terms would be accepted without the approval of a new convention. In the contentions, it is pleasant to have to state, that there were few instances of illegal acts on the part of the strikers, and but one instance of reckless shooting on the part of deputies. In general, quiet and order prevailed, due in part, no doubt, to the presence of a considerable body of State troops in the region of the strikes.

These labor disturbances, where they are accompanied by violence and temporary mob rule, are exceedingly ominous and menacing to our New World communities. Our American civilization appears just now to be seriously confronted with alien discontent and a disposition to resort to crime and anarchy. With labor and its cause all fair minds must have a hearty and even active sympathy, and where real injustice is done it, and where combinations of capital unscrupulously menace its welfare, there is justification for strikes, though not for terrorism and violence. Lawlessness nowhere serves its end, and on whatever pretext it is resorted to, only trouble comes of it, as well as such havoc as injures the cause of labor and repels from it the countenance and support of those whose friendly aid might otherwise be helpful to it and on occasion serve it a good turn.

It is saddening to see how blind to its own interest labor often is, particularly at periods of class strife and disorder. At such seasons we see men commit outrages which are foreign to their nature and training as Americans, and resort to crimes which we have been accustomed to associate only with alien socialists or with labor just escaped from serfdom. The mob rule which at periods of industrial strife has disgraced many of our cities no mere disregard of the rights of labor could justify or active sympathy tolerate. Especially must these disorders react with crushing effect upon the strikers and disturbers of the peace when we know them to be instigated, as they often are, not so much by a sense of personal wrong, as by chagrin and resentment at the employment of non-union men to take the discarded places in the service of our industrial corporations. It is here where labor always and most disastrously puts itself in the wrong.

Resort to the boycott, it should also be said, shows the unscrupulousness as well as the vindictiveness of strikers. Tyranny of this sort is not to be borne and our city administrators greatly fail in their duty, as well as show themselves lacking in a proper sense of right and wrong, by tolerating such interferences with the liberty of the citizen. To take the community by the throat in this way is little less criminal than shooting innocent persons in the streets, and as the resort of intimidators it ought to be most sharply dealt with. Men who resort to such acts to overawe and coerce the community put themselves beyond the pale of consideration and tolerance.

In 1902, the labor world continued, here and there, in a perturbed and disaffected state, strikes being of common occurrence and seriously handicapping both industry and commerce. The more notable of these were the anthracite coal miners' strike in Pennsylvania, and that of the freight handlers and truckers at Chicago. The latter met practically with defeat. The former was settled by a commission appointed by the President, which provided for wages, no discrimination against non-union men, a permanent board of conciliation, etc.

THE MONETARY PROBLEM. In 1893 the condition of the United States Treasury was such that fear existed as to the ability of the government to maintain its gold reserve for the protection of its treasury-notes. Business disturbances reduced the revenues below estimates, expenditures exceeded receipts and gold was constantly drawn out of the treasury. At the

close of the fiscal year the reserve had decreased to $95,000,000, with prospects of further depletion. An extra session of Congress was called in August to consider the financial condition. The President thought that the repeal of the Sherman law—which made compulsory the monthly purchase of 4,500,000 ounces of silver by the United States Treasurer—would bring some relief to the government. The law was repealed in October, 1893, but the shrinkage still went on, and when Congress adjourned the reserve had fallen to $84,000,000, and at the end of January, 1894, to $65,000,000. On the 17th of January, 1894, the Secretary of the Treasury called for proposals for $50,000,000 five-per-cent bonds, payable in coin at the option of the government in ten years. These bonds brought $58,660,907, being sold at a premium; but as $24,000,000 of gold for their purchase was withdrawn from the treasury by the deposit of Treasury notes, only $34,000,000 was actually realized by the transaction, yet enough was obtained to bring the reserve up to $106,000,000. The exportation of gold still continuing, the reserve declined till in August it was $52,000,000, and a fresh loan on the same terms of a similar amount was offered Nov. 13, 1894. Bids for more than three times the sum named were received, and the allotment of the bonds in December brought $58,820,747 into the treasury, which brought the reserve up to over $105,000,000. But by the end of December it had depleted to $86,000,000, in January, 1895, to $49,000,000, and in February to a little more than $41,000,000. In February, 1895, the President and Secretary of the Treasury made an arrangement with a syndicate of foreign bankers for maintaining the gold reserve, by which the government purchased 3,500,000 ounces of gold at $17.80½ per ounce, giving in payment four-per-cent bonds to the amount of $62,317,500. The contract provided that at least one half the gold was to be supplied from Europe, the shipments not to exceed 300,000 ounces per month, and that the syndicate should exert its influence to protect the treasury against withdrawals of gold pending the performance of the contract. The delivery of gold to the treasury began at once, and the reserve reached $68,000,000 by February 20th, $87,000,000 by February 28th, $90,000,000 by March 30th, and $107,523,162, June 29th—when the amount contracted for was all delivered and the obligation of the syndicate terminated. On Jan. 6, 1896, the Secretary of the Treasury called for sealed proposals for the purchase of $100,000,000 United States four-per-cent coupon bonds, payable in coin in thirty years. When the bids were opened their number was 4,640, offering to take $568,259,850 of bonds. The $100,000,000 was distributed to the Eastern, Western, Central and Southern states. This large over-subscription was a surprise to the country and the Treasury officials, and demonstrated the financial strength of the nation. In 1897–98, under the stimulus of a large excess of exports, gold flowed into the country, and the Treasury reserve increased until, on Dec. 31, 1898, it reached $281,729,434, the highest amount on record. On June 30, 1899, the amount was $273,393,480.

FOREIGN COMMERCE OF THE UNITED STATES. The following tables show the value of imports and exports of merchandise for the years 1895–1903 inclusive, for the fiscal year ending June 30:

YEARS.	DOMESTIC EXPORTS.	FOREIGN EXPORTS.	IMPORTS.
1895	$ 793,392,599	$14,145,566	$ 731,969,965
1896	863,200,487	19,406,451	779,724,674
1897	1,032,007,603	18,985,953	764,730,412
1898	1,210,291,923	21,190,417	616,049,654
1899	1,203,931,222	23,092,080	697,148,489
1900	1,370,763,571	23,719,511	849,941,184
1901	1,460,462,806	27,302,185	823,172,165
1902	1,355,481,861	26,237,540	903,320,948
1903	1,392,231,302	27,910,377	1,025,719,237

Gold. The exports and imports of gold coin and bullion for the years 1894–1902 inclusive, were as follows:

YEARS.	EXPORTS.	IMPORTS.	NET EXPORTS.	NET IMPORTS.
1894	$ 76,978,061	$ 72,449,119	$ 4,528,942	$ .....
1895	66,468,481	36,384,760	30,083,721	.....
1896	112,409,947	33,525,065	78,884,882	.....
1897	40,361,580	85,014,780	.....	44,653,200
1898	15,406,391	120,391,674	.....	104,985,283
1899	37,549,783	88,978,882	.....	51,429,099
1900	48,266,759	44,573,184	3,693,575	.....
1901	53,185,177	66,051,187	.....	12,866,010
1902	48,568,950	52,021,254	.....	3,452,304

Silver. The exports and imports of silver coin and bullion for the years 1894–1902 inclusive, were as follows:

YEARS.	EXPORTS.	IMPORTS.	NET EXPORTS.
1894	$50,451,265	$13,286,552	$37,164,713
1895	47,295,286	20,211,179	27,084,107
1896	60,541,670	28,777,186	31,764,484
1897	61,946,638	30,533,227	31,413,411
1898	55,105,239	30,927,781	24,177,458
1899	56,655,335	31,120,518	25,534,817
1900	56,712,275	35,256,302	21,455,973
1901	64,285,180	36,386,521	27,898,659
1902	49,732,390	28,232,254	21,500,136

FINANCES. Receipts and expenditures for the years 1895–1903 inclusive:

YEARS.	TOTAL REVENUES.	TOTAL EXPENDIT'R'S.	SURPLUS OR DEFICIT.
1895	$390,373,203	$433,178,426	$ *42,805,223
1896	409,475,408	434,678,654	*25,203,246
1897	430,387,168	448,439,622	*18,052,454
1898	494,333,953	532,381,201	*38,047,247
1899	610,982,004	700,093,564	*89,111,560
1900	669,595,431	590,068,371	79,527,060
1901	587,685,338	509,967,353	77,717,984
1902	562,478,233	471,190,858	91,287,376
1903	560,396,674	506,099,007	54,297,667

Statement of the Secretary of the Treasury of the currency circulation of the United States for the years 1898–1903, June 30 of each year:

FISCAL YEARS.	CIRCULATION PER CAPITA.	AMOUNT IN CIRCULATION.
1898	$24.66	$1,837,859,895
1899	25.00	1,904,071,881
1900	26.94	2,055,150,998
1901	27.98	2,175,387,277
1902	28.43	2,249,390,551
1903	29.42	2,367,692,169

RECIPROCITY AND EUROPEAN RETALIATION. The tariff act of 1890 contained a reciprocity clause to

* Excess of expenditures over receipts.

take effect in July, 1892, which set forth that whenever the President should be satisfied that any country imposed duties or other exactions upon the agricultural or other products of the United States which were discriminative, or unequal, or unreasonable, he should have the power to suspend by proclamation the provisions of the act which related to the free introduction of the commodities named from such countries for such time as he should deem just. This clause was designed to secure reciprocal trade with certain countries, especially with those of South America and Central America. The countries with which reciprocity treaties were concluded prior to June 30, 1892, were Austria-Hungary, Germany, Guatemala, Honduras, Nicaragua, Salvador, British West Indies, Cuba, Porto Rico, San Domingo, Brazil and British Guiana. The tariff act of 1894 discriminated against German beet-sugar. Germany retaliated in October, 1894, by issuing a decree prohibiting the landing of American cattle and dressed meat at the ports of Germany, alleging that such cattle were affected with Texas fever. In December, Germany imposed restrictions on the importation of American canned goods, claiming that the sugar tax of the tariff law of 1894 infringed on the "most-favored-nation" clause of existing treaty stipulations between the two countries. In this Germany did not stand alone, for, in December, 1894, Belgium prohibited the importation of live cattle from the United States, and France and Austria placed such restrictions on the cattle trade as made it practically prohibitive. Dec. 5, 1894, Brazil announced its intention of terminating reciprocity with the United States in January, 1895. So seriously disturbed were the commercial relations of the United States with European countries that a bill was introduced in Congress, in January, 1895, repealing the differential duty of one tenth of a cent a pound on all imported sugars on which an export bounty had been paid; but the bill died with the Congress. Immediately after the enactment of the Wilson tariff law, Spain abrogated the reciprocity agreement of 1891 and ordered custom-house officers in Cuba and Porto Rico to apply the maximum schedule rates, together with "special imposts." The United States minister at Madrid at once sought to secure a reversal of the Spanish policy, and in this he was successful, the Cortes at Madrid approving, January 30th, a bill admitting, to the ports of Cuba and Porto Rico, products from the United States at the minimum schedule rates. The average difference between the maximum and minimum rates being about ten per cent, manufacturers generally in the United States seem to favor a return to the policy of reciprocity which was adopted by Congress in 1890, but abrogated in 1894.

The Venezuelan Imbroglio. A long-standing dispute between Venezuela and Great Britain over their respective boundaries in South America assumed grave proportions in 1895, on account of the interference of the United States. A brief account of the dispute will aid in understanding the reasons for the intervention. In 1810, a large portion of territory between the mouths of the Orinoco and Amazon rivers came into the possession of Venezuela as the successor in title of Spain. In 1814, Holland ceded to Great Britain adjacent territory now known as British Guiana. No treaty had ever definitely fixed the boundary between the Spanish and Dutch possessions in South America. In 1887, the dispute resulted in the breaking of diplomatic relations between England and Venezuela. Supported by a long array of historical facts, Venezuela claimed all the territory west of the Essequibo River; also, supported by historical facts, England claimed territory up to the Pomaron River (some leagues west of the Essequibo). In 1840, Great Britain set up a claim to the entire Atlantic coast as far as the Orinoco delta; in 1844, Great Britain proposed a boundary-line west of the Pomaron River; in 1866, she claimed territory to the bank of the Guiana River; in 1890, she claimed practical control of the Orinoco delta; in 1893, she proposed a boundary-line beginning at the mouth of the Amacuro and running so as to include the upper waters of the Cumaná. The United States viewed the progress of this dispute with anxiety, and as an attempt on the part of Great Britain to acquire additional territory in America in contravention of the Monroe doctrine, and frequently tried to effect a settlement by arbitration. Feb. 20, 1895, at the suggestion of the President, Congress, by joint resolution, recommended to Great Britain and Venezuela the reference of their dispute to friendly arbitration, but Great Britain refused, on the ground, chiefly, that certain territory claimed by Venezuela is recognized as an established portion of the British domain, and cannot be subject to the judgment of arbitrators; and further, that the matter in dispute is between Great Britain and Venezuela, and that the good offices of the United States are not regarded as essential to a settlement of the question. On Dec. 17, 1895, President Cleveland submitted to Congress the correspondence in the case between Great Britain and the United States, accompanied by a special message, in which he said: "If a European power, by an extension of its boundaries, takes possession of the territory of one of our neighboring republics against its will, . . . it is difficult to see why, to that extent, such European power does not thereby attempt to extend its system of government to that portion of this continent which is thus taken. This is the precise action which President Monroe declared to be 'dangerous to our peace and safety.' . . . Having labored faithfully for many years to induce Great Britain to submit this dispute to impartial arbitration, and having been finally apprised of her refusal to do so, nothing remains but to accept the situation, . . . and to deal with it accordingly. . . . It is now incumbent upon the United States to determine . . . what is the true divisional line between the republic of Venezuela and British Guiana. . . . I suggest that the Congress make an adequate appropriation for the expenses of a commission, to be appointed by the executive, who shall make the necessary investigation and report upon the matter with the least possible delay. When such report is made and accepted, it will, in my opinion, be the duty of the United States to resist by every means in

its power . . . the appropriation by Great Britain of any lands . . . which of right belong to Venezuela." In England the publication of the message caused profound agitation and amazement, and aroused no little resentment. In Congress the message was received with approval, and the majority of the press applauded it as American, vigorous, and just. But there were men of influence in and out of Congress who questioned the President's interpretation of the Monroe doctrine, and the wisdom of confronting Great Britain with an implied threat of war before the merits of the dispute were determined. However, Congress appropriated one hundred thousand dollars for the expenses of the commission, and the President appointed as the commission: David J. Brewer, associate justice of the supreme court; Richard H. Alvey, chief justice of the court of appeals, District of Columbia; Andrew D. White, ex-president of Cornell University; Frederick R. Coudert, counsel for the United States in the Bering Sea arbitration; and Daniel C. Gilman, president of Johns Hopkins University. The commission met Jan. 4, 1896, and organized by electing Justice Brewer as president. On January 20th, the commission suggested that Great Britain and Venezuela be invited to present their respective cases and proofs for the consideration of the commission, which suggestion was communicated to the two governments by Secretary Olney. Though not acknowledging the authority of the commission to inquire into the matter in dispute, Lord Salisbury, February 7th, replied that her Majesty's government would readily place at the disposal of the commission documents relating to the boundary question. Counsel for the Venezuelan government appeared before the commission March 6th. In March, 1896, the British and Venezuelan cases were both duly presented to the commission, after which time the commission had the matter under investigation. On Nov. 9, 1896, it was announced by Lord Salisbury, in a speech at the Lord Mayor's banquet, in London, that arbitration was agreed to by England. Later information disclosed the details of the arrangement and showed that the suggestions of Secretary of State Olney in behalf of the United States had been accepted by Great Britain, the latter thus receding from the stand first taken in the beginning of negotiations. Secretary Olney's chief proposition, and the one which afforded Lord Salisbury an opportunity for a graceful withdrawal, was that the right of possession of property in the disputed territory by English citizens, who had had that possession uncontested for fifty years, should not be disputed. This term of years defined the phrase "settled districts." The board of arbitration was to consist of two representatives of Great Britain, two of the United States, and a fifth to be selected by King Oscar II. of Sweden and Norway. Thus the validity of the United States Monroe doctrine was upheld and a new point in international law established, making fifty years' occupation a *bona fide* settlement.

An arbitration treaty embodying the above points was signed at Washington on Feb. 2, 1897, by the Venezuelan minister and the British ambassador; approved by the Venezuelan Congress on April 5, and finally ratified at Washington on June 14. The Boundary Commission appointed by President Cleveland made its formal report on Feb. 27, 1897, and subsequently published four volumes of documents and maps relating to the subject.

THE NATIONAL ELECTION IN 1896. The National Convention of the Republican party was held in St. Louis, Missouri, June 16th–18th. William McKinley, of Ohio, was nominated for President, receiving on the first ballot 661½ votes against a combined total of 240½ for his opponents. Garret A. Hobart, of New Jersey, was nominated for Vice-President, receiving on the first ballot 535½ votes against a combined total of 340½ for his opponents. The platform renewed and emphasized the allegiance of the party to the policy of protection of American industries; demanded the renewal and extension of reciprocity arrangements — which had been repealed during the Cleveland administration — on such terms as would equalize trade with other nations; in short, protection and reciprocity were measures of Republican policy which should go hand in hand. The money plank opposed the coinage of silver dollars upon any ratio to gold not sustained by international agreement, and affirmed that until such agreement could be obtained the existing gold standard should be preserved. The Monroe doctrine was reasserted to its full extent. The ballot on the gold plank was 812½ to 110½.

The Democratic Convention was held in Chicago, Illinois, July 7th–11th. William Jennings Bryan, of Nebraska, was nominated for President, and Arthur Sewall, of Maine, for Vice-President. The platform demanded tariff duties for revenue only, and taxes to be limited to the needs of the government, honestly and economically administered. It denounced interference by Federal authorities in local affairs, and especially "government by injunction" as a new and highly dangerous form of oppression by which Federal judges became at once legislators, judges, and executors. It opposed the issuing of interest-bearing bonds of the United States in times of peace, and demanded the free and unlimited coinage of both silver and gold at the present ratio, 16 to 1, without waiting for the aid or consent of other nations.

The National Prohibition Convention was held in Pittsburg, Pennsylvania, May 27th–28th. Joshua Levering, of Maryland, was nominated for President, and Hale Johnson, of Illinois, for Vice-President. The platform declared solely for prohibition, with a woman-suffrage supplemental resolution attached. The convention by a vote of 427 to 387 rejected a money plank in favor of the free and unlimited coinage of silver in the ratio of 16 to 1.

After the rejection of the free-silver plank by the National Prohibition Convention, some two hundred delegates "bolted" from the convention, reorganized themselves under the name of the National party, and nominated Charles E. Bentley, of Nebraska, for President, and James Haywood Southgate, of North Carolina, for Vice-President. Their platform favored the free coinage of silver.

The Socialist-Labor Party nominated, at New York, July 4th, Charles H. Matchett, of New York, for President, and Matthew Maguire, of New Jersey, for Vice-President.

The People's Party (Populistic) nominated, at St. Louis, Missouri, July 26th, William Jennings Bryan, of Nebraska, for President, and Thomas E. Watson, of Georgia, for Vice-President.

The National Democratic Party nominated, at Indianapolis, September 3d, John McAuley Palmer, of Illinois, for President, and Simon Bolivar Buckner, of Kentucky, for Vice-President.

The election on November 3d resulted in a victory for the Republican Presidential ticket, and the election of a majority in both houses of Congress who were pledged to oppose the free coinage of silver.

The silver agitation continued, however, and a conference of board-of-trade delegates from Chicago, St. Louis, Cincinnati, and other cities, met at Indianapolis on Dec. 1, 1896, and issued a call for a "non-partisan convention" to meet in Indianapolis on Jan. 12, 1897, for the purpose of considering the question of currency reform.

The second session of the 54th Congress opened on Dec. 7, 1896. President Cleveland, in his annual message, referred to the continuance of the warfare in Cuba, and the slight probability of its being brought to an end, and to the consequent injury to American interests in the island; and after rejecting in turn proposed solutions of the question by recognition of belligerency, recognition of independence, offer to purchase the island, or armed intervention, favored a solution by the granting of autonomy by Spain, with guarantees by the United States for Spain's fulfilment of her promises. The message also asserted the duty of the United States, in the interests of humanity, to find some way of ending the fruitless strife with or without Spain's friendly coöperation; and stated that the country would not tolerate the transfer of Cuba by Spain to any other Power. In domestic matters the message recommended the withdrawal of the greenbacks from circulation in exchange for bonds, and the enactment of legislation to remedy the evils of trusts.

On Feb. 22, 1897, those Republicans in Congress who were in favor of the free coinage of silver seceded from the Republican party, and formed themselves into a new party, known as the Silver Republican party, and elected a provisional national committee, with Hon. Charles A. Towne of Minnesota as chairman.

Among the acts passed at this session was one (passed March 3, 1897) authorizing the President, among other things, to appoint special commissioners "to negotiate diplomatically with other countries" for a bimetallic agreement; one abolishing the death penalty in all cases except murder, rape, and treason, and allowing the jury, in cases of murder and rape, to qualify their verdict by adding "without capital punishment"; and one to prohibit the ownership of land in the territories of the United States by aliens, with certain exceptions. A bill to restrict immigration passed both Houses, but was vetoed by the President on March 2, just two days before the expiration of his term of office, a curious illustration of the ultra-monarchical and despotic power vested by the Constitution in the chief magistrate, even four months after his party has been defeated at a general election, and when he himself is officially moribund and has lost the confidence of the people, as declared at the polls. The bill was passed by the House on March 3, over the President's veto, by a vote of 193 to 37, but it could not be acted on by the Senate for lack of time, and consequently failed to become law.

On March 4 President McKinley was inaugurated; and on March 5 he nominated as his cabinet: Secretary of State, John Sherman of Ohio; Secretary of the Treasury, Lyman J. Gage of Illinois; Secretary of War, Russel A. Alger of Michigan; Attorney-General, Joseph McKenna of California; Postmaster-General, James A. Gary of Maryland; Secretary of the Navy, John D. Long of Massachusetts; Secretary of the Interior, Cornelius N. Bliss of New York; Secretary of Agriculture, James Wilson of Iowa.

On March 6 the President issued a call for an extra session of the new (55th) Congress, "to receive such communications as might be made by the executive"; and Congress met accordingly on March 15. Hon. T. B. Reed of Maine was again elected Speaker of the House, the Democrats voting for Hon. Joseph W. Bailey of Texas, and the Populists for Hon. John C. Bell of Colorado. The chief measure passed was the Dingley Tariff Bill (July 24, 1897). A joint resolution appropriated $2,583,000 to relieve the sufferers by the Mississippi floods and to improve the river. A treaty of arbitration between the United States and Britain was signed on Jan. 11, 1897, but was, on May 5, rejected by the Senate on a vote of 52 for the treaty and 31 against, the minority prevailing against the majority, a curious anomaly in a country where the majority is supposed to govern. Congress adjourned on July 24.

Under the act of March 3, 1897, President McKinley, on April 12, appointed Senator E. O. Wolcott of Colorado, Gen. Charles J. Paine of Boston, and ex-Vice-President Adlai E. Stevenson as commissioners to go to Europe for the purpose of bringing about an international bimetallic conference. The commissioners were successful in their appeal to the French Government, and thereupon, on July 12 and 15, held conferences in London with members of the British Government, the chief proposals of the American commissioners being: 1. The reopening of the Indian mints to the free coinage of silver; 2. Holding one-fifth of the reserve in the Bank of England in silver; 3. Raising the legal-tender limit of silver to, say, £10; issuing £1 legal-tender notes based on silver; and retiring the present gold half-sovereigns. The American envoys were informed that no reply could be made to the proposals till the attitude of the Indian Government was known. The reply of that Government, which was strongly adverse to the reopening of the mints, was received in October, and thereupon the British Government courteously but firmly declined to accede to the American proposals, and the envoys returned to America. On Jan. 17, 1898, Senator Wolcott, in a speech in the Senate, gave a full account of the mission, and of its failure.

The second session of the 55th Congress opened Dec. 6, 1897. The President's message recommended the adoption of some measure of currency reform, and requested that careful consideration should be given to the plan of Mr. Gage, Secretary of the Treasury. On December 16, Secretary Gage submitted to the House

committee a draft bill, the chief provisions of which were as follows: 1. The banking operations of the Treasury should be separated from its ordinary ones relating to revenue and expenditure, by means of a Division of Issue and Redemption, which should carry a redemption fund of *(a)* $125,000,000 in gold coin and bullion, and *(b)* sufficient standard silver dollars and bullion to equal the silver certificates and the Treasury notes of 1890 in circulation; this fund to be kept intact, all notes and certificates presented for payment being retained unless paid out for an equivalent amount of the coin in which they were redeemed. 2. The Secretary of the Treasury may redeem any of the five per cent bonds issued prior to 1895 with two and one-half per cent *gold* bonds payable at the option of the government after ten years, thus effecting a saving in interest estimated at $10,000,000 annually. 3. National banks may deposit these two and one-half per cent gold bonds in the Treasury, as security for banknotes in circulation, instead of the five per cent bonds now deposited, and may issue banknotes to the full face value of such gold bonds. 4. National banks may also deposit U. S. notes and certificates sufficient to equal, with the bonds deposited, the bank capital, and may issue banknotes to the amount of the U. S. notes and certificates so deposited, provided the total amount of U. S. notes and certificates so deposited shall not exceed $200,000,000. 5. National banks may also issue banknotes unsecured by any deposit of bonds or U. S. notes or certificates to the extent of 25 per cent of the secured issues, these unsecured notes to be a first lien on all the assets of the issuing bank, and their payment to be also guaranteed by the United States, which is to secure itself by a tax of two per cent on all unsecured notes in circulation. This provision is intended to give flexibility to the circulation, so as to meet temporary and fluctuating demands. 6. National banks are to deposit in the Treasury ten per cent of the total circulation of each bank, such deposits to constitute a general fund for securing the redemption of all banknotes regularly issued. 7. No banknotes for less than $10 each are to be issued; and all notes of lower denominations are to be called in and destroyed. This provision is intended to ensure the general use of silver as subsidiary currency, and thus employ all the silver now owned by the government. 8. National banks with a capital of not less than $25,000 may be established in any place of not more than 2,000 inhabitants. This provision is intended for the special convenience of the people in sparsely settled portions of the country, in moving their crops, etc.

The bill, after being slightly modified in the committee, was reported to the House, but further action was deferred until all the proposed currency measures were ready for consideration together.

In response to the call of the conference held at Indianapolis on Dec. 1, 1896, 270 delegates from trade and commercial organizations of 64 cities and 26 states met at Indianapolis on Jan. 12–13, 1897, and after adopting resolutions in favor of the gold standard, of retiring all classes of United States notes, of separating the revenue and note-issue departments of the Treasury, and of a reform in the banking system, appointed a general committee to further the aims of the convention; and this committee, on Aug. 10, 1897, selected a commission of eleven men, of whom ex-Senator George F. Edmunds was chairman, to make recommendations of whatever changes in our banking and currency laws might be found necessary and expedient. This commission met at Washington on Sept. 22, and after over three months' assiduous labor, published its report on Jan. 3, 1898, making the following recommendations: 1. The creation of a Division of Issue and Redemption; 2. The reserve to be maintained from revenue when adequate, and by sale of bonds when necessary; the proceeds thereof to be used for that purpose, and no other; 3. Notes to be cancelled as paid, up to the amount of $50,000,000; the cancellation thereafter for five years not to exceed the increase of banknotes. After five years the notes paid to be retired at a rate not exceeding 20 per cent per annum of the amount then outstanding; at the end of ten years the legal-tender quality of the notes then outstanding to cease; 4. No note, once paid, to be reissued except in exchange for gold; provided that redeemed and uncancelled notes, if excessive in amount, may be used to purchase United States bonds. As regards banking the recommendations of the commission were: 1. A national system with improved regulations as to examination, supervision, etc.; 2. The issues to be based upon those readily convertible assets which represent the exchangeable wealth of the country in its natural products and manufactured goods; 3. A limitation of the amount of the issues to the unimpaired capital of the issuing bank; 4. A further security in a common guarantee fund; 5. The continuance of the present redemption fund and method of redemption, with the extension of the places of redemption under the approval of the Secretary of the Treasury; 6. A further security in the liability of the shareholders to the full amount of the par of their shares; 7. Banks with $25,000 capital to be allowed in places of less than 4,000 inhabitants; also branch banks to be permitted. The commission further proposed that the reserve in the Division of Issue and Redemption be maintained in gold coin and bullion at 25 per cent of both United States notes and Treasury notes of 1890 outstanding, besides five per cent of the amount of the coinage of silver dollars; this reserve to be maintained, when necessary, by the sale of three per cent gold bonds. Another convention, composed of 450 delegates, met at Indianapolis on Jan. 20–26, 1898, approved unanimously of the foregoing report, and reappointed the executive committee to carry on the work for currency reform.

About the same date, namely, on Jan. 20, 1898, Senator Teller introduced a resolution in the Senate that all United States bonds are payable, at the option of the Government of the United States, in silver dollars. On Jan. 27 President McKinley declared that the United States would pay all its obligations in the currency recognized as the best throughout the civilized world. On the following day the Senate adopted the Teller resolution by a vote of 47 to 32; but, three days later, the House, by a vote of 182 to 132, refused to concur.

THE WAR WITH SPAIN. The year 1898 marks an epoch in the history, not alone of the United States, but of the world. From causes apparently trivial have developed consequences the end of which cannot be even outlined. The treatment by Spain of her colonial possession of Cuba, her course of petty annoyances practised rather than intentionally directed against United States commerce; and the feeling of irritation against the Spanish nation, engendered in the hearts of the American people by these blows at her sympathies and her interests, have wrought changes in the map of the world, and in the relations of its nations, that far transcend the apparent importance of their initial impulses. The prominent features of the struggle of Cuba for its independence are not properly a part of this brief history of the United States except as related to it.

The daily expressions in the American press of sympathy with the Cuban cause, and recurring efforts in Congress to commit the United States to a more active manifestation of this feeling, had their reflection in the temper of the Spanish people. The passage by the United States Senate, on Feb. 28, 1896, of a resolution favoring the recognition of Cuban belligerent rights, aroused the Spaniards to riotous demonstrations against the American people in Madrid, Valencia, and other cities, and even to attacks upon the United States consulates in Barcelona and Bilbao. The Spanish government promptly disavowed the acts of the mobs; yet, while friendly relations were not severed, it also proceeded to inaugurate a policy of naval activity which was apparently directed against American commerce in anticipation of the outbreak of war. Strong intimations were also given by the Spanish government that the recognition of Cuban belligerency by the United States would be met by appeals to the European Powers, concerning whose favorable attitude toward the upholding of Spanish dominion in Cuba there seemed little doubt.

Meanwhile the course of the United States lay strictly within the lines of international obligation. So closely had these lines been adhered to that, in a speech on the resolution of February 28, mentioned above, Senator Morgan asked: "Why is it that every time an outbreak has occurred in Cuba, the first thing which has been done by the President of the United States was to issue a most radical proclamation, warning our people and forbidding them in the strongest possible manner from going into the island of Cuba and from violating our laws intended to prevent them from doing so? . . . We have stood here as . . . an outline of defense of the monarchy of Spain . . . for very nearly a century, during which time five great insurrections or revolts have occurred in Cuba." Such an emphatic proclamation was issued by President Cleveland on the 30th of July, 1896. The restrictions of these laws and proclamations held enchained the law-abiding American people, and restrained them, as a nation, from lending the vigorous aid which their individual sympathies for an oppressed people would have gladly extended. But, backed by Cuban funds, several expeditions left American ports with men and munitions of war, some of which were safely landed on Cuban soil, while still others came to grief by shipwreck, or by capture by Spanish or American vessels. In the last-named event the offenders were brought to trial, and, despite sympathetic juries, several were convicted and punished, thus upholding the law. In the Spanish view, however, the United States were guilty of aiding and abetting the insurgents, and a condition of friction was maintained between the two countries that the cloak of friendly diplomacy vainly pretended to conceal. This condition was pointed out by President Cleveland in his message to Congress of Dec. 7, 1896, in which he thus spoke of the demands made by the American people for some measures by which the Cuban question could be definitely settled:

"It was at first proposed that belligerent rights should be accorded to the insurgents,—a proposition no longer urged because untimely, and, in practical operation, . . . injurious to our own interests. It has since been . . . contended that the independence of the insurgents should be recognized. But, imperfect . . . as the Spanish government of the island may be, no other [capable of recognition] exists there. . . . It is also suggested that the United States should buy the island,—a suggestion possibly worthy of consideration [if Spain desired to sell]. It is urged finally that, all other methods failing, the existing internecine strife in Cuba should be terminated by our intervention, even at the cost of a war between the United States and Spain." Further declaring the United States policy as an adherence to "right, not might," as a policy of peace and abstention from territorial greed, the President's message proceeded: "It would seem that if Spain should offer to Cuba genuine autonomy,—a measure of home rule which, while preserving the sovereignty of Spain, would satisfy all rational requirements of the Spanish subjects,—there should be no just reason why the pacification of the island might not be effected on that basis." To this was added a suggestion that, inasmuch as the Cubans would decline to lay down their arms upon Spain's mere promise to grant such autonomy, the United States would endeavor to furnish guarantees, in a manner inoffensive to Spain, that the proposed plan would be faithfully carried out. The message then proceeded with the clear warning to Spain, and indirectly to all the world, that the United States would brook no acquisition of the island, or interference with its affairs, by any other Power; that they would not long continue in an expectant attitude; and that when Spain had demonstrated her inability to cope with the situation the American people would hardly hesitate to recognize and discharge the higher obligations presented to them.

The tone of the message was unmistakable, but its language was dignified, and withal so couched as to moderate the Spanish indignation at the first reading of its telegraphed words. Subsequent discussions of the subject in Congress were vigorous, and resolutions were introduced looking to the recognition of the Cuban Republic and the expulsion of Spanish dominion from the Western hemisphere. A clash

between the Executive and Congress, as to their respective powers in the matter, brought all hope of positive action to naught.

On the 4th of February, 1897, the scheme of Cuban autonomy was promulgated at Madrid and the decree signed by the Queen Regent. On the 20th of April the plan went into operation.

Meanwhile, in the United States, William McKinley, of Canton, Ohio, was inaugurated President on the 4th of March. An important event was his early decision to retain Gen. Fitzhugh Lee as Consul-General at Havana. Under the former administration General Lee was reported to have felt some irritation at a lack of government support when he found it necessary to make strong representations to the Spanish authorities in Cuba, and rumors of his intended resignation had been circulated. Lee's retention was cordially approved in all sections of the country, the people recognizing in the former Confederate general a strong and patriotic American, well calculated to uphold American honor and dignity under trying circumstances. The appointment of Gen. Stewart L. Woodford as Minister to Spain was also regarded favorably, and the opinions formed at this time, in regard to both representatives, were afterwards fully justified by the results. General Woodford presented his credentials at Madrid on the 13th of September, and one of his first acts (on September 23) was to present a note to the Spanish government declaratory of the President's desire for the maintenance of friendly relations, but at the same time warning Spain that American patience was well-nigh exhausted, and that unless the Cuban question could be satisfactorily settled before November, the belligerent rights of the insurgents would be recognized, and steps taken for the protection of American interests. The note further proffered the good offices of the United States government to bring about a settlement. Spanish diplomacy has always been celebrated for its policy of delay, but it was not unreasonable that Sagasta's ministry should at this juncture ask for time in which to test the new scheme of autonomy.

In the United States Congress a message from the President was received on May 17, asking for an appropriation of $50,000 for the relief of suffering Americans in Cuba. The Senate promptly passed a resolution in accordance therewith; but an attempt in the House to introduce into the measure a recognition of Cuban belligerency delayed its passage for a few days. It was finally passed, and was signed by the President on the 24th. The debate in the House clearly revealed the temper of Congress and the desire among many members for immediate and vigorous interference between Spain and her insurgent colony.

Diplomacy still continued to handle the many questions arising from the strained relations between the two countries, and Congress formulated demands upon Spain for the liberation and other relief of alleged filibusters and others who had been captured by the Spanish forces. On the 18th of November the prisoners of the *Competitor* were released. But the specific demands of the United States government, formulated in the note presented by General Woodford,—the acceptance of the offer of mediation, and positive guarantees that the strife in Cuba should speedily end,—were not complied with. The recall of General Weyler, and the appointment of Marshal Blanco as governor-general, with offers of amnesty to the insurgents and new schemes of autonomy, awakened hope of an improved condition of affairs. But toward the end of the year an article by Mr. Hannis Taylor, formerly American Minister at Madrid, which appeared in the *North American Review* and advocated the bringing to bear upon Spain of the strongest moral pressure, backed by a plain intimation that the United States would, in the event of failure, not hesitate to proceed in her own manner, kept alive and even fanned the flame of unrest which now dominated nearly every American heart. This feeling was strongly expressed in the political platforms of both great parties.

The year 1898 opened with public feeling on both sides in a high state of tension. The North Atlantic squadron of the United States navy rendezvoused at the Dry Tortugas. The American press was filled with accounts of the horrors of reconcentration in Cuba, where the wretched *pacificos* were dying by hundreds of sheer starvation, and many others were massacred on various pretexts by the Spanish troops or were executed under the guise of judicial condemnation. Outbreaks (largely incited by the Spanish Volunteers) occurred in Havana, where such demonstrations were made against General Lee and Americans generally that it became necessary for Spanish troops to guard the consulate. Under these circumstances the American government despatched the battleship *Maine* to Havana, but with an open declaration that in so doing it was only actuated by a desire to indicate "the resumption of friendly naval relations with Spain,"—such exchange of courtesies having for some time been interrupted.

The Spanish government promptly acquiesced in this view of the movement and ordered the first-class armored cruiser *Vizcaya* to proceed to New York on a like visit of courtesy. The *Maine* arrived at Havana on the 25th of January. On the 8th of February the Cuban Junta made public a letter which had been written by Señor Dupuy de Lome, Spanish Minister at Washington, to his friend José Canalejas, at Havana, and which had been stolen from the latter with a view to making political capital thereof. This letter, while discussing political events in Cuba with great freedom, and revealing some insincerity of dealing, was extremely offensive to the American people by reason of the coarse terms applied therein to President McKinley. On realizing the situation Señor De Lome resigned, and his resignation was promptly accepted by the Spanish government, so as to save the ignominy of his dismissal on the demand of Minister Woodford. On the 14th of February Señor Luis Polo y Bernabé was accredited to Washington, the Spanish government duly expressing its regret at the incident.

The morning of the 16th of February brought a stunning blow to the people of the United States. The previous evening, at 9:40, the *Maine*, peacefully lying at anchor at a spot in Havana harbor, to which she had been guided by a regular pilot, blew up with

an explosion which shook the city. The vessel was completely destroyed, and 266 of her crew perished. Many others were seriously injured. This was the last straw. The immediate and natural assumption of Spanish treachery (the justification or disproval of which belief is as yet, and probably will forever remain, an unsolved mystery) roused the American people to the fighting stage. Diplomacy still pursued its course, and Congress awaited the verdict of the board of naval inquiry, which was immediately appointed (February 17), with a patience which was barely reflected in the temper of individual opinion. Still, every disposition to comply with the formalities and the spirit of justice was shown, and for four weeks the country suspended its judgment — outwardly at least. Spain repudiated complicity in the affair and expressed its regret on the 16th; and on the 18th the *Vizcaya* (her commander and crew ignorant of what had happened) entered New York harbor, where she lay until the 25th, at which date she sailed for Havana. During her stay she was constantly guarded by police boats against any fanatical attack or reprisal, and every courtesy consistent with the circumstances was shown to her.

The Spanish government sought to have a joint investigation of the causes of the *Maine* explosion, but this was not acceded to by the United States, nor was a proposal to submit the question of responsibility for the disaster to arbitration listened to. The question of intervention in Cuba was the subject of many debates in Congress, but little of a practical nature was done until after the report of the board of inquiry. There was, however, a constant demand for information concerning both intervention and the *Maine* affair,— a demand which the President could not always satisfy.

Meanwhile, at the instigation of the President, and moved by tales of the horrors of famine and disease in Cuba, the American people raised a fund of over $200,000 in money and supplies, which was forwarded to Cuba, and was distributed largely by the American National Red Cross Society under the supervision of Miss Clara Barton, its founder, first president, and active worker. The fact that some of this relief was shipped on naval or other government vessels raised a protest from Spain, which also (March 5) demanded the recall of General Lee from Havana. This request was promptly denied by the United States, and it was later withdrawn.

Spain's purchases of ships and naval activity generally foreshadowed a corresponding movement in America. On the 7th of March a bill was introduced in the House of Representatives appropriating $50,000,000 for the national defense. The bill was promptly passed on the following day, and on the 9th it passed the Senate and was signed by the President. Immediate preparations were at once made, under the President's personal supervision, for strengthening the coast defenses (including the submarine mining of the principal harbors), purchasing ships, arms, and ammunition at home and abroad, and increasing the army. In fact much activity had been displayed in this regard before the appropriation, but with the passage of this measure the preparations for actual conditions of war made apparent its near approach. The Navy Department, in addition to purchasing abroad, made provision for three new battleships and a number of torpedo boats and torpedo-boat destroyers. A naval board was appointed for the inspection, purchase, or charter of auxiliary vessels, and a large fleet of yachts and tugs was added to the regular naval force. The large transatlantic steamships *Paris* (renamed the *Yale*), *New York* (the *Harvard*), *St. Paul*, and *St. Louis* were chartered under the special provisions attending their American registry and mail-carrying subsidies, and during the war they did valuable service in scouting, cable cutting, transportation of troops, etc. A flying squadron, under the command of Commodore W. S. Schley, was formed at Hampton Roads, the squadron including the *Brooklyn* (flagship), the *Texas*, *Massachusetts*, *Minneapolis*, and *Columbia*. On the 11th of March the War Department began vigorous measures of army mobilization. The Department of the Gulf was created, with headquarters at Atlanta, Ga., and a southward movement of troops was begun, military centers being established at Tampa, New Orleans, and Mobile. On the 19th the battleship *Oregon* sailed from San Francisco on her long voyage around Cape Horn to join the Atlantic squadron,— a voyage of extraordinary interest from its length, sustained speed, naval importance, and the zeal displayed by her officers and crew. History presents no similar record. On the 14th of March the ships of the Spanish squadron under Admiral Cervera sailed from Cadiz, their avowed destination being Porto Rico, at which island they were to report to General Blanco. They made a rendezvous (April 2) at the harbor of St. Vincent, Cape Verde Islands, where they remained until notified, on the 29th of April, of Portugal's attitude of neutrality.

The United States Congress was thrilled at this time (March 14) by the recital, by Senator Proctor of Vermont, of tales of horrors that he had witnessed in Cuba, and later (March 24) by a similar story from Senator Thurston of Nebraska, terribly convincing. The completion of the report of the *Maine* board of inquiry on the 19th kept the nation agog until the transmission of the report to Congress by the President on the 28th revealed its verdict and gave to the expectant people the information it had so patiently awaited. The finding that the explosion was caused by an external influence, without, however, definitely stating what that influence was or how it was set in motion, though leaving little room for doubt, still further steeled the nation's heart to adhere to its resolve to put an end to the barbarities at its threshold. But while it had become generally recognized that war was inevitable, delay was of vital importance to the United States. Immediately on the declaration of war the expected announcements of neutrality by other Powers would operate to bar the further purchase of munitions of war and the shipment of those already acquired. The negotiations for such purchases and shipments were therefore hurried forward as fast as possible. The new cruiser *New Orleans* (formerly the *Amazonas*),

purchased in England from Brazil, sailed from London for America, accompanied by the *San Francisco*, on the 27th. Later (April 9) the cruiser *Topeka* and the torpedo-boat *Somers* sailed from England, but on account of disasters to the latter she was ultimately left behind, the neutrality regulations having meanwhile become operative. The unfinished cruiser *Albany* was also thus belated.

The Spanish report of the *Maine* explosion, made to the government at Madrid on the 26th of March, herd that it was scientifically and practically demonstrated that the explosion was internal.

On the 26th of March President McKinley announced his intention of asking Congress for an appropriation of $500,000 for the relief of the Cuban reconcentrados, and the Spanish government promptly agreed to interpose no obstacles to the sending of such relief. Every effort was made by the United States government to avoid anything that would lead to open rupture, and for several days, both in America and in Spain, statements were given out that the prospects for peace were improving. The work of preparation for probable war progressed unceasingly, however; enlistments in the army and navy went on under relaxations of the ordinary strict rules; and notice was given to the national guard and naval reserve to be prepared for a call. The end of March found the fleet at Key West, under Sampson, stripping for action; Schley awaiting orders at Hampton Roads; harbors mined and shore defenses manned; patrol boats scouting along the coast; and an anxious but determined and patriotic people waiting eagerly for further developments.

In Europe the prospects of war caused a decline in Spanish bonds, which fell steadily, with but few and unimportant rallies, till the disastrous outcome of the war rendered their value merely speculative and nominal. The attitude of the European Powers was long in doubt, and for a while it was uncertain whether the opening of hostilities might not involve a general war. Spain sought the influence of the Pope and the active support of both Austria and Germany. The last-named Power appeared to be the most friendly disposed toward the Spaniards, and at one time, in subsequent events at Manila, it seemed as if German sympathy might assume an active form. The German government, however, has throughout assured the United States of its consistent neutrality. The attitude of England at this juncture was a revelation to those in America who, from ill-digested study of the history of the Revolutionary period, and a superficial reading of a biased press, had come to see in England only an hereditary foe, blind to everything but her own commercial interests, and especially bitter and hostile toward the United States. Whatever may have been the moving impulse, the position taken by the English government, press, and people was generally one of the warmest sympathy and support, and it is said that diplomatic history could reveal the manner in which England's firm attitude throughout the war and its events withheld the other Powers of Europe from interference. Early in April the Pope made a final appeal to Spain, urging her to grant an armistice to the Cuban insurgents, and it is said that the European Powers also brought pressure to bear in the same direction.

The United States consuls in Cuba were recalled on the 5th, and they quitted their posts and embarked for home, with as many refugees as sought shelter or who could be accommodated with passage, in the next few days, General Lee leaving on the 9th. On the 7th President McKinley was visited by the Ministers of Great Britain, France, Germany, Austria, Russia, and Italy, who presented a joint note appealing "to the feelings of humanity and moderation of the President and of the American people," and hoping that further negotiations would "lead to an agreement which, while securing the maintenance of peace, [would] afford all necessary guarantees for the rcëstablishment of order in Cuba." In his reply the President, stating his appreciation of the action of the Powers, expressed his confidence "that equal appreciation [would] be shown for its own earnest and unselfish endeavors to fulfill a duty to humanity by ending a situation the indefinite prolongation of which has become insufferable." On the same date Señor Gullon, Spanish Minister of Foreign Affairs, replying to a similar joint note from the Powers, said that Spain had reached "the limit of international policy in the direction of conceding the demands and allowing the pretensions of the United States." On the 9th the Spanish government decided to suspend hostilities in Cuba, but this step was already too late. On the 11th of April President McKinley sent his message to Congress, which had been withheld for a week in the hope of an amelioration of the situation.

The message reviewed Cuban history, and pointed out that "the present revolution is but the successor of other similar insurrections . . . extending over a period of nearly half a century, each of which, during its progress, has subjected the United States to great effort and expense in enforcing its neutrality laws, caused enormous losses to American trade and commerce, . . . and, by the exercise of cruel, barbarous, and uncivilized practices of warfare, shocked the sensibilities and offended the humane sympathies of our people." It specifically disclaimed the idea of American annexation of the island, and set forth the reasons for the inexpediency of recognizing the Cuban republic: that such recognition is "not necessary in order to enable the United States to intervene and pacify the island;" that it would tend to "subject us to embarrassing conditions of international obligation toward the organization so recognized;" and that, when "there is within the island a government capable of performing the duties and discharging the functions of a separate nation, . . . such government can be promptly and readily recognized, and the relations and interests of the United States with such nation adjusted."

The message took up the question of forcible intervention to stop the war, and justified such action because of the barbarities practised in its conduct; because these horrors lay "right at our door;" because American citizens in Cuba were entitled to protection; because of the injury to American commerce, and the devastation of the island; and because of the constant menace to peace and the enormous expense

of restraining filibusters, and of keeping "on a semi-war footing with a nation with which we are at peace." After reviewing the case of the *Maine* and referring to the utterances of his predecessors as to the ultimate necessity of intervention, the President continued: "The long trial has proved that the object for which Spain has waged the war cannot be attained. The fire of insurrection . . . cannot be extinguished by present methods. The only hope of relief and repose from a condition which can no longer be endured is the enforced pacification of Cuba. In the name of humanity, in the name of civilization, in behalf of endangered American interests, which give us the right and the duty to speak and to act, the war in Cuba must stop. In view of these facts . . . I ask the Congress to authorize . . . the President to take measures to secure a full and final termination of hostilities; . . . and to secure . . . the establishment of a stable government capable of maintaining order and observing its international obligations, ensuring peace and tranquillity and the security of its citizens as well as our own; and to use the military and naval forces of the United States as may be necessary for these purposes." Recommending the continued distribution of relief to the starving Cubans, the President concluded: "The issue is now with Congress. . . . Prepared to execute every obligation imposed upon me by the Constitution and the law, I await your action."

The message was referred in both Houses to their respective committees on foreign affairs. A conference committee of the Senate and House agreed to report the Senate resolutions, which, after rehearsing the Spanish atrocities and the destruction of the *Maine*, declared "that the people of Cuba are, and of right ought to be, free and independent; that . . . the government of the United States" demands "that the government of Spain at once relinquish its authority . . . in Cuba and withdraw its land and naval forces from Cuba and Cuban waters; that the President of the United States be . . . empowered to use the entire land and naval forces . . . and to call into actual service the militia of the several States; that the United States hereby disclaims any . . . intention to exercise sovereignty . . . over said island, except for the pacification thereof, and asserts its determination, when that is accomplished, to leave the government and control of the island to its people." These resolutions were passed by both Houses on the 19th of April, and on the following day they were signed by the President, and the ultimatum was cabled to Minister Woodford at Madrid. A copy was served on the Spanish Minister at Washington, who immediately asked for and received his passports and started for Canada. The following day (the 21st) General Woodford, while preparing to present the ultimatum and to give the three days' grace within which to comply with its demands, was presented with his passports. He turned over the embassy to the British Minister, and left for Paris. Meanwhile (on the 20th) the Spanish Cortes convened, and the Queen addressed it in a warlike speech.

Immediately after the first act of war (for so, by act of Congress of April 25th, it was determined to consider the rupture of diplomatic relations), the United States government declared its intention to blockade Cuban ports, and ordered Admiral Sampson, at Key West, to sail on that errand. The fleet moved in the early morning of the 22d, and before night Havana was blockaded, and the first prize of the war — a Spanish merchant steamer — had been captured by the *Nashville*.

On the 21st Great Britain notified Spain that coal was contraband of war, — an important decision, and one affecting Spain more unfavorably than the United States. The following day the President's proclamation notified the Powers that a state of war existed, and on the 24th Spain made a similar announcement. Great Britain took the lead in declaring her neutrality, the other Powers, with the exception of Germany, following her example in quick succession.

On the 22d of April Congress passed an act providing for the Federal enlistment of State troops, and on the following day the President issued a call thereunder for 125,000 volunteers to serve for two years, unless sooner discharged. The response was made with alacrity; the quotas of the States were quickly filled; and the numbers presenting themselves for enlistment were so largely in excess of the call that the recruiting officers were able to enforce the rules relative to physical condition, and thus to collect one of the finest bodies of men for military service ever put into the field. Owing to the constitution of the State organizations there was difficulty in some cases regarding the breaking up of State regiments and the reënlistment of their members as individuals in the Federal service. The few cases of refusal thus to enlist, however, were to be attributed solely to principle and not to unwillingness to serve. Defects of organization, transportation, and commissariat, which later aroused discussion, may fairly be attributed to the long period of peace which the country had enjoyed, and the consequent unfamiliarity with practical details thus engendered. A month later (May 25th) a second call, for 75,000 men, was issued, unlimited as to previous military training.

Both regular and volunteer troops were now pouring toward the Southern and Eastern camps and points of embarkation. A vast national camp was formed at Chickamauga Park, on the site of the bloody conflict of the Civil War, significant of a reunited people. This was known as Camp Thomas, and other large camps were named Alger (Virginia), Meade (Pennsylvania), Wheeler and Shipp (Alabama), Hamilton (Kentucky), Cuba Libre and Rodgers (Florida), Poland (Tennessee), and Merritt (California). At the close of the war the returned troops were largely sent to Camp Wikoff, Montauk, L. I. (of which mention is made later). State camps for the concentration of the militia and volunteers were also formed, Camp Black, at Hempstead, L. I., being one of the most important.

Apart from the State militia, one organization deserves special mention. This was the irregular cavalry corps known as the Rough Riders. Composed of the best and most daring riders of the country, — cowboys, and others whose business or

sports gave them constant practice in the saddle and in open-air life, as well as the utmost facility in the use of weapons,—this corps, which before Santiago did such gallant service on foot, was looked upon as one of the most distinctively American features of the war, and it was confidently expected to accomplish great results if the war should be fought principally on land. Recruited principally in the West, but with a good representation from the East,—a representation which included men of college and business training,—two of the three regiments were commanded by representative Western men, Cols. J. L. Torrey and Melvin Grigsby. The third regiment was commanded by Col. Leonard Wood, and its lieutenant-colonel and the leading spirit in its organization was Theodore Roosevelt, who later, on Colonel Wood's promotion, became its colonel. The Rough Riders' work appears later on.

While military preparations were thus going on at home, and the navy entered upon the weeks of weary blockading which were enlivened with little more than captures of merchantmen ignorantly or wilfully attempting to enter Cuban ports, the first serious blow of the war was to be struck many thousand miles away, in a region where American interests had been largely overshadowed by those of other nations. At the time of the outbreak of war, the Asiatic squadron, under command of Commodore Dewey, was awaiting orders at Hong Kong. On the 25th of April, Dewey was ordered (on account of neutrality obligations) to seek another port. He proceeded, via Mirs Bay, toward Manila, entering the bay on the 1st of May, destroying the Spanish fleet, and so commanding the city that its capture at a later date was rendered a comparatively easy task. This was the first step in the establishment of American influence in the far east. How far-reaching and important it may prove is still a matter of anxious conjecture.

The news of this victory aroused the wildest enthusiasm in the United States, and it had a powerful influence on Spanish strategy, inducing in the Spanish ministry, besides despair over the loss, an irresolution in action which did much to bring about the final results of the war. It revealed to the American people the state of decay and inefficiency into which the Spanish navy had fallen, and it likewise displayed the opposite qualities of their own navy,—the highest degree of expertness in gunnery, mechanical seamanship, and naval tactics,—developed by long training and devotion to duty.

On the 26th of April the President issued a proclamation announcing the intention of the United States, although not bound so to do, to adhere to the provisions of the Declaration of Paris in regard to privateering, blockades, and neutral ships and cargoes. The Spanish government gave its adhesion to the principles applicable to neutral rights and blockades, but declared its intention to reserve its privileges, as a non-signatory Power, in the matter of privateering. In the ensuing war this latter question, however, never arose.

On the 27th the first shot by the blockading squadron on the Cuban coast was fired by the *New York* at Matanzas, the object of the brief bombardment being to stop the erection of batteries at that point. The fortifications were destroyed. Several minor affairs of this nature occurred at points along the coast, and shots were exchanged with Havana; but, with exceptions that will be noted, such affairs amounted to little more than target practice for the American ships, yet they served to keep in check any considerable fortifying of the shores of Cuba by the Spanish troops.

Great interest was felt in the United States in, and some anxiety was caused by, the movements, actual or reported, of the Spanish fleet commanded by Admiral Cervera, which had sailed from Cadiz on the 14th of March, ostensibly for the Canary Islands. On the 2d of April this fleet arrived at the Cape Verde Islands, a Portuguese possession, and here it lay idle for several weeks, infringing Portuguese neutrality. The uncertain quality of this fleet in strength and fighting ability, coupled with the fact that the torpedo boats which formed a part of Cervera's force were a comparatively untried and hence dreaded weapon of offense, caused some uneasiness to those who were directing American naval affairs. The coast-patrol fleets were kept constantly on the watch, scouting up and down the coast and out to sea. The Atlantic harbors that were protected by mines were kept strictly closed between sunset and sunrise, and vessels attempting to enter at forbidden hours or by prohibited channels were fired at. Rumors of cannonading at sea, and of prowling ships within striking distance of the coast, sent the scouts on many bootless errands. The crews of the fleets chafed under the inactivity imposed on them by the necessity of holding in reserve a force capable of meeting the uncertain but expected maritime foe. This anxiety and uncertainty was in no way allayed when, on the 29th of April, Admiral Cervera was compelled by the Portuguese authorities to put to sea, and he headed for the West Indies. At such times there is nothing more disquieting than uncertainty, and uncertainty shrouded the movements of Cervera's fleet. About this time the *Oregon* and her consort, the *Marietta*, arrived at Rio Janeiro on their long voyage from the Pacific coast, and renewed anxiety was felt lest they might be intercepted by Cervera and destroyed by force of numbers before reaching the protection of Sampson's squadron, but no such thing befell.

The 11th of May witnessed an engagement between the Spanish batteries and gunboats at Cardenas, in which the first officer killed in the war (Ensign Worth Bagley) met his death with four of his men. War began to seem real. The same day, at Cienfuegos, on the south side of the island, the *Marblehead*, *Nashville*, and *Windom* were engaged in the task of grappling for, raising, and cutting the telegraph cable connecting Havana with Santiago, and another between Cienfuegos and Batabano. The Spaniards on shore were prepared to defend these vital communications, having entrenched themselves and mounted rapid-fire guns. The work of cable-cutting had to be carried on in small boats, which were covered by the ships off shore, and further in by steam launches provided with machine guns. The

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Spaniards maintained a constant and harassing fire upon the boats, the crews of which succeeded, nevertheless, in cutting both cables, each in two places, taking out the pieces, so that repair, under the circumstances, should be impossible. A third and smaller local cable was also cut, and with the accomplishment of this task the boats withdrew, in the belief that communication between Governor-General Blanco and the Madrid government had been entirely destroyed. This, however, proved to be an error. One man killed and several wounded was the American loss; the Spaniards suffered heavily.

On the 11th of May, also, Admiral Cervera's fleet was reported in the vicinity of Martinique. Immediately (May 12) the waiting squadron of Commodore Schley put to sea from Hampton Roads to locate the enemy and give him battle. With the naval force of Spain in the East already destroyed, and the knowledge that the third fleet—that of Admiral Camara, supposed to be fitting out at Cadiz — was mostly composed of inferior vessels, the importance of intercepting Cervera before he could reach a base of operations in a Cuban port, or coöperate with Blanco at Havana, could not be overrated.

Meanwhile Admiral Sampson had sailed from Key West on the 3d of May, on a cruise to the eastward, for the purpose of locating and engaging Cervera's fleet, which it was suspected might rendezvous at San Juan, Porto Rico. Finding that the Spanish fleet had not arrived at that port, the admiral bombarded the forts for three hours, but without any intention of capturing the city. Want of space forbids a detailed account, though full of interest. The American loss was trifling, while that of the Spaniards and the damage to the fortifications were considerable.

Admiral Cervera had by this time (the 12th) reached Martinique, where, however, he was unable, by reason of the neutrality of France, to procure the supplies he needed. Proceeding to the Dutch port of Curaçao, he found similar difficulties in the way, and it became necessary for him to make port in one of the Spanish West India Islands. To do this he had to evade Sampson's and Schley's squadrons, besides the host of scouting, despatch, and newspaper vessels which were constantly traversing the Caribbean Sea, the North Atlantic, and the Gulf of Mexico. But, notwithstanding American vigilance, the Spanish admiral succeeded, on the 19th, in slipping into the harbor of Santiago de Cuba, where he anchored in the upper reaches of the bay, only to come forth to his destruction on the 3d of July.

On the 12th of May an attempt by a detachment of regular troops, aided by some Cuban scouts, to land a supply of arms for the Cuban insurgents at Cabanas, Pinar del Rio, from the steamer *Gussie*, failed, largely by reason of the publicity given to the scheme by an overzealous press, an evil subsequently, and on this account, mitigated by the establishment of a censorship. Later in the month (May 21) a stronger expedition on the steamer *Florida*, consisting mainly of Cubans under General Lacret, succeeded in landing a large amount of provisions and military stores at Point Banes.

Meanwhile, at Manila, Commodore Dewey (who had been promoted to the rank of rear-admiral) had maintained a strict blockade of the city, but with the limited force at his disposal he was unable to do more. Bombardment, without land forces to assist in the capture and subsequent holding of the place, would have wasted ammunition, wrought useless destruction, and accomplished no decisive or useful results. It became necessary to send out a strong military force under convoy of vessels which could also reinforce Dewey's squadron. Accordingly Gen. Wesley Merritt was appointed military governor of the Philippine Islands, and was ordered to hurry forward troops as fast as possible. On the 25th of May the first expedition, under the command of Gen. T. H. Anderson, and consisting of three transports carrying 2,500 men, sailed from San Francisco for Manila. On the 15th of June the second Manila expedition, consisting of four transports carrying 4,200 men, under Gen. Francis V. Greene, sailed from San Francisco; and a third, of five transports, with 5,000 men, under General Merritt, left on the 27th.

In due time (viz., June 30, July 19 and 25) these expeditions reached Manila, and proceeded to the reduction of the place, effecting its capture on the 13th of August. And thus the second step was taken in establishing our government in the East.

Naval assistance had also been sent to Admiral Dewey; the *Charleston*, which sailed from San Francisco on the 21st of May, arrived out with the first convoy of transports, having stopped on the passage to take possession of the island of Guam, one of the Ladrone Islands, which was accomplished under ludicrous circumstances on the 20th. Not only was there no resistance, but the bombardment was actually mistaken for a salute. The *Monterey*, *Monadnock*, *Mohican*, and *Newport* were also sent to the Philippines.

The *Oregon*, which made so marvellous a run from San Francisco around Cape Horn, her commander not knowing when or where he might meet a fatally superior Spanish fleet or lurking torpedo-boats, reached Jupiter Inlet, Fla., on the 24th of May, and speedily joined the blockading and hunting fleet off the Cuban coast.

About the 23d of May it was rumored that Admiral Cervera had entered Santiago harbor, but definite information was not attainable until the 29th, when Commodore Schley reported the fleet in the bay. The narrow entrance to the harbor rendered it an easy task to blockade the ships and effectually to prevent their escape by stealth; but the same circumstances, combined with the natural and artificial fortifications, also prevented the American fleet from entering the bay to give battle to the Spanish ships or to capture the city. On the 31st of May the *Massachusetts*, *Iowa*, and *New Orleans* moved inshore and engaged the land batteries and the Spanish flagship. A sharp exchange of fire took place, sufficient to develop the fact that the task of reducing the fortifications and capturing the fleet would be almost too difficult to be undertaken. The same night two Spanish torpedo-boats ran out of the harbor and made for the *Texas*, but they were easily repulsed by that ship's quick-firing guns. The following day (June 1st) Admiral Sampson joined forces

with Schley, and, assuming command of the united fleets, maintained a close investment of the harbor. Not satisfied with this, he still further attempted to keep Cervera within the bay by sinking the collier *Merrimac* in the channel, which was accomplished under the leadership of Lieut. Hobson.

The still persistent doubt as to Cervera's actual strength in Santiago Bay worried the American commander. Not being able to rely on the accounts and descriptions given by Cuban scouts and others, he chose a naval officer, Lieut. Victor Blue, and sent him on a tour of personal inspection among the hills surrounding the harbor. This perilous task was successfully carried out, and the locations and number of the ships were definitely ascertained.

On the 6th of June the fleet bombarded Santiago and Aguadores, seriously damaging and silencing the Spanish batteries. A few days later the dynamite cruiser *Vesuvius*, which had never before practically tested her guns, threw three charges of guncotton, of 250 pounds each, over the intervening land fortifications into the city and harbor. The last discharge made a deep hole in Cayo Smith, and was thus far satisfactory in showing the power of the explosive and the feasibility of discharging the pneumatic guns without injury to the vessel and her crew; but apart from this the *Vesuvius* was not of particular service save as a despatch-boat and scout. In this latter capacity she made a surreptitious entry into the mouth of Santiago harbor on the night of the 24th, and by steaming around the sunken hull of the *Merrimac* demonstrated the failure of Lieutenant Hobson to close the channel, a fact which Cervera also ascertained.

Army mobilization had progressed as rapidly as the means of transportation and the facilities for procuring supplies would permit. Delays and defects in the quartermaster's department occasioned much criticism, and the causes and the seat of responsibility were made the subject of inquiry after the close of the war. But troops poured into the ports of embarkation, especially Tampa, Fla., where transports were collected for the purpose of ferrying over to Cuba the army of invasion. The regular army had been increased from its nominal strength of 25,000 men (actually it was much less) to 62,600. The first call for volunteers had furnished 125,000, and the second call 75,000 men. The Rough Riders, the increased Engineer Corps, and the regiments specially recruited on account of their immunity from yellow fever, numbered about 15,000. This large force was commanded by Maj.-Gen. Nelson A. Miles, and the first assignment of subordinate commands was as follows: First Corps (and Department of the Gulf), Maj.-Gen. John R. Brooke; Second Corps, Maj.-Gen. W. M. Graham; Third Corps, Maj.-Gen. James F. Wade; Fourth Corps, Maj.-Gen. John J. Coppinger; Fifth Corps, Maj.-Gen. William R. Shafter; Sixth Corps, Maj.-Gen. James H. Wilson; Seventh Corps, Maj.-Gen. Fitzhugh Lee; Cavalry Division, Maj.-Gen. Joseph H. Wheeler. The Department of the Pacific was placed in charge of Maj.-Gen. Wesley Merritt, with Maj.-Gen. Elwell S. Otis as second in command.

The embarkation of the army of invasion began at Tampa, Fla., on the 6th of June, but the ships put back and did not finally get off until a week later, when, convoyed by the *Indiana* and several other warships, twenty-nine transports, carrying nearly 16,000 men, sailed for the Cuban shores. On the 10th a body of 600 marines was landed from the *Panther* at Guantanamo Bay, where they were vigorously attacked by the Spaniards and with difficulty held their position. Reinforced by the navy and some Cuban soldiers, the American troops made good their grip on the soil, and soon cut the objectionable cables. On the 16th the Spanish earthworks at Caimanera were destroyed by fire from the American ships, and the forts at the mouth of Santiago harbor were shelled.

Gen. Shafter's transports arrived in the neighborhood of Santiago on the 20th of June, and the general immediately held consultations with Admiral Sampson and Gen. Calixto Garcia, the latter of whom, with about 4,000 Cubans, held the town of Aserraderos. At this council the plans for landing the troops and for their subsequent movements were discussed and perfected. On the 22d the navy began to clear the way for the landing by shelling the Spanish batteries and positions all along the coast, but especially at Aguadores, Las Altares, Siboney, Daiquiri, and Juragua. The landing was effected under difficulties on account of physical obstacles and lack of proper appliances, but little or no resistance was offered by the Spaniards. By night about 6,000 troops had been landed and advances had been made toward Santiago. The Spaniards, under Gen. Linares, retreated before the advancing Americans, making a stand at Las Guasimas, near Sevilla. Meanwhile Gen. Wheeler had landed his division at Siboney, and had marched to join the main body, and a third landing had been made at Aguadores. The disembarkation had been successful in landing all the troops with but two lives lost by drowning. The unacclimated men had yet to meet the hardships of a summer campaign in the tropics. These they encountered on the advance toward Santiago. The lack of roads, the tangled growths incumbering the tracks that passed for roads, the sweltering and enervating heat, and the scarcity of supplies, almost demoralized the American troops. Knapsacks, tents, blankets, rations,—everything but weapons,—were thrown away in this first march, and the ensuing chilly night sowed the seeds of malarial fever in exhausted bodies. On the 24th the first land engagement of the war was fought. Gen. Young's brigade of 965 men encountered about 2,800 Spaniards advantageously posted on the densely wooded hills at Las Guasimas. The American forces dislodged the enemy and held the position, a notable achievement under the circumstances.

Throughout the ensuing week the troops pushed on toward Santiago, the necessity of securing the city and destroying or capturing the Spanish fleet becoming imperative in view of the approaching rainy season, in which land operations would be well-nigh impossible, and the blockade of the harbor perilous in the extreme. The ground already covered by the troops was held, and the American line was thinly

stretched out in the endeavor to encompass the city and prevent sorties or the arrival of succor. When it was learned that General Pando was on the march for Santiago with 8,000 men, the necessity for prompt action became greater. Besides the numerous cases of sickness that developed among the rank and file, the commander of the corps, General Shafter, with Generals Wheeler and Young, were also prostrated, the former being so ill that at one time he contemplated resigning his command to General Wheeler.

Accordingly a plan of advance was made, and on the 1st of July the strong Spanish line, fortified with blockhouses, rifle-pits, earthworks, and barbed-wire fences, was carried after a desperate assault on the heights of El Caney and San Juan, in which the Spanish commander, General Linares, was wounded, and his second in command, General Vara del Rey, was killed. Details are here omitted. The American troops hastily strengthened their line, and on the following morning the Spaniards strove fruitlessly but gallantly to regain their lost positions. The 3d of July, which was to see the final destruction of the Spanish navy, found the victorious American army extended around the city from the east, northward and westward, till its right rested on Caimanes. General Pando had meanwhile reached Palma, to the northwest of Santiago. Early in the morning General Shafter sent a demand to General Toral, the Spanish commander in Santiago, for the surrender of the city, threatening to bombard unless his demand was complied with. Toral refused to surrender, and on request of the foreign consuls and for other reasons the bombardment was postponed until the 10th, a concession to humanity.

Admiral Sampson's fleet had, during these events on shore, maintained its ceaseless watch over the mouth of Santiago harbor, acted (as already shown) as convoy ships for the transports, and taken part in the disembarkation of the troops and in their subsequent operations, covering the landing-parties by shelling Spanish positions, and similarly aiding in the battles preceding the investment of the city of Santiago. It was now to accomplish a feat unparalleled in the history of the world, in view of the entirely new conditions under which its operations were to be conducted; to demonstrate the utility of the new fighting-machines of which it was composed; and to reveal the wonderful results of patient drill, admirable discipline, and cool courage.

A cordon of American troops having been drawn part way around Santiago, and its surrender having been demanded, the Spaniards made a colossal blunder which turned the whole tide of the war and brought about its swift conclusion. It seems to be undoubted that had the Spanish fleet remained within the bay of Santiago, and had the Spanish army held out for a few more days, the American troops, already suffering with disease and climatic exhaustion, would have had to be largely reinforced before they could have captured the city, even though assisted by the guns of the fleet.

The plan of campaign, already rather a creature of circumstances than of deep-laid strategy, would have undergone still further change, and during the time spent in procuring reinforcements, General Blanco, in Havana, would have had a chance to bring his large army into active operation. But it was already decreed that Santiago should be abandoned by Cervera, who was ordered to make his escape, if possible, and find a refuge and a new base of operations at Havana. Accordingly, on the morning of the 3d of July, the Spanish admiral burst forth from the mouth of the harbor, and, making a futile effort at fighting as he ran, endeavored to escape to the westward. His supposition that, being Sunday, the American sailors might be at divine service and so off their guard, was based on a faulty estimate of his opponent's watchfulness. So far from neglecting to keep a lookout, American eyes and search-lights were constantly trained on the channel beneath the walls of Morro Castle. At the first glimpse of the outcoming columns of smoke the news was signaled along the American line; the engines of every ship were started into vigorous action, later to be strained to their full capacity; and then ensued a running fight that in little more than an hour resulted in the beaching and total destruction of the *Maria Teresa* (the admiral's flagship), the *Almirante Oquendo*, and the *Vizcaya*, and the sinking of the torpedo-boat destroyers *Pluton* and *Furor;* while in less than four hours from the emergence of the Spanish ships the last one, the *Cristobal Colon*, shared the fate of the others, being run ashore at the mouth of the Rio Torquino, 48 miles west of Santiago. Not one vessel of Admiral Cervera's dreaded fleet was left. Beached or sunken they proclaimed their fate.

The Spanish loss in the whole engagement was six ships, 300 killed, 150 wounded, and about 1,800 prisoners. The crews of the American ships, their necessary work of destruction done, wrought nobly to save the lives of their foes. Admiral Cervera surrendered to Commander Wainwright, of the *Gloucester*, who had been the executive officer of the *Maine* at the time of her destruction. The prisoners were treated in a manner to call forth expressions of their gratitude. The officers were assigned to quarters at Annapolis, while the crews were confined on an island in the Piscataqua River, near Portsmouth, N. H. The American loss was one man killed and one wounded.

The destruction of these ships -- the second of Spain's fleets to be annihilated by the American navy, and in fighting quality estimated to contain her best vessels — left but one squadron more to represent Spanish power on the seas. Admiral Camara, at Cadiz, had been placed in command of a heterogeneous collection of vessels in various conditions of inefficiency, which had been prepared for sea with what vigor a procrastinating and bankrupt government could exert. The rumors circulated about the composition of this squadron, its strength, speed, and destination, were widely contradictory. The inferior character of the ships was known to the American navy department, but the uncertainty regarding their mission necessitated the setting apart of a fleet which could defend the American coasts, encounter the Cadiz squadron upon the ocean, or, if necessary, cross the Atlantic, and, at a long distance from a naval base or

source of supplies, threaten or bombard the Spanish shores. This force, designated the Eastern Squadron, was placed under the command of Commodore John C. Watson. Admiral Camara, after ostentatious ceremonies participated in by the ministry and the Church, put to sea from Cadiz on the 15th of June, and for a few days some uneasiness was caused in small American coast towns by a fear that Spain might adopt the policy of harrying undefended places. This fear was set at rest by news that the fleet had passed Gibraltar, standing east, and by later reports of its further eastward progress. While it was supposed that Camara's destination was originally Manila, there was yet a chance that Hawaii or San Francisco might be attacked. On the 24th the announcement was made at Washington that if the Spanish fleet passed the Suez Canal, American ships would bombard Spanish ports. On the 26th Camara reached Port Said, and attempted to coal there from his accompanying colliers and to engage a force of firemen; but this he was not permitted to do, and on the 30th he was ordered by the Egyptian government to leave the port. Meanwhile, on the 27th, Commodore Watson was ordered to prepare for sea and to attack the Spanish coast. On the 1st of July Camara entered the Suez Canal, but not until he had paid the canal tolls in gold, his draft on the Spanish Treasury being refused. Reaching Ismailia, he lay there until the 9th of July, when he steamed back on his course, again paying the tolls, and returned to Spain, arriving in Cadiz on the 29th of July. The Spanish Ministry attempted a feeble answer to the American threat to visit her coasts, during Camara's absence, by ordering Admiral Barrosa to organize a fleet at Cadiz, but nothing came of it.

When the Spanish minister, Señor Polo y Bernabé, quitted Washington at the outbreak of the war, he withdrew to Toronto, accompanied by his secretary, Señor Du Bosc, and the naval attaché of the legation, Lieut. Carranza. The latter organized a spy system in Montreal, which was keenly watched by the officers of the United States Secret Service. Much anxiety was felt on account of the machinations of this hostile bureau in a friendly country,—an anxiety which was not relieved when it was discovered that one of the Spanish spies was employed as a steward on the U. S. S. *Brooklyn*. The arrest of this man and the seizure of his papers led to his committing suicide in prison and to the revealing of many of the Spanish plots. Some of Du Bosc's and Carranza's papers were obtained by the American special officers, and, the nature of the Spaniards' work being shown to the Dominion government, the spies were promptly ordered out of the country.

The special appropriation by Congress of $50,000,000, which on March 7 had been placed at President McKinley's disposal to meet the emergency expenses of national defense, was followed by acts providing for the expenses of the war the sum of $311,742,927. This enormous sum was voted in ten acts, passed between May 4 and July 8, 1898. On the 10th of June Congress passed a war revenue bill which received the President's signature and became a law on the 13th. This measure provided for the increase of existing taxes and the creation of new schedules declaring deeds, bonds, transfers and certificates of shares, bank checks, bills of exchange, promissory notes, telegrams, money orders, bills of lading, foreign sea-passage tickets, insurance policies, leases, custom-house entries, warehouse receipts, etc., beer, wines, liquors, tobacco, proprietary medicines, etc., and the occupations of bankers, brokers, proprietors of theatres and billiard-rooms, etc., liable to taxation by the affixing of revenue stamps to the documents or articles taxed, or by the payment of license fees in the case of occupations.

As has already been stated the surrender of Santiago was demanded and refused on the 3d of July, but bombardment was postponed at the request of the foreign consuls. General Shafter reported to Washington that the capture of the city was impossible with the troops at his disposal, and requested that 15,000 reinforcements be sent to him. Victorious as the American troops had been, the situation was critical, and the army's tenure of its hardly won position was very slight. Generals Shafter, Wheeler, and Young were seriously ill, and the soldiers were exhausted by the fatigues of their marches and assaults, and suffering from lack of proper supplies and from the inroads of disease. The Spaniards, however, were demoralized by the vigor and persistence of the American attacks, by the destruction of Cervera's fleet, the death of General Vara del Rey, and the wounding of General Linares (the command now devolving upon General Toral); and by the influences within the city which clamored for surrender and peace. General Garcia had lent his assistance in the events around Santiago, and on the 3d of July reported that he held the railroad running from Santiago to San Luis. On the 5th one Austrian and two British warships entered Santiago harbor for the purpose of removing foreign subjects desiring to leave the city. The foreign consuls urged General Linares to surrender, but to no purpose. On the 6th Lieutenant Hobson and his seven fellow prisoners were exchanged after a month's imprisonment.

During the suspension of hostilities the citizens of Santiago swarmed out of the town, making their way to the rear of the hills on which the American troops kept guard, and begging for food from their nominal enemy. This relief it was difficult to afford; but at this juncture the Red Cross Society came forward and from its stores fed many of the refugees. This exodus of citizens was shrewdly encouraged by General Toral, who not only obtained more room and provisions for his troops, but also succeeded in introducing the fevers of Santiago into the American ranks. The town of El Caney being filled to overflowing with the Santiago exiles, they straggled on to Siboney, where the miserable houses formed hotbeds and incubators for yellow fever, which broke out on the 11th of July. General Miles immediately ordered the destruction of the town by fire, which was accomplished by the next day.

On the 8th General Shafter again threatened to bombard the city if it were not surrendered. General Toral, after communicating with the government at Madrid and with General Blanco at Havana, offered to evacuate Santiago if he were permitted to march

out unmolested, with arms and colors. This offer was refused, the American terms being unconditional surrender; but the truce was extended until four o'clock in the afternoon of the 10th. At five o'clock on that day three of the American ships lying off Aguadores opened fire with shell in the direction of Santiago, but without accomplishing much. The troops on shore also fired on the outer Spanish lines, but without eliciting any vigorous return. So weak was the fire that it was at one time feared that the Spanish garrison was escaping. Meanwhile General Shafter's force had been considerably augmented, and on the morning of the 11th of July his effective strength was estimated at 22,500 men. At six o'clock the bombardment was resumed, and the American troops advanced their positions, occupying the Spanish trenches and drawing the net closer around the city. General Ludlow occupied the town of Caimanes on the northwest outskirts, and the American lines were extended down to the bay. On the 11th General Miles arrived at Siboney, and, pushing forward, held a conference with General Shafter and Admiral Sampson; and the auxiliary cruiser *Hist* succeeded in cutting the cable between Santiago and Havana via Cienfuegos and Manzanillo.

By the 12th rumors that Spain was willing to listen to peace proposals gained circulation and rapidly increasing strength. But Spanish honor was still unappeased, and the hints at surrender were coupled with stipulations that the American terms must be made very easy. General Toral, though evidently weakening, avowed his determination to resist to the last. On the 13th a council of war was held between Generals Miles, Shafter, and Garcia, and Lieutenant Hobson (representing Admiral Sampson). It was determined to begin a thorough and continuous bombardment by both army and navy if Toral still refused to yield, and on the latter's being so notified he agreed to a personal conference with the American leaders. Accordingly Generals Miles, Shafter, and Wheeler, with their aides, rode out on the 14th to meet General Toral, similarly attended, and accompanied by the British vice-consul. The result of the conference was an agreement by Toral to surrender Santiago, and all that part of the island east of Aserraderos, Palma, and Sagua, upon conditions to be arranged by commissioners from each side. After some discussion and slight misunderstandings the articles of capitulation were agreed upon, and on the 16th they were signed. The principal conditions were as follows: The capitulation to include all the Spanish forces and the surrender of all war material within the prescribed limits. The Spanish troops to be transported to Spain, at American expense, as soon as possible. Officers to retain their side-arms, and officers and men their personal property. The Spaniards to assist in clearing Santiago harbor of torpedoes and other obstacles to navigation. Military archives to be released to Spain. Guerrillas and Spanish volunteers to be suffered to remain in Cuba on parole, conditional on the surrender of their arms. The Spanish troops to march out with honors of war, depositing their arms, but with a stipulation that the American commissioners recommend the return of the latter. There was some disposition to mutiny among the Spanish troops, but no outbreak occurred. The Spanish soldiers, however, sacked the town.

On the 17th of July the city was formally surrendered. The American troops marched in; the Spanish flag was hauled down and replaced by the Stars and Stripes; and the defeated army, after depositing their arms in the arsenal, went into camp outside the city lines. Later they were deported to Spain on transports provided by the United States government. The surrendered territory was immediately put under American administration, President McKinley issuing a proclamation on the 18th, defining the mode of rule, and guaranteeing liberty and security to the inhabitants.

An unpleasant circumstance occurred after the surrender of Santiago. General Garcia, the Cuban leader, considered that his soldiers and himself had been slighted at the time of the entry into the city, and he found especial fault with the retention in power of certain Spanish municipal officers, deeming that Cubans should have been recognized by appointment to office and that all Spaniards should be ousted. He therefore tendered his resignation to General Gomez, and withdrew, with his forces, to an inland position. Throughout the subsequent events, and even after the evacuation of Cuba by the Spaniards, there was displayed much petulance among the Cuban soldiers, leading in some instances to riot and bloodshed.

Comparatively slight as had been the American losses from the time of landing down to the capture of Santiago, the army now began to suffer the effects of the Cuban climate in its most deadly season. On the 27th of July General Shafter reported 4,122 cases of sickness, of which 3,193 were fever cases, with 822 of the latter new ones. This heavy sick list was in spite of the removal of the troops to the highest and most salubrious camp-sites possible. On the 3d of August a conference of commanders decided that nothing but removal to a northern climate could save the army from destruction by the yellow fever and malaria that was devastating its ranks. This expression of views by subordinate military officers, antagonistic as it was to the plans of the War Department, was put in the form of a "round robin," signed by three major-generals, four brigadiers, and one colonel. Technically a breach of discipline, and a very unusual proceeding,—a fact manifestly recognized by its signers electing to use this peculiar form,—the round robin met with popular approval, and such pressure was brought to bear on the authorities that a camp-site was selected at Montauk Point, Long Island. Thither the soldiers of the Fifth Corps were gradually removed; but they suffered many hardships *en route* to and after arriving at Camp Wikoff, as the quarantine and convalescent camp was named. Ships unfitted for the transportation of troops; insufficient or improper food, medicines, and medical assistance; lack of system and imperfect discipline,—all served to raise loud murmurs against the War Department and those having charge of military bureaus. The unprepared condition of the country for war at the outset of the campaign, due to the lulling influences of peace and prosperity, was of course largely the cause of these

hardships. Charges and counter-charges of incompetence, fraud, and corruption, were freely made, and few of those holding positions of responsibility escaped censure in some form. Doubtless much blame was laid at the doors of some who were innocent of guile, and who had displayed the highest zeal and patriotism in the fulfillment of their duties. Military investigations of many scandals have followed, and so far with comparatively little result in attaching responsibility for evils that were manifest. That there was much unnecessary sickness and many deaths, even among troops that had not left the country, cannot be denied. Charges like these have been incidental to all wars, and it is difficult to arrive at a correct judgment in such matters when public feeling runs high.

By the end of August it was decided to abandon Camp Wikoff, and to distribute the soldiers among other camps, or, as the war had by that time closed, to send to their homes those who could be disbanded. Early in October the camp was deserted.

Meanwhile, Santiago having fallen into American hands, General Miles, with part of the Fifth Corps, and reinforced by fresh troops (in all 3,400 men), sailed from Guantanamo Bay on the 21st of July, under convoy of nine warships, for Porto Rico. The previous day General John H. Wilson, with 4,000 troops, had left Charleston for the same destination, and on the 23d five transports sailed from Port Tampa with General Schwan's command. An additional force was being rapidly collected at Newport News, and on the 28th General John R. Brooke sailed thence to join the other divisions. On the 24th General Miles's squadron arrived off San Juan, and on the following day he effected a landing at Guanica, meeting with but slight resistance. On the 27th the American troops advanced toward Yauco, while the Spaniards began to concentrate at San Juan. The following day Commander Davis, of the *Dixie*, demanded the surrender of Ponce, which was at once yielded, the Spanish garrison retreating toward San Juan, and the populace welcoming the invaders with open arms. The American flag was hoisted, and General Miles issued a proclamation announcing the pacific attitude of the United States toward Porto Ricans.

Preparations still continued for further reinforcing the invading army, and on the 31st of July fifteen regiments were ordered from the camp at Chickamauga. By the 1st of August General Miles was joined by Generals Brooke and Schwan, his forces now numbering 9,000. With these troops he advanced toward San Juan, and on the 4th occupied Arroyo, which had surrendered to Commander Wainwright, of the *Gloucester*. On the 5th the town of Guayama, on the southern coast, surrendered to General Hains after a slight skirmish, and on the northern shore a party of marines landed near San Juan. On the 7th a general advance was made, columns of troops pushing out to the northwest (Mayaguez), east, and northeast. The Spaniards being reported as holding a strong position at Aibonito, General Miles changed his plans so as to avoid the mined and entrenched military road across the mountains, and, by flanking the enemy, cause him to give losing battle, to surrender, or to retreat upon San Juan. On the 8th there was a slight skirmish near Guayama, and on the 9th the town of Coamo was captured. At Hormigueros, near Mayaguez, on the 10th, General Schwan defeated a Spanish force, and the following day he occupied Mayaguez.

Peace negotiations having by this time taken definite shape, the reinforcements destined for Porto Rico were held back, but the American advance continued till on the 12th the cavalry was within three miles of Aibonito. Here a brisk artillery duel took place, but without many casualties. On the 13th the American troops were about to open fire on the Spanish batteries near Guayama, when a staff officer arrived with orders for the suspension of hostilities, the peace protocol having been signed on the previous day, and the blockades of Havana, Porto Rico, and Manila having been raised. On the 20th of September the evacuation of the island by the Spanish troops was begun.

The fall of Santiago was followed on the 18th of July by the destruction of three Spanish transports and five gunboats at Manzanillo, on the southwest coast of Santiago province. A fleet of five American auxiliary vessels, accompanied by two naval gunboats, entered the harbor early in the morning, and after a bombardment of about three hours accomplished its task without the loss of a single American life. On the 21st a force of four American gunboats entered the harbor of Nipe, on the northeast coast of the island, silenced the Spanish batteries, drove out the garrison, and sank the warship *Jorge Juan*. By the 24th of July all the Spanish troops in Santiago had surrendered, and, with General Wood as military governor of the province, American rule had begun over a section of a population that had hitherto known no government but one of despotism and robbery.

Peace rumors had been rife for several days when, on the 26th of July, M. Jules Cambon, the French ambassador in Washington, called upon President McKinley and announced that he had been instructed to ask upon what terms the United States would agree to a suspension of hostilities pending the conclusion of a treaty of peace. The President refused to offer any terms until he had had an opportunity to consult his advisers, and the proposal was submitted to the Cabinet. That body discussed the matter, and on the 30th of July M. Cambon was informed of the results of the deliberations. The fundamental conditions were as follows: The United States, waiving any claim for pecuniary indemnity, required the relinquishment of all claim of sovereignty over, or title to, the island of Cuba, and immediate evacuation thereof by Spain; the cession and immediate evacuation of Porto Rico and other Spanish West India islands; the cession of an island in the Ladrones; and the recognition of the American right to hold the city, bay, and harbor of Manila pending the conclusion of a treaty of peace which should determine the control, disposition, and government of the Philippines. No financial obligation should be assumed by the United States in regard to debts contracted by Spain on behalf of Cuba and Porto Rico. It was

made a condition that the foregoing terms be accepted by Spain immediately and in their entirety, in which event commissioners would be named by the United States to meet Spanish commissioners for the purpose of concluding a treaty of peace on the basis indicated. By the 2d of August it became known that Spain had virtually accepted the American terms, and on the 9th M. Cambon formally presented the Spanish answer to the President. The following day M. Cambon and the American Secretary of State, William R. Day, agreed on the terms of a protocol, embodying the basic conditions of negotiation, which was signed at Washington on the 12th. Proclamation of the fact was at once made, hostilities were suspended, and blockades raised, as set forth above.

The final act of war in Cuba was the bombardment of the town of Manzanillo by five American warships in the afternoon of the 12th of August, while the signatures were being affixed to the protocol at Washington. About four o'clock the ships opened fire, which was continued till dark, a desultory firing being continued through the night. The Spaniards, having heard of the protocol, attempted unsuccessfully to communicate the news to the fleet, but at daylight a flag of truce was sent out with a despatch to the American commander and the threatened renewal of the attack never took place.

In the Philippines, subsequently to Admiral Dewey's victory over the Spanish fleet, comparatively little was done by the American forces pending the arrival of reinforcements. The blockade of Manila was maintained by the fleet with little of event except some obstructing tactics by the German admiral, Diedrichs, whose conduct drew from Dewey a peremptory demand for a clear understanding as to German intentions. The German annoyances had consisted in violations of the blockade regulations, and hence of international law and courtesy. Dewey's firmness, together with the openly manifested attitude of the senior naval officer of the British squadron, finally brought Diedrichs to realize his position, and the German government later indicated its friendliness by placing Prince Henry of Prussia in command of its Eastern squadron and by subsequently completely withdrawing the German ships from Manila.

The Filipino insurgents took the field two weeks after Dewey's victory, and met with general success. The long struggle of "pacification" of the Philippines then commenced. On the 22d of July Aguinaldo declared himself dictator, and on the 29th the advance of the American troops from Cavité was begun. The American naval and military forces had up to this time assisted Aguinaldo, and had treated him and his insurgent troops as allies against the common enemy. With the arrival of the reinforcements and the commencement of active operations for the reduction of Manila, differences began to arise between the "allies," and thus commenced the misunderstandings of the Filipinos and the arrogance of Aguinaldo which led to a state of war between the United States and her subsequent colonial "rebels."

General Augusti, the Spanish governor of Manila, realized the dangerous character of his native enemy, and therefore urged upon his home government the necessity of surrendering to the American army. But Spain would not listen to his protests; his officers resented his attitude; and he was even threatened with assassination by his own men. As a result he resigned, or was deposed by his army, or was removed by orders from the Spanish Cabinet. Whichever method actually obtained, Augusti certainly made his escape on a German warship, and his failure to take part in the surrender was afterward made the basis of Spanish quibbles as to the validity of the capitulation.

On the 31st of July the advance of the American army encountered the Spaniards near Malate, between Cavité and Manila, and in the engagement that ensued the enemy suffered heavy loss, while that of the United States was about 15 killed and 47 wounded. On the 7th of August a formal demand for the surrender of Manila was made by Admiral Dewey and General Merritt, and forty-eight hours was given for Spanish consideration of the proposition. Before the expiration of that time another day's grace was asked for and granted, the extension being till noon of the 10th. In anticipation of bombardment the ships were cleared for action; and the warships of other countries took up positions to observe the attack. In this apparently trivial matter an important manifestation of the attitudes of the neutral nations was made. The German and French ships moved off in one direction, while the British and Japanese vessels retired to a position near the American fleet. This grouping was emphasized by the British flagship stopping her engines while passing the *Olympia* and saluting the latter vessel with the strains of the "Star-Spangled Banner." Despite these preparations, action was postponed until the 13th, the unreadiness of the army being alleged as the cause; but it has been stated that the delays were due to a desire to avoid bloodshed, the Spaniards being convinced of the hopelessness of resistance, but being unwilling to surrender without a sop to their honor.

At half-past nine o'clock on the morning of the 13th the fleet opened fire, the bombardment lasting about an hour and a half. Meanwhile the troops on shore made a spirited attack on the Spanish positions, whose defenders replied vigorously at first, but unsuccessfully. Their fortifications were either carried by assault or entered without serious opposition. By noon a white flag announced the surrender of the city, and about two o'clock the Stars and Stripes were hoisted over the government palace. The losses sustained by the American troops were 8 killed and 40 wounded; the Spanish losses by death and wounds are unknown; but about 7,000 men laid down their arms, of which nearly 12,000 stand were transferred to the victors, besides several million rounds of ammunition. Manila was placed under American martial law, and the Filipino insurgents were forbidden to enter the city without first surrendering their arms.

On the 14th the commissioners appointed to draw up the articles of capitulation met and agreed upon the following terms: Surrender of the Spanish troops, the city, and its defences, with all honors of war; arms to be deposited, and officers to retain sidearms, horses, and private property. Public property

to be turned over to the United States. Questions of repatriation of Spanish troops to be settled by the authorities at Washington. Arms to be returned to Spanish troops on final settlement of negotiations. Public funds to be turned over to the United States, the latter to furnish rations and necessary aid to the surrendered troops. The city and its inhabitants, churches and religious worship, educational establishments and private property, to be protected by the American army.

The capture of Manila took place on the day following the signing of the protocol, but remained valid for the reason that the news had not reached the seat of war. The ultimate disposal of the Philippines, the difficulties encountered in establishing good government are matters of recent occurrences and general knowledge. Thus far little but discouragements have been encountered. Even now the dawn of a brighter day is apparent.

On the 17th of August President McKinley named the American commissioners to arrange the evacuation of Cuba and Porto Rico, and on the 19th and 21st the Spanish commissioners for the same purpose were appointed. By the 9th of September the American Peace Commission was completed, its five members being William R. Day, who resigned his office of Secretary of State on the 16th; Senator Cushman K. Davis, of Minnesota, Chairman of the Committee on Foreign Relations; Senator William P. Frye, of Maine, a member of the same committee, as well as Chairman of the Committee on Commerce; Senator George Gray, of Delaware, also a member of the Committee on Foreign Relations; and Mr. Whitelaw Reid, formerly American Minister to France, and editor of the *New York Tribune*. In order that the commissioners might have the benefit of personal and authoritative reports from the Philippine Islands, General Merritt turned over his office there to General Otis, and sailed from Manila on the 30th of August to meet the Commission in Paris. The American contingent sailed from New York on the 17th of September, and on the following day the Spanish government announced as its representatives Señor Eug. Montero Rios, President of the Senate, Señores Buenaventura Abarzuza, M. J. de Garnica, and W. Z. de Villarrutia, and General R. Cerero.

On the 27th of September the American commissioners held their first session in Paris, and on the 1st of October they met the Spanish board in joint conference. Negotiations proceeded, with adjournments from time to time for separate discussion, and subsequent resumption of joint sessions. Difficulties presented themselves early in the negotiations, the principal points of difference being the responsibility for the Cuban debt and the disposition and status of the Philippine Islands and their debt. As regards the first, the American commissioners uniformly declined to accept any responsibility, practically alleging the non-existence of a Cuban debt and the sole responsibility of Spain for money borrowed on the security of Cuban revenues. In the matter of the Philippines, the questions as to American capture of the whole group in the taking of Manila, and other points at issue, were merged in an offer by the United States to pay $20,000,000 for the islands. This offer, which was accompanied by a refusal to arbitrate the questions, was made on the 21st of November, and one week was fixed as the limit for Spanish acceptance. On the 28th Spain's commissioners signified their assent to the terms, and the work of drafting the treaty was begun. The treaty practically embodied the conditions of the protocol, and the agreements here set forth. The first four articles were agreed upon by the 30th, and on the 10th of December the commissioners, at Paris, signed the treaty of peace, shortly afterward quitting the French capital and repairing to their respective countries.

The treaty as thus concluded was laid before the United States Senate on the 4th of January, and was by that body referred to the Committee on Foreign Relations, which reported favorably on the 11th. The subject of the ratification of the treaty was vigorously discussed both in and out of Congress, much apprehension being felt as to the matter of expansion,—a question of first instance and to be settled by the votes of popular representatives unaided by precedents. The fact that the United States Constitution was framed without any foresight of the peculiar conditions brought about by the course of events of 1898 seemed to indicate a settled policy for the United States of strict self-concentration and of abstention from extra-territorial expansion or intermeddling in the politics of the outer world. Naturally this idea took a strong hold of a large section of the people and their representatives, while an equally large section recognized the unavoidably altered conditions and sought to evolve a new policy from the necessities confronting the nation. A two-thirds vote of the Senate being necessary to a ratification of the treaty, canvasses of the members of the Chamber showed that the voting would be very close. But on the 6th of February the Senate declared for ratification by a vote of 57 to 27, one vote thus deciding the issue. Public attention was then turned to the attitude of Spain, and doubt was expressed as to the probability of the Cortes ratifying the treaty. The situation was, however, relieved by the action of the Queen-Regent, who, on the 17th of March, affixed her signature to the treaty.

The official termination of the war was effected at Washington on the 11th of April, 1899, when ratifications of the peace treaty were exchanged. M. Cambon, the French minister, who had represented Spain in the preliminary negotiations, officiated in her behalf in the concluding ceremonies, Secretary of State John Hay representing the United States. The formalities consisted in the signing of a protocol reciting the circumstances, and the exchange of handsomely bound copies of the treaty. President McKinley immediately thereafter issued a proclamation of the facts, setting forth the terms of the treaty in full, and calling the attention of American citizens to its provisions. In addition he announced the appointment of Mr. Bellamy Storer, of Ohio, as minister to Spain, thus restoring diplomatic relations. The Spanish government has similarly appointed the Duke of Arcos as minister to Washington.

Thus ended one of the most remarkable wars in the world's history. Lasting only 113 days (of actual warfare), the blows struck by the American forces — especially by the navy — were so crushing that at its termination Spain was left without a colony in the Western hemisphere, and with little other territory beside her peninsular kingdom. The war adds considerably to the area of the United States, if it be the will of the nation to retain these extra-continental possessions. The area now stands, including the territories, at 3,025,600 square miles. To this has to be added the area of Alaska, estimated at 531,000 square miles; Hawaii, with an area of 6,740 square miles; Guam, with an area of 370 square miles; Porto Rico, with an area of 3,670 square miles; and the Philippine Islands, including the Sulu archipelago, with an area (approximately) of 115,000 square miles; — a total area (exclusive of Cuba) of 3,682,380 square miles. The total population today of this entire area (as per 12th Census, 1900, returns) is 76,303,387.

Recent History. In the past three years the United States has continued her remarkable career of commercial expansion. The amount of total foreign commerce of the country, for the year ending June 30, 1900, exceeded by $317,729,250 the aggregate for any previous year. The exports of domestic merchandise for the fiscal year ending June 30, 1903, were in value $1,392,231,302 against $1,355,481,861 for the previous year. The imports for 1903 were in value $1,025,719,237 against $903,320,948 in 1902. A gratifying feature in our export trade, besides its steadily increasing annual amount, is its growth in all parts of the world, and especially in the branch of manufactures, which now forms over 30 per cent of the total exports. The total number of immigrants for 1899 was 311,715. The public debt of the United States to Dec. 31, 1899, including certificates and Treasury notes, which, however, are offset by cash in the Treasury, amounted to $2,104,874,863. The amount disbursed for pensions for 1899 was $139,387,353, the number of pensioners being 991,519. The total appropriations by Congress for the same year amounted to $462,509,570. The revenue for 1899 (to June 30) was $610,982,004, while the expenditure was $700,093,564; the chief increase being occasioned by the demands of the War Department, amounting for the year to no less than $228,834,154. This large disbursement was occasioned by the increasing cost of the Philippine insurrection, and by the necessity of keeping the army on a war, rather than on a peace, footing. The present regular army force stands at 3,820 officers and 62,151 men; while the new volunteer force, called into existence in 1899 mostly for service in the Philippines, numbers 1,524 officers and 33,050 men. Additions, involving heavy expenditure, are also being made to the navy and the naval force of the country, especially since the Boxer outbreak in China. In 1899 Congress was asked to authorize the construction of three armored cruisers of about 13,000 tons displacement, three protected cruisers of about 8,000 tons displacement, and twelve gunboats, sheathed and coppered, of about 900 tons displacement.

The first session of the Fifty-sixth Congress began Dec. 4, 1899, David B. Henderson, of Iowa, being elected Speaker. The only change in the Cabinet during the year was the substitution of Mr. Elihu Root, of New York, as Secretary of War, in the place of Mr. Russell A. Alger, who retired at the end of July. Vice-President Garret A. Hobart died Nov. 21, 1899. In the history of the year, the chief items embrace the ratification in the Senate of the treaty of peace with Spain, by 57 votes to 27 (Feb. 6, 1899); the passing by Congress of the Army Reorganization Bill, which authorizes the raising of the regular army to a maximum strength of 95,000 and a minimum of 57,000; a bill appropriating $1,000,000 for a further investigation of the Isthmian Canal route (March 3); and a bill appropriating $20,000,000 to be paid to Spain in fulfillment of the terms of the Peace Treaty. On July 7, the President called for ten volunteer regiments for service in the Philippines; and in Oct. the United States and Great Britain agreed on a temporary adjustment of the Alaskan boundary dispute. In Sept. Admiral Dewey was accorded a great reception in New York on his return from Manila. In Nov. Great Britain relinquished her territorial claims in Samoa, and in Dec. following the Samoan partition treaty between Germany and the United States was signed at Washington.

During the year (1899), the war dragged on in the Philippines, military operations being pushed actively, however, with the coming of the dry season and the advent of large reinforcements. Early in the year, the Filipinos, in large force, attacked the American defences at Manila and in Feb. the battle of Caloocan occurred. In March General Wheaton occupied Pasig and General MacArthur captured Malolos. He also captured, later on, Calumpit and San Fernando, while General Lawton led an expedition to San Isidro. Toward the close of the year General Lawton was killed in an attack on San Mateo. In Oct. General Schwan operated in Southern Luzon and occupied Malabon and Rosario. In Nov. sharp fighting took place near San Jacinto, where Major John A. Logan was killed. In Nov., also, the President's Philippine Commission, which had been investigating the political condition of things in Luzon between the months of March and September, submitted its preliminary report. A War Department investigating report was also submitted Feb. 9, 1899. It reflected severely on the Commissary-General for purchasing rations, in large quantities, that were afterwards found unfit to eat; it also reproved the commanding officer of the army for "dereliction of duty."

During the year 1900 colonial problems continued to attract attention in political circles as well as in Congress. The debate on the Porto Rican tariff engrossed Congress in the month of February, the decision of the House finally levying a tariff of 15 per cent to continue in force till March 1, 1902, and to meet only the need for revenue of the colony. The destitute condition of many Porto Ricans, in consequence of the destructive cyclone that passed over the island in the previous year,

claimed and received attention from the War Department. The Hon. C. H. Allen was on May 1 appointed civil governor of Porto Rico. A new Philippine Commission, under the Presidency of Judge W. H. Taft, of Ohio, offering the Filipinos a definitive scheme of government, was appointed to proceed to the islands to carry out the instructions of the administration with regard to a peaceful settlement. Insurgency on the islands was still rife during the year, though the area of fighting was considerably narrowed, and many towns were occupied and held by American forces. As the year advanced, however, brigandage and the depredations of guerilla bands provoked reprisals and a more active prosecution of the war on the part of the American military authorities. In March, 1900, the Secretary of War issued a general order creating four military departments in the Philippines, under specific command, to facilitate supervision and suppress looting and other belligerent or piratical acts. These departments, which are under the chief command of General Otis, are: Northern Luzon (Major-Gen. MacArthur locally commanding); Southern Luzon (Maj.-Gen. J. C. Bates); Visayas (Brig.-Gen. R. P. Hughes); and Mindanao and Jolo (Brig.-Gen. W. A. Kobbe).

On June 21, 1900, General MacArthur, Military Governor of the Philippines, caused a notice of amnesty to the Filipinos to be proclaimed, on their acknowledging, within ninety days, American sovereignty and abstaining from further acts of rebellion.

An indication of the seriousness of the attempt to enforce American authority on the Filipinos, and of the loss of life from wounds and sickness, which the military occupation of the islands has entailed, may be seen from the report of the Secretary of War to the Senate (June 2). That report gives the casualties in the Philippine war from July 1, 1898, to May 24, 1900, as follows: Deaths — regulars, 36 officers and 920 enlisted men; volunteers, 41 officers and 854 enlisted men. Wounded — regulars, 37 officers and 721 enlisted men; volunteers, 1,115 men.

The great feature of the year was, naturally, the political party conventions for the nominations of the President for the ensuing term of office, and the discussion to which they gave rise. The first of the two great parties to meet was the Republican party, which held its national convention at Philadelphia, June 19–21, 1900. The nominations, which were unanimous, were Wm. McKinley, of Ohio, for President, and Theodore Roosevelt, of New York, for Vice-President. There was but one ballot, comprising 926 votes. The platform, which was a moderate and unsensational one, accepted protectionism, a gold standard, subsidies for American shipping, and a resolution in favor of regulating trusts and restricting immigration. It also favored the construction, ownership, control, and protection by the Government of the United States of an Isthmian canal; non-intervention in European controversies, though commending the part taken by the Government in the Peace Conference at The Hague; the acceptance of the just responsibilities of American victories in the Spanish war, including provision for the maintenance of law and order, and for the establishing of good government among the unorganized populations whom our intervention had freed from Spain. The latter obviously commits the party and the country, if endorsed at the November elections, to retaining possession of Porto Rico and the Philippines, while granting their peoples rights of local self-government; with the promise, by and by, of giving independence to Cuba.

The national convention of the Democratic party held its sessions in Kansas City, Mo., on July 4th and following days. The nominations were the Hon. Wm. Jennings Bryan, of Nebraska, for President, and the Hon. Adlai E. Stevenson, of Illinois, for Vice-President. The platform of the party declares against trusts, and is on the workmen's side in almost all questions between them and capitalists; it is also in favor of bimetallism at the ratio of 16 to 1; but the main plank is denunciation of imperialism, opposition to militarism, and distrust of Republicanism in regard to the expansion policy of the McKinley administration. It favors the election of senators by direct vote of the people, demands repeal of the war taxes, condemns alliance with England, and denounces the retention of Porto Rico and a colonial policy inconsistent with the republican institutions.

The Presidential nominees (1900) of the minor parties in the country were as follows: Silver Republicans and Populists, W. J. Bryan (P.) and A. E. Stevenson (V.-P.); Middle-of-the-Road Populists, Wharton Barker, of Pa. (P.) and Ignatius Donnelly, of Minn. (V.-P.); Prohibitionists, J. G. Woolley, of Ill. (P.) and H. B. Metcalf, of R. I. (V.-P.); Socialist Labor, Job Harriman, of Cal. (P.) and Max S. Hayes, of Ohio (V.-P.); Social Democrats, Eugene V. Debs, of Ind. (P.) and Job Harriman, of Cal. (V.-P.).

In June, 1900, the United States, together with the peoples of the Old World, were startled by serious disturbances in China, which menaced the safety of the Foreign Legations at Pekin and threatened the foreign missions throughout the Empire. The rising occurred in a *quasi*-military organization known as the "Boxers," whose designs are hostile to foreigners resident in China, and, though nominally under the ban of the imperial authorities, are in reality encouraged and abetted by them. The suspected inspirer, if not actual leader, of the movement, was Prince Tuan, father to the heir to the Manchu throne, who, with the despotic Empress-Dowager, are known to be averse to the foreign element in the country, and desirous of extruding, if not massacring, it. The movement began with threatening Tien-tsin, the treaty port on the Gulf of Pechili, and with an attack on the Legations at the Capital. With the spread of the rebellion the situation became very serious for foreigners within the Empire, and most alarming to the various European and American governments, which for a time could get no communication with their representatives at the Pekin Embassies. The outbreak became more grave when the Chinese opened fire on the warships of the international fleet at Taku, murdered Baron Von Ketteler, the German Minister, and a Japanese official at the Embassies,

and forced back the allied troops, under the British Vice-Admiral (Seymour), that were seeking to relieve the Legations at the Capital. When news reached the United States of the trouble troops were despatched at once to China, the Ninth Regiment was hurried forward from Manila, and Admiral Remey was instructed to give any aid in his power, either in the conveyance of troops from the Philippines, or for the safety of American citizens and property in jeopardy in China. The Cabinet at Washington also addressed itself actively to the diplomatic demands of the situation. At length a strong international force made its way from Tien-tsin to Pekin, and on August 15 captured and took possession of the Capital, bringing timely relief to the besieged Legations and the hundreds of Americans and Europeans who had taken refuge at the British Embassy. The Chinese Court, it was found, had fled inland, and for a time it was feared, that under the influence of the reactionary Empress-Regent and Prince Tuan, all the foreign missionaries and traders in the Empire would be massacred. The missions, as it turned out, suffered severely, and the loss of life, particularly among the native converts, was great. The United States, while giving Admiral Remey and General Chaffee full power to act in the emergency, was careful, both in her acts and in her diplomatic negotiations, to refrain from European entanglements and to be moderate in her demands for compensation for the country's losses. As we write, there has as yet been no adjustment of the claims of the foreign allies, though the Chinese Commissioners, Prince Ching and Earl Li Hung Chang, ostensibly acting for the Empress-Regent, have proposed to the Powers a basis for peace negotiations, with the offer of a money indemnity amounting to £40,000,000 sterling, payable in sixty instalments, the Chinese imperial customs being pledged for the faithful payment of the sum. Preliminary to the settlement, the Commissioners ask that the Powers shall refrain from taking further military action in the Empire, that the foreign troops shall be withdrawn, and that the Tsung-li-Yâmen, or Chinese foreign office, be permitted to resume its functions. So far no conclusion has been come to, or agreement on the part of the Powers to accept China's offer; meantime an alliance has been effected between Great Britain and Germany, with the object of maintaining the "open door" policy and to prevent the partition of the Empire. The matters that block settlement are, besides the continued disturbances in the country which create distrust of the *bona fides* of the Chinese court, the difficulty in the way of bringing to punishment those who are responsible for the outrages at Pekin, the lack of proper guarantees for the future safety of foreign life and property within the Empire, and the absence from the capital of any *de facto* ruler in whom the Powers can place confidence.

THE PRESIDENTIAL ELECTION (1900), AND ASSASSINATION OF PRESIDENT MCKINLEY (Sept. 1901). The result of the Presidential election (Nov. 6, 1900) sustained the McKinley Administration and party. The Democratic nominee for the high office was again Mr. W. J. Bryan, of Nebraska, while the Republican nominee for Vice-President, on the ticket with Mr. McKinley, was Governor Theodore Roosevelt. The total popular vote was 13,970,300, Mr. McKinley receiving a majority of 443,054 of all the votes cast. His plurality over Mr. Bryan was 832,280. In the electoral college, the McKinley–Roosevelt majority was 137, the votes being 292 for the Republican, and 155 for the Democratic, nominee. The election of Mr. McKinley for a second term to the Presidency had a calamitous sequel, ten months later, on the occasion of the President's visit to the Pan-American Exposition, at Buffalo, N. Y., Sept. 6, 1901. There, at a public reception in the Exposition grounds, a murderous attack was made upon Mr. McKinley by an anarchist, named Leon Czolgosz, which had a fatal termination Sept. 14, to the great grief of the nation. On the same day, at Buffalo, Vice-President Roosevelt took the oath of office and succeeded to the Presidency, at the same time stating that it would be his aim to continue the policy, in the main, of his lamented predecessor. President McKinley's remains were taken from Buffalo to Washington, where impressive funeral rites took place, after which the body was removed to the family home at Canton, Ohio, and there interred (Sept. 19).

Vice-President Roosevelt at once assumed the office of President, and issued a proclamation appointing the day of the funeral (Sept. 16) as a day of mourning and prayer throughout the United States. Messages of sympathy were sent by every sovereign and from all parts of the globe to Mrs. McKinley and Mr. Hay, the Secretary of State. Thousands of people journeyed to Canton to be present at the funeral and to do honor to the dead President. The mourning was universal. Czolgosz was found guilty of murder and sentenced to death. His execution took place Oct. 29th.

The policy of the new President was announced as being in favor of more liberal reciprocity, with reciprocity treaties, the entire abolition of all commercial war with all nations, and of such tariffs as were not needed for revenue purposes without harming American industries and labor; the establishment of direct commercial lines between the eastern coast of the United States and South America and from the Pacific coast ports of the United States to Mexico, Central America, and South America; the encouragement of the merchant marine and American shipbuilding; the building and completion as soon as possible of the Isthmian Canal; the construction of a cable to be owned by the United States, connecting the mainland with its foreign possessions, notably Hawaii and the Philippine Islands; the use of conciliatory methods and arbitration with all nations in order to avoid armed strife; the protection of the savings of the people in banks and other forms of investment by the preservation of the commercial prosperity of the country; the appointment to positions of trust of men of the highest integrity only.

A great fight against Tammany was waged by the reformed forces of all parties at the election of mayor and state officials for New York, and eventually Seth Low,

the Fusionist candidate, was elected by a large majority over Mr. Shepard, the Tammany nominee. The Fusionists also secured the other chief offices. This notable election took place Nov. 5, 1901. Mr. Roosevelt sent the following characteristic telegram to Mr. Low: "I congratulate the city even more than I do you on the overwhelming triumph of the forces of decency."

Speaking on foreign policy at the New York Chamber of Commerce annual dinner, Mr. Hay described that policy as expressed by the Monroe Doctrine and the Golden Rule. Because the vast development of American industries required not only the retention of existing markets but their extension, reciprocity treaties had been negotiated, which awaited the action of the Senate. He foreshadowed the construction of a Pacific cable and the Isthmian Canal under exclusive American ownership and control but for the use of all well-disposed peoples.

A new Canal Treaty superseding the Clayton-Bulwer Treaty was signed by Lord Pauncefote and Mr. Hay on Nov. 18th. It gave the United States sole authority and control over the Canal, made the United States sole guarantor of neutrality, but secured England equal commercial rights in the use of the Canal. The Treaty was of course subject to a ratification by the Senate; but a majority of the Senate was understood to favor it, having been consulted during the progress of the negotiations.

President Roosevelt's message to Congress, Dec. 3, recommended that anarchists should be kept out of the country, and that all civilized Powers should by treaties declare the crimes of the anarchists an offense against the law of nations like piracy and the slave trade. While defending trusts, he thought that they should be regulated, and that the State should have power to inspect and examine their working, as in the case of banks. Reciprocity he declared to be the handmaiden of protection. The Isthmian Canal Treaty guaranteed every right the United States had asked for, and would, if ratified, enable them to commence the canal at once. The Monroe Doctrine was insisted upon as the cardinal feature of the foreign policy of all nations of the two Americas.

The year opened with the establishment of Seth Low as reform mayor of New York, an event of national interest and importance.

Two changes in the President's Cabinet took place early in the year. Secretary Gage of the Treasury and Postmaster-General Smith resigned, the vacancies being respectively filled by Leslie M. Shaw and Henry C. Payne.

On Jan. 20th, President Roosevelt submitted to Congress report of the Isthmian Canal Commission, recommending purchase of Panama Canal Company rights for $40,000,000.

The controversy between Admirals Sampson and Schley, which created wide-spread interest, received its quietus at the hands of President Roosevelt who refused to reopen the dispute as to which commander belonged the credit of the naval victory of Santiago.

A significant incident which took place in the spring of 1902 was the visit of Prince Henry of Prussia, ostensibly to attend the launching of Emperor William's yacht, *Meteor*, built for him in the United States. His coming aroused a more friendly feeling toward Germany than had existed for a long time.

In March, Secretary Long resigned and William H. Moody was appointed Secretary of Navy in his stead.

By an act unprecedented in history, the United States on May 20, 1902, gave to the world a new nation. On that day the Republic of Cuba came into possession of its independence.

No record of the year 1902 is complete without at least brief mention of the anthracite coal strike which began May 12th and lasted five months. It involved the hard-coal fields of Pennsylvania, threw out of employment 147,000 workmen, practically closed the mines, and created a coal famine throughout the country. The object of the strike was to secure from the mine operators an advance in wages, reduction in hours, and recognition of the union. After various attempts to settle the trouble had failed, the conditions becoming well-nigh intolerable all around, President Roosevelt interposed and appealed to both parties to submit their differences to arbitration, which was finally done (Oct. 13). The finding of the Commission was about equally in favor of the operators and unions.

In June occurred the celebration of the centennial anniversary of West Point Military academy, an institution in which all citizens take a just pride.

July 4 of 1902 was a memorable day in that the President then issued orders establishing civil government in the Philippines and granting amnesty for political prisoners. A little later negotiations between the Vatican and the United States Government in regard to friars in the Philippines, which had been going on for some time, were abandoned, the Pope being unwilling to consider sale of friars' lands.

This period in the history of the United States will be notable on account of the tremendous combinations of manufacturing and other industries which took place. One of these was the mower and reaper combine known as the International Harvester Company, capitalized at $120,000,000.

David B. Henderson, a long-time member of the lower house of Congress, and speaker of that body since 1899, created surprise in all quarters by declining to accept a renomination, giving as his reason a disagreement with his constituents on the question of tariff. A little later (Dec. 7) occurred the death of Ex-Speaker Thomas B. Reed, who, for a long time, was a conspicuous figure in political life, and on more than one occasion prominently mentioned for the presidency by the Republicans.

For a large majority of the American people the prosperity that attracted the attention of the world in 1902 was prolonged throughout the following year. Abundant crops, a full treasury at Washington, a great volume of foreign trade, an unprecedented activity in domestic manufactures and transportation were the chief supports and proofs of this prosperity. In the closing months of the year, however, the fact of a long and continuous decline of share values in the Exchange markets began to be felt in some important industries and by capitalists of the middle class in many parts of the country. This decline and the action of labor unions (notably in the building trades) caused a reduction of output and

wages in the iron industry, together with retrenchment elsewhere.

In the field of politics there was no event that marked a revolutionary change in the situation. Mr. Roosevelt was apparently the choice of a vast majority of Republicans for the presidency. Owing to his action concerning the anthracite coal strike and the combination of railroads in the Northwest, he was not acceptable to certain powerful capitalists. The political event of the first half of the year was the President's long tour in the course of which he passed through twenty-two States and two Territories. No more enthusiastic reception had ever been given to a Chief Executive. On his return, he tarried a few days in St. Louis to be present and make a speech at the dedication of the St. Louis Exposition — or, more properly speaking, the Louisiana Purchase Exposition buildings. These exercises took place a year before the completion and opening of the world's greatest fair.

A political event of some significance was the New York City municipal election which took place in November, resulting in the defeat of Mayor Seth Low, and the election of the Tammany candidate, Congressman George B. McClellan, son of the Civil War general.

Another incident worthy of mention was the election of Senator Reed Smoot, of Utah, to the United States Senate. He was an apostle of the Mormon Church, and an alleged polygamist. Vigorous opposition, on these grounds, was developed to his retaining his seat.

Nor must the Alaskan boundary controversy, which terminated so satisfactorily for the United States, be passed by without brief mention. At the beginning of the year it was arranged by treaty with Great Britain that this bone of contention with Canada should be referred to an evenly divided Commission of six persons. The members for the United States were Secretary Root, Senator Lodge, and Ex-Senator Turner. On the other side were two representatives of Canada and Lord Alverstone, the Chief Justice of England. The Commission sat in London, where, by vote of Lord Alverstone, in October, a decision was made that virtually sustained the claims of the United States, although a concession was made with respect to the Portland Channel. Lord Alverstone's fearless and conscientious action in this matter won for him deserved praise both at home and abroad, always excepting disgruntled Canada. That he should render his decision, carrying with it the settlement of the controversy, on the merits of the case, without reference to the interests of his country's dependency, Canada, placed arbitration on a new footing, and inspired new confidence in this fair and humane method of settling international disputes.

The year 1903 will be remembered in the history of the United States as that in which a thorough house-cleaning took place in the Postmaster-General's office, resulting in the discovery of frauds and thievery, much of which had been going on for a long time. Several prominent officials were involved, among them, Ex-First Assistant Postmaster-General Perry S. Heath. This fact was embarrassing to the Republican party, as he was Secretary of the National Republican Committee and declined to resign that position, even after he had been openly charged with dishonesty while in office, and notwithstanding the fact that he was known to be *persona non grata* to President Roosevelt. As a result of the investigation, thirteen Bureau officers were removed, four resigned, and forty-seven indictments involving thirty-one persons were found. As a rule, the frauds were committed by corrupt agreements relating to the purchase of supplies. Maladministration in the public land service and irregularities in the disposition of the Indian lands under the Dawes Commission were also uncovered. Several officers of the public land service were indicted.

In the record of the year 1903 for America, there was no event more important than the secession of Panama. Our Canal Treaty with Colombia was ratified in March in Washington. In Bogota, in August, it was rejected by unanimous vote, to the great disappointment of the Isthmian state. Official papers warrant the conclusion that Colombia sought to defer action for a year in order that she might by forfeiture reclaim the Canal Company's franchise, take its property, and then demand for herself the $40,000,000 which the Company was to receive from our Government. Colombia was warned that a failure to ratify the treaty would be followed by the secession and independence of Panama, but took no heed. This independence of the Isthmus was declared on Nov. 3rd. On the 13th, the United States formally recognized the new Republic. Recognition was shortly given by all the great Powers of Europe, and by several countries of South America, where Colombia found little sympathy. A new Canal Treaty was at once negotiated, and was ratified in Panama on Dec. 2nd. Some critics, notably Senator Hoar and the Democratic party leaders, criticised the hasty recognition of the new Republic by the United States. Our Government's policy was explained and defended in the President's annual message. In the new treaty, the United States promises to maintain the independence of the Republic of Panama.

Making a hasty survey of our Islands, we note first that the new Pacific cable was opened for use from San Francisco to the Hawaiian Islands on Jan. 1, 1903, and to Manila on the evening of July 4 of the same year.

In the Philippines, the most important events were the purchase of the friars' lands, in December, for $7,239,784. Ladrones were very active in Luzon during the first half of the year, and there were many engagements between them and the constabulary. The Islands suffered from currency fluctuations, the ravages of cholera, rinderpest, and locusts. Therefore Congress appropriated $3,000,000 for their relief. By a law passed at the beginning of March, the gold standard was established. Before the end of September the ladrones had been subdued.

The Rev. J. J. Harty, of St. Louis, was made Archbishop of Manila and three new Catholic bishops were appointed from the States. The newly appointed Chief Justice, John T. McDonnell, was also a Catholic. He was Secretary of State in New York when Mr. Roosevelt was Governor. At the beginning of the year, Governor Taft declined an appointment to the United States Supreme Court, thinking he ought to remain at Manila. In December, however, he gave up his office, and left the

Islands to become Secretary of War in place of Secretary Elihu Root, who resigned the portfolio.

There are several other events of the year 1903 which deserve mention. The great and menacing controversy at the anthracite coal mines was settled for three years in March by the decision of the Commission, granting a wage increase of 10 per cent., with provision for further increase depending upon the price of coal, and for a permanent Board of Conciliation. Discrimination among non-union men was forbidden. In New York, the building industry was paralyzed by another great controversy. For months 125,000 workmen were idle; work upon $90,000,000 worth of buildings was stopped and $5,000,000 in wages was lost. All this was due to the designs of walking delegates, three of whom were convicted and sent to prison for extortion. Other prominent events in the labor record were the bitterly contested railroad strike in Waterbury, Ridgeport, and Richmond; the strikes at the mines in Colorado, where all the State's militia was in the field for weeks; the signal defeat of the Socialists in the Federation Convention; and the reinstatement of Miller in the Government bindery after his expulsion from the union had caused his dismissal.

In February, the decision against the beef trust was announced; in April was made known the important decision against the Northern Securities Railway merger.

Heavy rains following a series of tornadoes at the end of May caused destructive floods at Topeka, Kansas City, and St. Louis, where 150 lives were lost and 45,000 persons were for a time homeless.

At the same time the dry forests in the east were burning, and on June 4th the streets of New York were full of smoke. In June sudden floods from the hills killed 200 persons at Heppner, Oregon, and 80 near Spartansburg, S. C.

Vermont and New Hampshire after a century of prohibition turned to license and local option.

The worst of the year's railway collisions took place near Westfield, N. J., twenty-three lives being lost; in Arizona, where thirty-five lives were sacrificed, and near Connellsville, Pa., on Dec. 23rd, where sixty-eight persons perished. But these calamities were far surpassed by the appalling fire in the Iroquois Theatre in Chicago, on the afternoon of Dec. 30th, where, at a holiday matinee, 578 persons, many of them children, were killed in a few minutes.

Population of the United States.

POPULATION OF THE UNITED STATES IN 1900, COMPARED WITH 1890 AND 1880, BY STATES AND TERRITORIES, SHOWING THE INCREASE BY NUMBER AND PERCENTAGE FROM 1890 TO 1900, FROM 1880 TO 1890, AND FROM 1870 TO 1880.

States and Territories.	Population.			Increase from 1890 to 1900.		Increase from 1880 to 1890.		Increase from 1870 to 1880.	
	1900.	1890.	1880.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.
The United States	**75,620,859**	**62,622,250**	**50,155,783**	**12,998,609**	**20.76**	**12,466,467**	**24.86**	**11,597,412**	**30.08**
North Atlantic divis'n	21,044,895	17,401,545	14,507,407	3,643,350	20.94	2,894,138	19.95	2,208,677	17.96
Maine	694,366	661,086	648,936	33,280	5.03	12,150	1.87	22,021	3.51
New Hampshire	411,588	376,530	346,991	35,058	9.31	29,539	8.51	28,691	9.01
Vermont	343,641	332,422	332,286	11,219	3.37	136	0.04	1,735	0.52
Massachusetts	2,805,346	2,238,943	1,783,085	556,403	25.30	455,858	25.57	325,734	22.35
Rhode Island	428,556	345,506	276,531	83,050	24.04	68,975	24.94	59,178	27.23
Connecticut	908,355	746,258	622,700	162,097	21.72	123,558	19.84	85,246	15.86
New York	7,268,009	5,997,853	5,082,871	1,270,156	21.18	914,982	18.00	700,112	15.97
New Jersey	1,883,669	1,444,933	1,131,116	438,736	30.36	313,817	27.74	225,020	24.83
Pennsylvania	6,301,365	5,258,014	4,282,891	1,043,351	19.84	975,123	22.77	760,940	21.61
South Atlantic divis'n	10,443,658	8,857,920	7,597,197	1,585,738	17.90	1,260,723	16.59	1,743,587	29.79
Delaware	184,735	168,493	146,608	16,242	9.64	21,885	14.93	21,593	17.27
Maryland	1,189,946	1,042,390	934,943	147,556	14.16	107,447	11.49	154,049	19.73
District of Columbia	278,718	230,392	177,624	48,326	20.98	52,768	29.71	45,924	34.87
Virginia	1,854,184	1,655,980	1,512,565	198,204	11.97	143,415	9.48	287,402	23.46
West Virginia	958,900	762,794	618,457	196,106	25.71	144,337	23.34	176,443	39.92
North Carolina	1,891,992	1,617,947	1,399,750	274,045	16.94	218,197	15.59	328,389	30.65
South Carolina	1,340,312	1,151,149	995,577	189,163	16.43	155,572	15.63	289,971	41.10
Georgia	2,216,329	1,837,353	1,542,180	378,976	20.63	295,173	19.14	358,071	30.24
Florida	528,542	391,422	269,493	137,120	35.03	121,920	45.24	81,745	43.54
Northern Central div'n	26,353,640	22,362,279	17,364,111	3,991,361	17.85	4,998,168	28.78	4,383,000	33.76
Ohio	4,157,545	3,672,316	3,198,062	485,229	13.21	474,254	14.83	532,802	19.99
Indiana	2,516,463	2,192,404	1,978,301	324,059	14.78	214,103	10.82	297,664	17.71
Illinois	4,821,550	3,826,351	3,077,871	995,199	26.01	748,480	24.32	537,980	21.18
Michigan	2,419,782	2,093,889	1,636,937	325,893	15.56	456,952	27.92	452,878	38.25
Wisconsin	2,068,963	1,686,880	1,315,497	382,083	22.65	371,383	28.23	260,827	24.73
Minnesota	1,751,395	1,301,826	780,773	449,569	34.53	521,053	66.74	341,067	77.57
Iowa	2,251,829	1,911,896	1,624,615	339,933	17.78	287,281	17.68	430,595	36.06
Missouri	3,107,117	2,679,184	2,168,380	427,933	15.97	510,804	23.56	447,085	25.97
North Dakota	319,040	182,719	36,909	136,321	74.61	145,810	395.05	120,996	853.23
South Dakota	401,559	328,808	98,268	72,751	22.13	230,540	234.60		
Nebraska	1,068,901	1,058,910	452,402	9,991	0.94	606,508	134.06	329,409	267.83
Kansas	1,469,496	1,427,096	996,096	42,400	2.97	431,000	43.27	631,697	173.35

States and Territories.	Population.			Increase from 1890 to 1900.		Increase from 1880 to 1890.		Increase from 1870 to 1880.	
	1900.	1890.	1880.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.
Southern Central div...	13,690,230	10,972,893	8,919,371	2,717,337	24.76	2,053,522	23.02	2,484,961	38.62
Kentucky	2,147,174	1,858,635	1,648,690	288,539	15.52	209,945	12.73	327,679	24.81
Tennessee	2,022,723	1,767,518	1,542,359	255,205	14.44	225,159	14.60	283,839	22.55
Alabama	1,828,697	1,513,017	1,262,505	315,680	20.86	250,512	19.84	265,513	26.63
Mississippi	1,551,372	1,289,600	1,131,597	261,772	20.30	158,003	13.96	303,675	36.68
Louisiana	1,381,627	1,118,587	939,946	263,040	23.52	178,641	19.01	213,031	29.31
Texas	3,048,828	2,235,523	1,591,749	813,305	36.83	643,774	40.44	773,170	94.45
Oklahoma	398,245	61,834	.....	336,411	544.22	61,834	.....	.....	.....
Arkansas	1,311,564	1,128,179	802,525	183,385	16.25	325,654	40.58	318,054	65.65
Western division	4,088,436	3,027,613	1,767,697	1,060,823	35.04	1,259,916	71.27	777,187	78.46
Montana	243,289	132,159	39,159	111,130	84.09	93,000	237.49	18,564	90.14
Wyoming	92,531	60,705	20,789	31,826	52.43	39,916	192.01	11,671	128.00
Colorado	539,700	412,198	194,327	127,502	30.93	217,871	112.12	154,463	387.47
New Mexico	193,777	153,593	119,565	40,184	26.15	34,028	28.46	27,691	30.14
Arizona	122,212	59,620	40,440	62,592	104.98	19,180	47.43	30,782	318.72
Utah	276,565	207,905	143,963	68,660	33.02	63,942	44.42	57,177	65.88
Nevada	42,334	45,761	62,266	*a*3,427	*a*7.49	*a*16,505	*a*26.51	19,775	46.54
Idaho	161,771	84,385	32,610	77,386	91.71	51,775	158.77	17,611	117.41
Washington	517,672	349,390	75,116	168,282	48.16	274,274	365.13	51,161	213.57
Oregon	413,532	313,767	174,768	99,765	31.80	138,999	79.53	83,845	92.22
California	1,485,053	1,208,130	864,694	276,923	22.92	343,436	39.72	304,447	54.34

a Decrease.

RECAPITULATION BY GROUPS.

Geographical Divisions.	Population.			Increase from 1890 to 1900.		Increase from 1880 to 1890.		Increase from 1870 to 1880.	
	1900.	1890.	1880.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.
The United States	75,620,859	62,622,250	50,155,783	12,998,609	20.76	12,466,467	24.86	11,597,412	30.08
North Atlantic division	21,044,895	17,401,545	14,507,407	3,643,350	20.94	2,894,138	19.95	2,208,677	17.96
South Atlantic division	10,443,658	8,857,920	7,597,197	1,585,738	17.90	1,260,723	16.59	1,743,587	29.79
Northern Central div.	26,353,640	22,362,279	17,364,111	3,991,361	17.85	4,998,168	28.78	4,383,000	33.76
Southern Central div.	13,690,230	10,972,893	8,919,371	2,717,337	24.76	2,053,522	23.02	2,484,961	38.62
Western division	4,088,436	3,027,613	1,767,697	1,060,823	35.04	1,259,916	71.27	777,187	78.46

☞ The above figures are exclusive of Indians, of the population of Alaska, Hawaii, Indian Territory, of Whites on Indian Reservations, and of persons in the service of the United States stationed abroad.

MAPS OF

States and Territories,

With Comparative Statistics, Area, Population, Railroads, Etc.

ALASKA was purchased from Russia in 1867 for $7,500,000, and the United States Government has long ago regained that sum from the seal fisheries. Since the purchase Alaska has brought the government more than $9,000,000,000 in revenue. The settlement of the Alaska Boundry dispute between Great Britain and the United States was accomplished in 1903. The chief occupation was for a long time fur trading. The discovery of gold in the Klondike region and along the Yukon and its branches brought about an instant transformation, a rapid increase in population; and small towns grew into cities in a day. It is an incompletely organized territory directly under the control of Congress.

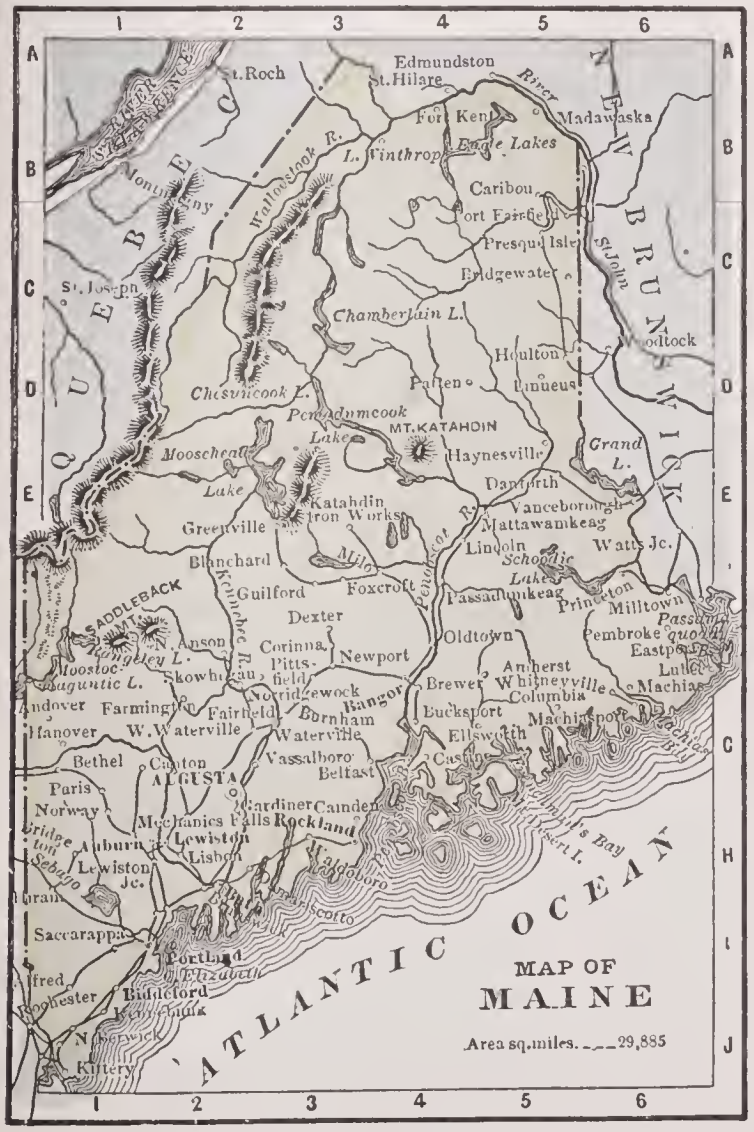
The total population is 63,592, including 29,536 Indians.

Climate is modified by the Pacific Gulf Stream, and there are long summer days. The winter temperature at Sitka averages about the same as Washington, D. C.

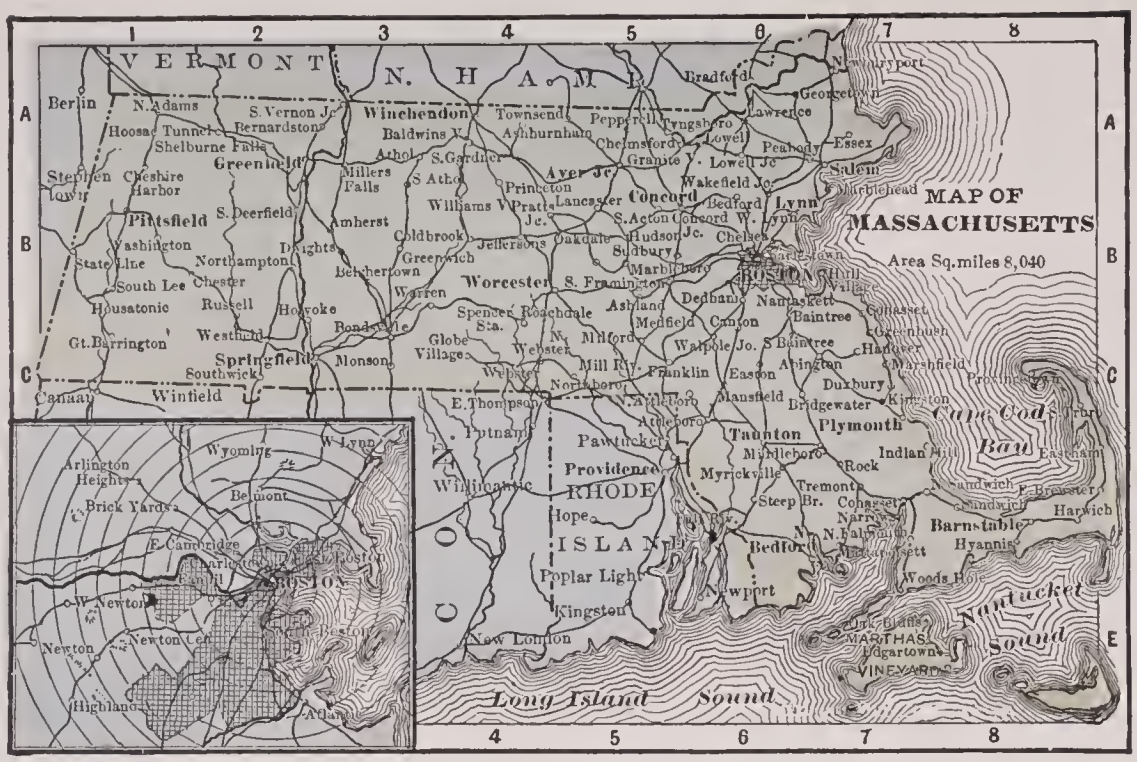
MAINE (Pine Tree State) — Settled by French at Bristol in 1625; admitted to the Union 1820; has an area of 33,040 square miles, population of 694,466. Ranks twenty-third in wealth, thirtieth in population, thirteenth in the production of hay, thirty-seventh in the number of square miles, third in railway mileage. Chief industry of the State is the manufacture of cotton goods, due to excellent water-power and transportation facilities; the labor industry ranks next in importance. It also holds a high place in the manufacture of woolen products, extensive lumber and ship-building trade, fisheries, cotton, woolen, tanned and curried leather, boots and shoes, etc. The agricultural portion of the State lies in the valley of the St. John and between the Penobscot and Kennebec Rivers. Capital, Augusta. Salary of Governor, $2,000.

NEW HAMPSHIRE (The Granite State) — First settlement by the English at Little Harbor, 1623. Has an area of 977,000 square miles, and a population of 411,566. Boot and shoe making is of chief importance, and the manufacture of woolen goods ranks second. Manchester is the manufacturing center of the State, and some of the finest woolen goods in the country come from that city. Lumber and timber products, foundry and machine shop products, hosiery and knit goods stand in the order named. State ranks third in the manufacture of cotton goods, thirtieth in the production of potatoes, twenty-eighth in wealth, thirty-sixth in population, forty-third in miles of railway, and forty-third in square miles. The capital is Concord, and the Governor of the State receives a salary of $2,000.

VERMONT (Green Mountain State) — Was first visited by the Europeans in 1509, first permanent settlement was made in 1724 at Fort Dummer; has an area of 9,653 miles and a population of 343,641. Admitted to the Union on March 4, 1791. Capital of the State is Montpelier. During the last decade there has been a large increase in manufacture. The manufacture of lumber and timber products ranks first, and connected with the lumber trade is the manufacture of wood pulp. Extensive granite and slate quarries give employment to a large number of men. It is also noted as a good grazing country; stock raising is carried on to a considerable extent. The State ranks twenty-first in the production of potatoes; seventh in hops and buckwheat; thirty-fifth in wealth, fortieth in population, forty-second in square miles, and forty-fifth in miles of railway. The Governor of the State receives a salary of $1,500, the Chief Justice and Associate Justices receive $2,500; District Judge, $3,500; Collector of Internal Revenue, $2,650.

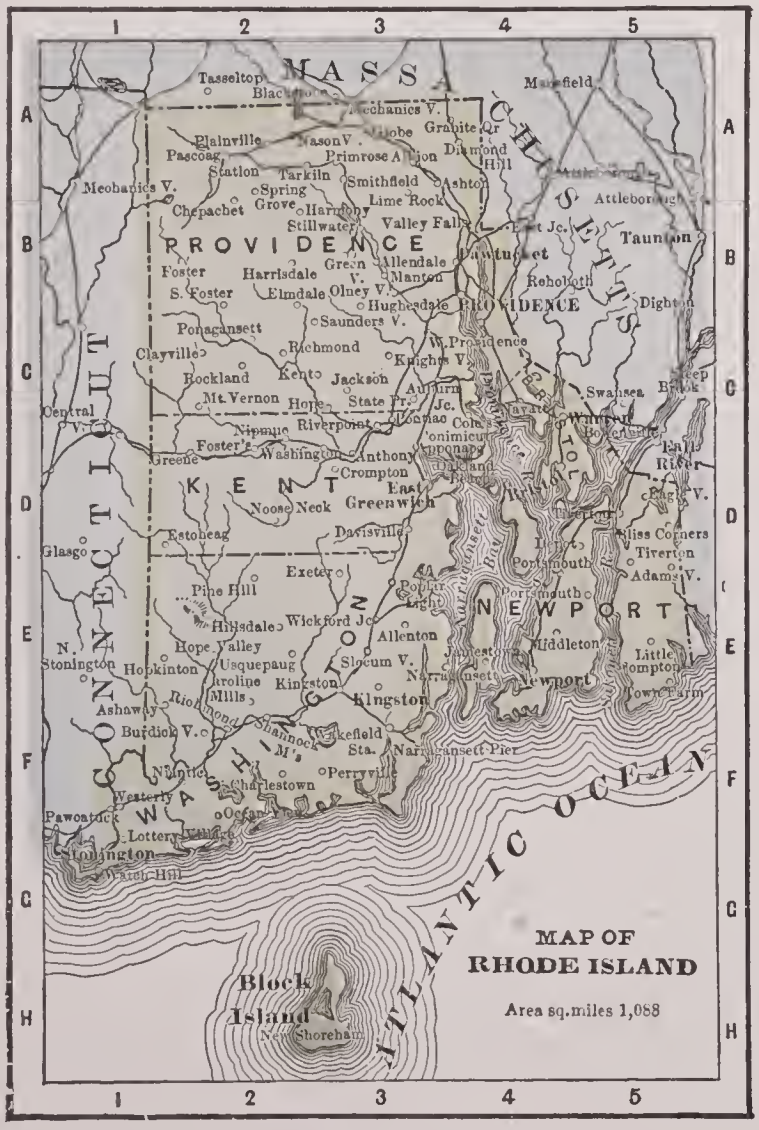


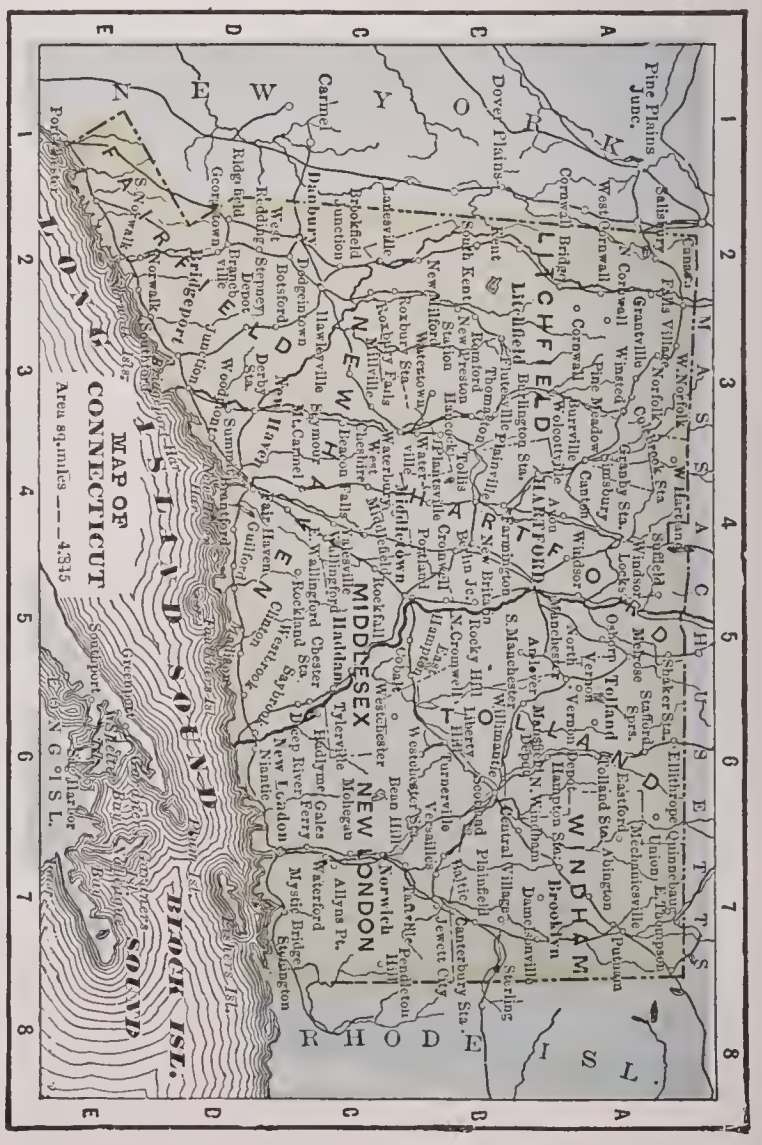
MASSACHUSETTS (Bay State) — First permanent settlement was made at Plymouth in 1620; has an area of 8,315 square miles, and a population of 2,805,346. Ranks second in wealth, thirty-fourth in miles of railway, forty-third in square miles. The manufacture of woolen, cotton, and worsted goods is of great importance. Manufacture and commerce chiefly engage the attention of the inhabitants. The cod and mackerel fisheries are important industries. Besides the manufactures already mentioned, that of leather and morocco, bleaching and dyeing, flour and meal, lumber and furniture, molasses and sugar-refining, ship-building, animal and vegetable oil, are all of importance.



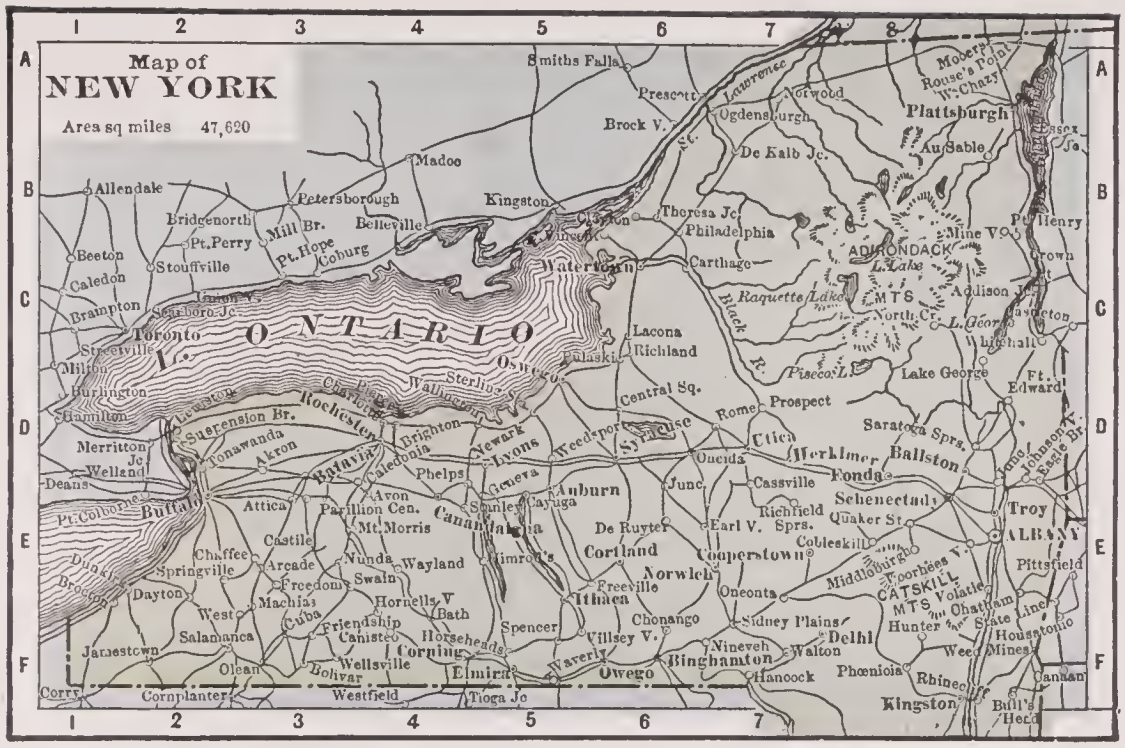
RHODE ISLAND (Little Rhody) — The first European to land on the soil of Rhode Island was Verrazzani in 1524; the first settlement was made at Providence by Roger Williams in 1666. The latest statistics on manufacturing show 186 textile manufacturing establishments in the State, with a total capital of $38,656,682 invested. Nearly one-third of the total annual income of the State comes from the textile industries. Manufacturing is the leading industry of the State, Rhode Island being noted for her varied products, among which cotton and woolen goods stand first. In 1900 she ranked second in the United States in the manufacture of cotton goods and third in the manufacture of woolens. In the manufacture of worsted and knit goods there has been a marked increase during the last decade. Since the invention of "filling" gold with less valuable metals, Rhode Island has stood first in the manufacture of cheap jewelry, and about one-fourth of this product in the United States comes from Providence. The manufacture of silverware forms an important industry. It ranks twenty-first in wealth, thirty-fourth in population, forty-ninth in square miles, and forty-ninth in miles of railway. The capital is Providence. The Governor of the State receives a salary of $3,000.

CONNECTICUT (Nutmeg State) — Connecticut has an area of 4,990 square miles and a population of 908,420. It was one of the thirteen original States. The first settlement was made at Hartford in 1633 by the Dutch. It is a manufacturing State, a State of varied industries, nearly every article of commerce is manufactured there. Several extensive granite and free stone quarries are worked successively, as are also mines of silver, lead, copper, and iron. The State ranks thirteenth in wealth, twenty-seventh in population, forty-sixth in railroad, and forty-seventh in square miles. The capital, Hartford, has a population of 79,850. The Governor of the State draws a salary of $4,000 a year.





NEW YORK (The Empire State).— Has an area of 3,719 square miles and a population of 7,268,894. The first settlement was made on Manhattan Island in 1614, called then New Amsterdam. In 1626 Manhattan was purchased from the Indians for something like $27. In population, wealth, and commerce New York is the first in the Union. The commerce extends to all parts of the world. Manufacturing is large and constantly increasing. Agriculture is one of the chief pursuits, wheat and corn being the staple productions. The development of the Salt Springs of the interior is one of the industries of the State. It has a magnificent system of railroads and canals. The Governor receives a salary of $10,000; Lieutenant-Governor, $5,000; Secretary of State, $5,000; Comptroller, $6,000; State Treasurer, $5,000; Attorney-General, $5,000; Superintendent of Insurance, $7,000; Superintendent of Banking Department, $7,000. Senators receive a salary of $1,500 and mileage. The Chief Judge of the Court of Appeals receives $14,200; the Associate Judges receive $13,700. The Justices of the Supreme Court for the first and second districts receive salaries of $17,500. The Mayor of New York City receives $15,000.

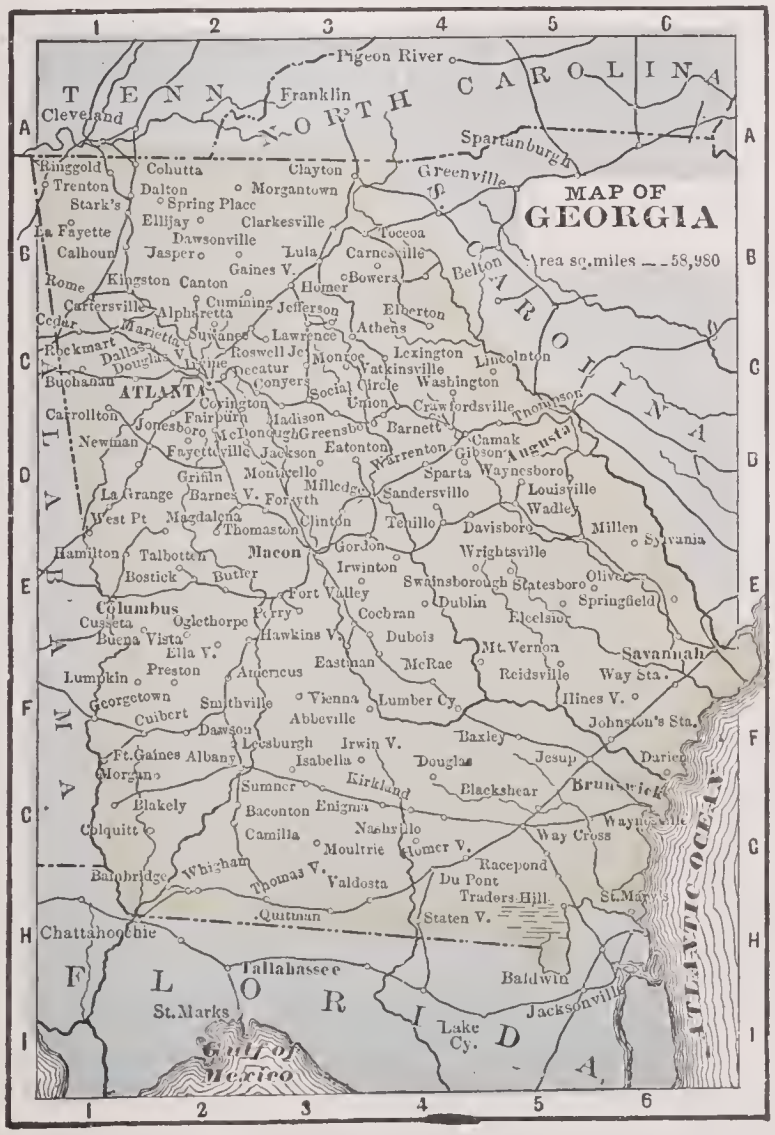

Map of
NEW YORK
Area sq miles 47,620
ONTARIO
Buffalo
Rochester
Toronto
Niagara Falls
Suspension Br.
Lewiston
Queenston
Hamilton
Brantford
Port Colborne
Welland
Merritton
Dunnville
Port Dover
Simcoe
Tillsonburg
Port Rowan
Port Stanley
Aylmer
St. Thomas
Ingersoll
Woodstock
Paris
Galt
Guelph
Berlin
Waterloo
Preston
Hespeler
Elora
Fergus
Orangeville
Alliston
Barrie
Orillia
Gravenhurst
Bracebridge
Parry Sound
Midland
Penetanguishene
Collingwood
Meaford
Owen Sound
Wiarton
Southampton
Kincardine
Goderich
Exeter
Clinton
Seaforth
Mitchell
Stratford
Listowel
Palmerston
Harriston
Mount Forest
Arthur
Fergus
Elora
Hespeler
Preston
Berlin
Waterloo
Galt
Guelph
Acton
Georgetown
Brampton
Streetsville
Milton
Oakville
Burlington
Hamilton
Dundas
Grimsby
Beamsville
St. Catharines
Thorold
Welland
Port Colborne
Fort Erie
Niagara Falls
Lockport
Medina
Albion
Holley
Brockport
Spencerport
Rochester
Scottsville
Batavia
Le Roy
Attica
Arcade
Perry
Warsaw
Castile
Silver Springs
Wyoming
Pavilion
Akron
Attica
Aron
Parillion Cen.
Mt. Morris
Nunda
Wayland
Swain
Hornells V
Bath
Cohocton
Dansville
Avoca
Hammondsport
Penn Yan
Geneva
Phelps
Clifton Springs
Canandaigua
Naples
Honeoye Falls
Mumford
Scottsville
Brighton
Pittsford
Fairport
Newark
Lyons
Clyde
Savannah
Weedsport
Auburn
Seneca Falls
Waterloo
Cayuga
Skaneateles
Jordan
Elbridge
Camillus
Syracuse
Central Sq.
Oswego
Fulton
Pulaski
Richland
Sandy Creek
Adams
Watertown
Carthage
Lacona
Oswego
Oneida
Canastota
Chittenango
Manlius
Fayetteville
Jamesville
Onondaga Valley
Rome
Prospect
Utica
Cassville
Frankfort
Ilion
Herkimer
Mohawk
Little Falls
Dolgeville
Gloversville
Johnstown
Amsterdam
Fonda
Schenectady
Ballston
Saratoga Spgs.
Troy
ALBANY
Richfield Spgs.
Quaker St.
Cobleskill
Middleburgh
Schoharie
Sharon Springs
Cherry Valley
Richfield Springs
Cooperstown
Oneonta
Sidney Plains
Delhi
Walton
Hancock
Deposit
Binghamton
Owego
Nineveh
Vilisey V.
Chonango
Spencer
Ithaca
Freeville
Dryden
Cortland
De Ruyter
Earl V.
Norwich
Sherburne
Earlville
Hamilton
Morrisville
Eaton
Peterboro
Canastota
Wampsville
Verona
Oriskany
Whitesboro
Clinton
New Hartford
Utica
Oneida
Cassville
Richfield
Earl V. Spgs

DELAWARE (Blue Hen State).— Has an area of 2,050 square miles, with a population of 187,000. It was one of the thirteen original States. In 1829 a colony from Holland settled near Lews. It is famous for its orchards and the quality of its fruits. Delaware peaches are famous throughout the country. The raising of tomatoes for canning is an important industry. The principal manufacturing industries are iron and steel products; rolling mills, car shops, machine shops, and ship building being of much importance. The most remarkable development within the last few years has been in fru canning and preserving industries. The Governor of the State receives $2,000.

MAP OF DELAWARE
Area sq. miles — 1,950
ATLANTIC OCEAN
Delaware Bay
Delaware
NEW JERSEY
MARYLAND
Wilmington
Newcastle
Dover
Milford
Seaford
Georgetown
Lewes
Rehoboth Beach
Cape May
Cape Henlopen
Bethany Beach
Ocean View
Millsboro
Laurel
Delmar
Whaleyville
Barren Cr.
Williamsburg
Concord
Stockley
Holleyville
Milton
Lincoln
Harrington
Felton
Houston
Frederica
Woodside
Camden
Wyoming
Petersburg
Canterbury
Hollandsville
Little Creek
Moorton
Kenton
Clayton
Bremford
Smyrna
Green Spring
Blackbird
Townsend
Middletown
Odessa
Kirkwood
Bear
Glasgow
Elkton
Newark
Stanton
Faulkland
Centreville
Wooddury
Swedesboro
Glassboro
Elmer
Penns Grove
Oakland
Bridgeton
Millville
Vineland
Hammonton
Waterford
Atlantic City
Ocean City
Cape May
Lewes
Rehoboth
Dagsboro
Frankford
Selbyville
Gumboro
Millsborough
Williamsville
Ocean View
Bethany Beach
Rehoboth Beach
Gravel Hill Sta.
Cool Spring
Milton
Lincoln
Ellendale
Harrington
Farmington
Vernon
Adamsville
Greenwood
Bridgeville
Cannon
Seaford
Concord
Laurel
Delmar
Whaleyville
Barren Cr.
Williamsburg
Millsborough
Dagsboro
Frankford
Selbyville
Gumboro
Holleyville
Stockley
Georgetown
Lewes
Rehoboth Beach
Bethany Beach
Ocean View
Millville
Vineland
Hammonton
Waterford
Atlantic City
Ocean City
Cape May
Cape Henlopen

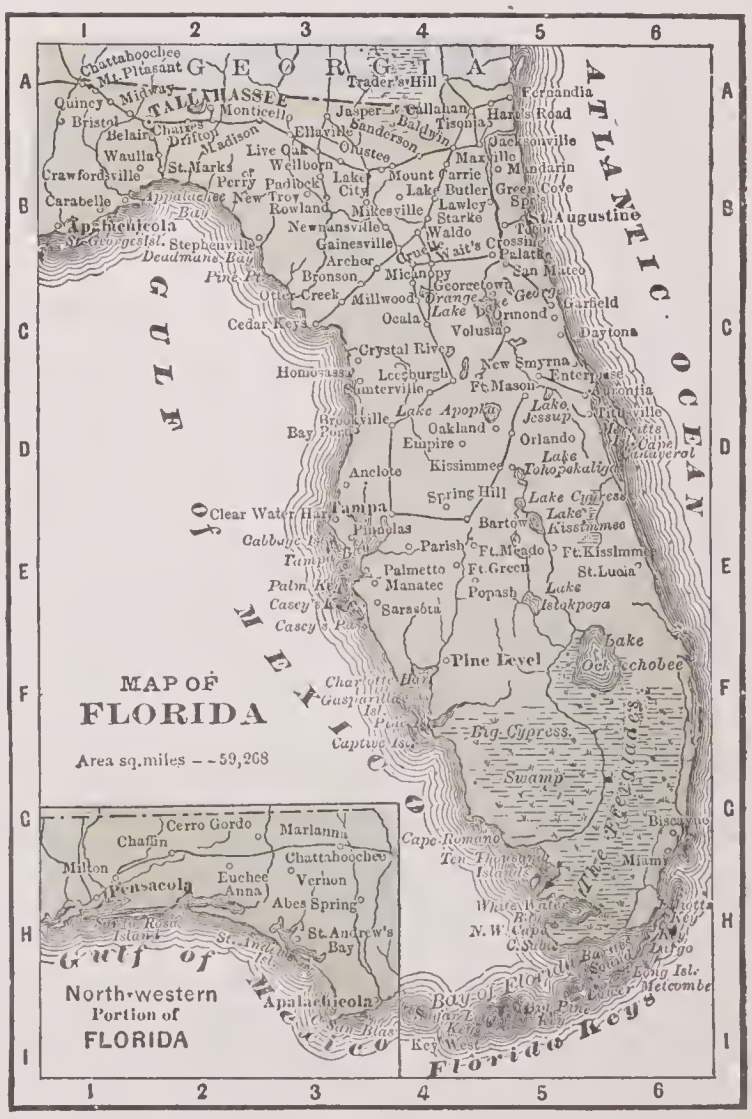
NORTH CAROLINA (Old North State).—Has an area of 52,474 square miles and a population of 1,893,810. The first attempt at settlement was made on Roanoke Island by party under Sir Walter Raleigh. No permanent settlement was formed until the seventeenth century. The manufacturing of the State depends largely upon its natural resources, the cotton and tobacco fields and extensive forests. The manufacture of cotton goods is the most important industry, having grown astonishingly in the last ten years. The lumber and timber industry ranks next in importance; North Carolina pine being used extensively as the chief hard wood. There is a considerable production of turpentine and rosin, and the State still continues to hold its position as first in the production of naval stores. The capital is Raleigh, and the Governor of the State receives $4,000.

SOUTH CAROLINA (Palmetto State).—Has an area of 30,570 square miles and a population of 1,340,316. The first settlement was made at Port Royal in 1652, but no permanent settlement was made until 1670. No State in the South has shown a more marked increase in manufacturing. Cotton mills have arisen like magic. The number of spindles and extent of output of cotton manufactures rank near the first in the United States. The manufacture of lumber and timber ranks second, while the manufacture of fertilizers and phosphate rock has the third place. Tea is grown in certain parts of the State which equals in quality the best that is imported from China and Ceylon. The capital of the State is Columbia. The Governor of the State receives a salary of $3,000.

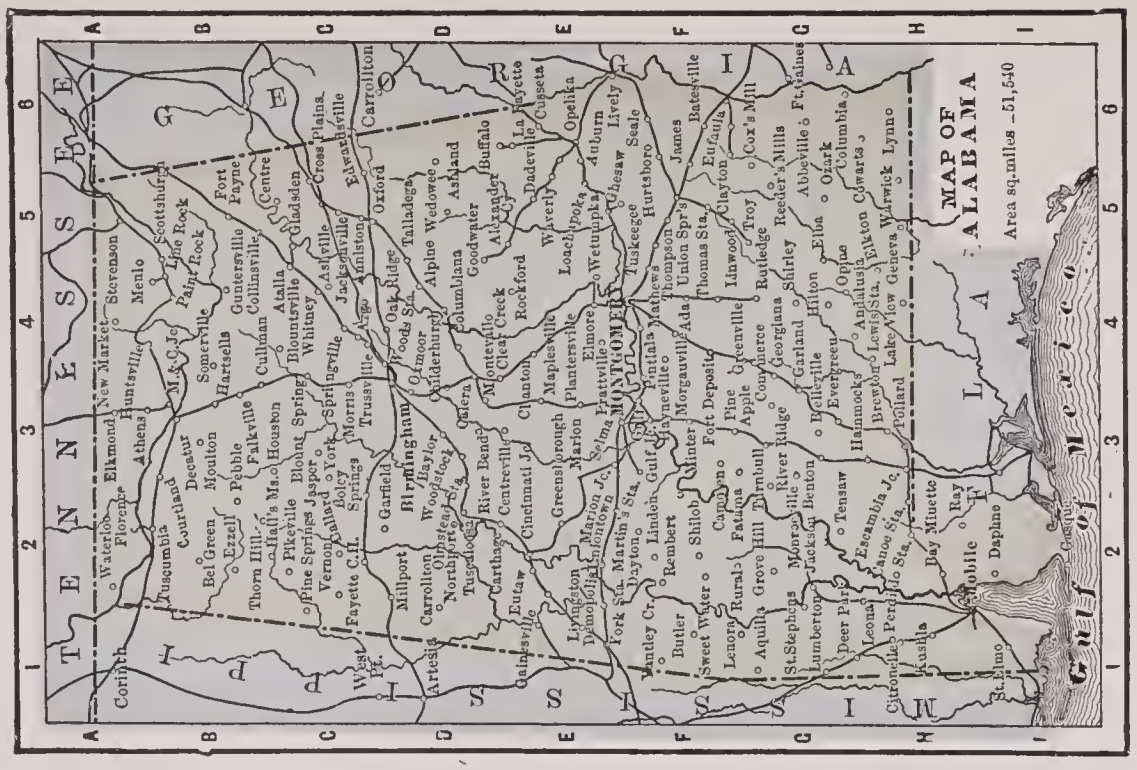


GEORGIA (Empire State of South).—Has an area of 59,475 square miles and a population of 2,216,331. It was one of the thirteen original States and the last of them to be settled. Savannah was settled in 1733. Georgia's industries are chiefly agricultural, though manufacturing industries have rapidly increased. The manufacture of cotton is the chief industry. Cotton seed oil and cake stand among the first of manufactured products. The manufacture of turpentine and rosin rank next. There are extensive pine forests throughout the State which supply large quantities of excellent timber. The peach orchards of Georgia are the largest in the United States. Fruit canning and preserving have become important industries. The capital is Atlanta. The Governor receives a salary of $3,000.

FLORIDA (Peninsula State).—Has an area of 56,680 square miles and a population of 528,542. Was admitted to the Union in 1845. Agriculture, and the exploitation of mineral resources are the principal industries of the State. The most important manufactures of Florida are along the lines of her most important natural products, lumber and tobacco. The tobacco manufacture ranks first in importance. More leaf tobacco enters the port of Tampa than at any other port of the United States, coming chiefly from Havanna. Rich veins of phosphate rock have been discovered and thousands of tons are exported every year. The forests of Florida cover 25,000,000 acres, and are composed largely of pitch pine and live oak. In the raising of subtropical fruits Florida ranks second in the United States. The principal fruit crop is oranges, pineapples coming next.



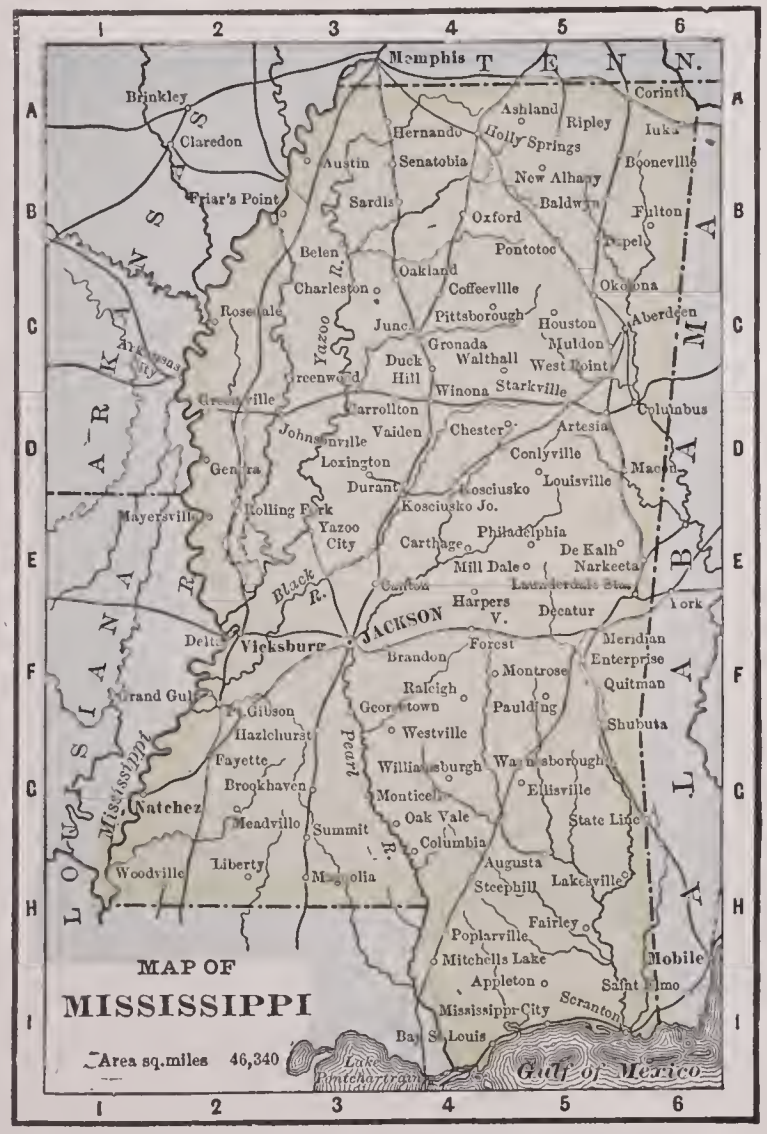
ALABAMA.—The first settlement made by the French in 1711 at Mobile. Admitted to the Union in 1819. Has an area of 25,250 square miles and a population of 1,862,000. Primarily an agricultural State. Alabama ranks second in the United States in the manufacture of coke. The iron and steel industries rank first, and the manufacture of lumber and timber products rank second. In the production of cotton this State stands third in the United States. The capital is Montgomery. The Governor's salary is $3,000.



MISSISSIPPI (Bayou State).—First settled by the French in 1616 at Natchez. Admitted to the Union in 1817. Has an area of 48,410 square miles and a population of 1,578,000. The forests of Mississippi constitute the most natural resource. There has been a marked increase in the lumber and timber industry in the last ten years. The manufacture of cotton seed oil and cake ranks second among her industries. The production of turpentine and rosin ranks fourth, cotton ginning third. Some of the finest cotton grown in the South comes from this State. Ranks thirty-first in wealth, twentieth in population, twenty-ninth in square miles and third in the production of cotton. Capital, Jackson. The Governor receives a salary of $3,500.

KENTUCKY (Corn Cracker State).—Has an area of 40,400 square miles and a population of 2,179,000. First settlement was at Boonesborough in 1775. Admitted to the Union in 1792. Tobacco is the principal product of the State; next in importance is flour and grist mill products. Ranks first in the manufacture of corn whisky, and stands near the head of the list in the manufacture of distilled and malt liquors. There are extensive coal mines in the State, and large deposits of iron ore are found. Kentucky has long been famous for the breeding of fine horses. The capital is Frankfort. The Governor of the State receives a salary of $6.500.

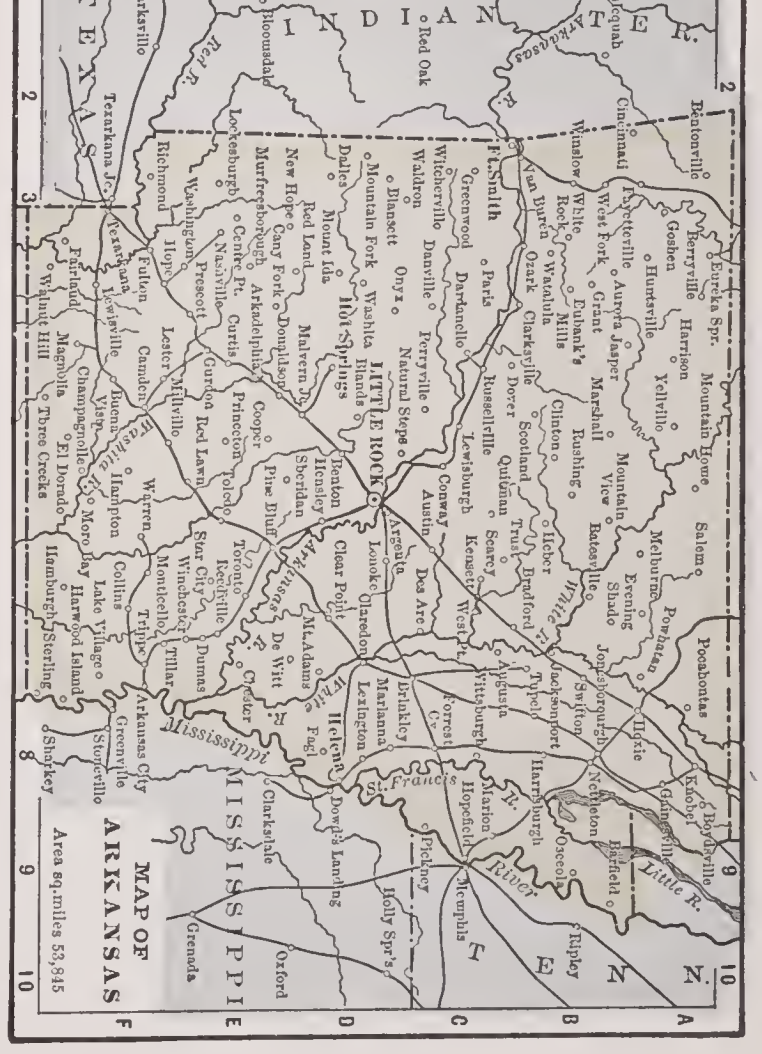
TENNESSEE (Big Bend State).—First settlement at Fort London in 1757. Admitted to the Union in 1796. Has an area of 42,050 square miles and a population of 2,048,000. Flour and grist mill products rank the first in importance in the State, while the manufacture of lumber and timber has second place. It also produces some of the finest tobacco grown in the United States. It ranks fourteenth in population, twenty-fourth in wealth, twenty-second in miles of railway, ninth in the production of cotton, thirteenth in coal, and sixth in iron ore. The capital of the State is Nashville. The Governor receives a salary of $4,000.

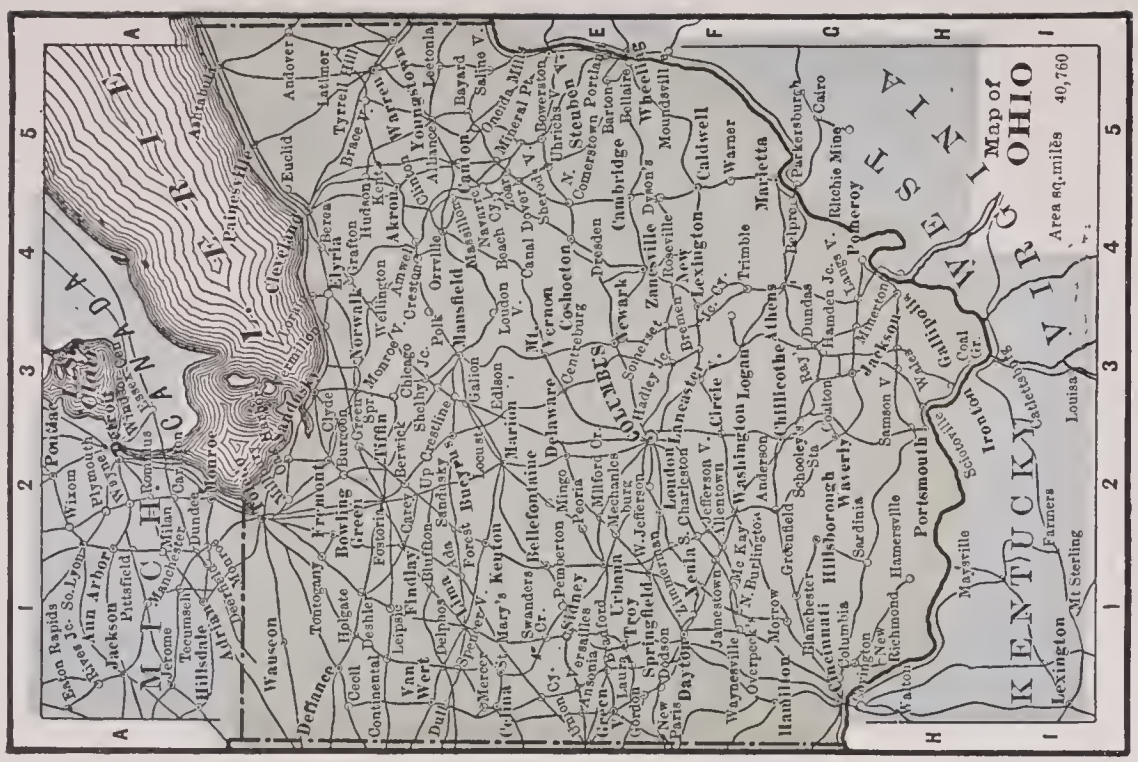


LOUISIANA (Creole State).— First settlement at Iberville in 1699. Admitted to the Union in 1812. Its manufactures depend closely upon its natural resources, its forests, and upon the sugar-cane, cotton, and rice fields. The refining of sugar is the most common industry in the State. The manufacture of cotton products is increasing. Part of the State is covered with forests of yellow pine. The timber industry is being carried on to a very great extent. It ranks twenty-sixth in wealth, twenty-eighth in square miles, and twenty-third in railway. Cotton is largely cultivated and the rice crop is also large. The capital is Baton Rouge. The Governor receives a salary of $5,000.

TEXAS (The Lone Star State).— First settled by the Spaniards at San Antonio in 1692; admitted to the Union in 1845. Has an area of 265,780 square miles and a population of 3,142,000. Lumber, cotton, and wheat are produced in abundance. The most important industry is the manufacture of lumber and timber products, while the manufacture of cotton seed oil and cake rank second. Texas is sixth among the wheat producing States. The recent discovery of seemingly inexhaustive oil fields has brought an enormous increase of capital into Texas. It ranks first in cotton, sixth in population, eleventh in wealth, and twelfth in railways. First in stock-raising. The capital is Austin. The Governor receives a salary of $4,000.

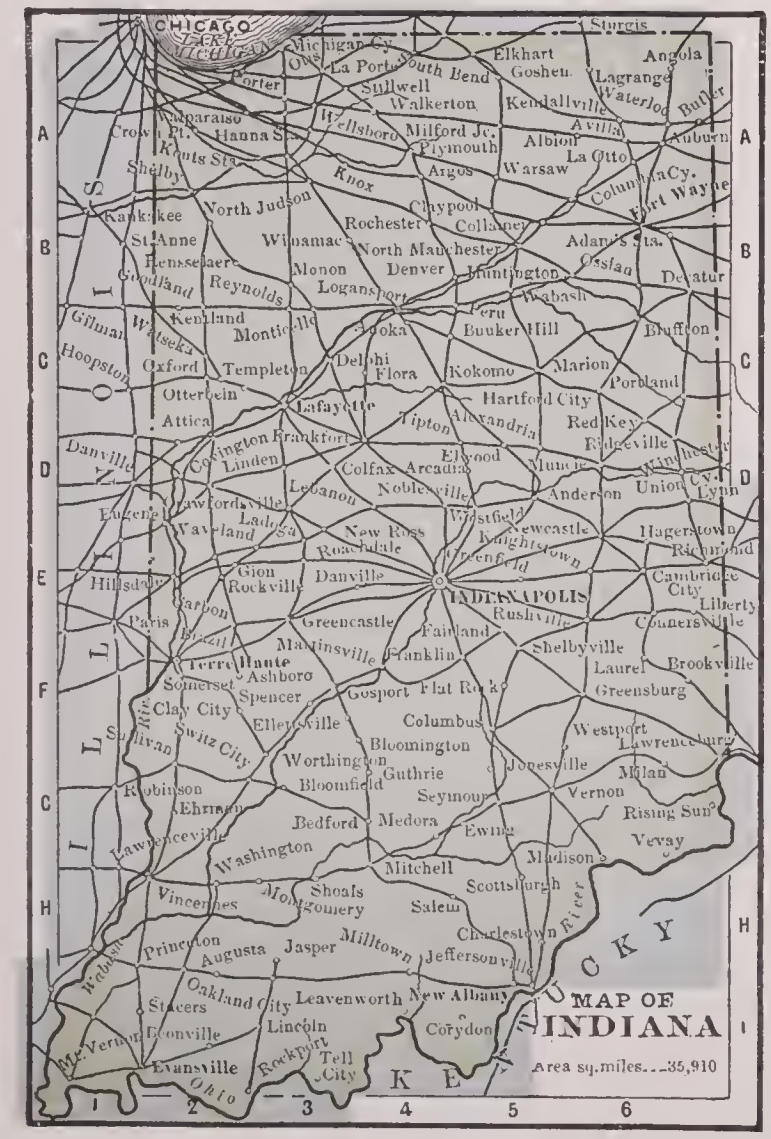
ARKANSAS (Bear State).— First settlement by the French at Arkansas Post in 1685. Admitted to the Union in 1836. Has an area of 45,042 square miles and a population of 1,331,000. The chief industry is the manufacture of lumber and timber. Flour and grist milling ranks second in importance. The cotton production of the State is 7.5 of the whole of the country. Ranks twentieth in railways, twenty-fifth in population, and thirty-fourth in wealth. The capital is Little Rock. The Governor receives a salary of $3,000.


MAP OF ARKANSAS
Area sq.miles 53,845
INDIAN TER.
TEXAS
MISSISSIPPI
Eureka Spr.
Berryville
Harrison
Yellville
Mountain Home
Salem
Gosnen
Huntsville
Fayetteville
Aurora
Jasper
Marshall
Melbourne
Pocahontas
Batesville
Evening Shade
Jonesborough
Corning
Piggott
Knobel
Boydsville
Gainesville
Little R.
Bentonville
Cincinnati
Tahlequah
Winslow
White Rock
Watalula
Mills
Eubank's
Fayetteville
West Fork
Grant
Cushing
Clinton
Scotland
Quitman
Heber
Bradford
Trumann
Tyronza
Jacksonport
Harrisburg
Swifton
Osceola
Ripley
Benton
Hensley
Sheridan
Pine Bluff
Toronto
Redville
Star City
Winchester
Monticello
Tillar
Dumas
Arkansas City
Greenville
Stoneville
Lake Village
Harwood Island
Sharkey
Rolling Fork
Hamburgh
Sterling
Three Creeks
El Dorado
Walnut Hill
Magnolia
Champagnolle
Moro Bay
Collins
Hampton
Warren
Camden
Buena Vista
Fordyce
Princeton
Curtis
Prescott
Nashville
Centre Pt.
Dallas
Mount Ida
Hot Springs
Malvern
Arkadelphia
Donaldson
Cooper
Red Land
New Hope
Cany Fork
Murfreesborough
Locksburgh
Bloomsdale
Red Oak
Richmond
Washington
Hope
Fulton
Texarkana
Lewisville
Fairfield
Magnolia
Three Creeks
Clarksville
Red R.
Ozark
Clarksville
Dover
Russellville
Paris
Ft. Smith
Greenwood
Dardanelle
Danville
Waldron
Perryville
Natural Steps
Lewisburgh
Conway
Austin
Des Arc
Argenta
Lonoke
Claredon
Clear Point
Mt. Adams
De Witt
Chester
Forrest Cy.
Brinkley
Marianna
Lexington
Helena
Eagle
Dowd's Landing
Clarksdale
Oxford
Ripley
Holly Spr's
Grenada
Pickney
Memphis
Hopefield
Marion
St. Francis
Mississippi
Wittsburgh
Augusta
Jacksonport
Harrisburg
Swifton
Osceola
Ripley
Boydsville
Gainesville
Little R.
Batesville
Evening Shade
Jonesborough
Corning
Piggott
Knobel
Pocahontas
Melbourne
Powhatan
Salem
Yellville
Harrison
Mountain Home
Eureka Spr.
Berryville
Gosnen
Huntsville
Fayetteville
Aurora
Jasper
Marshall
Mountain View
Searcy
Kensett

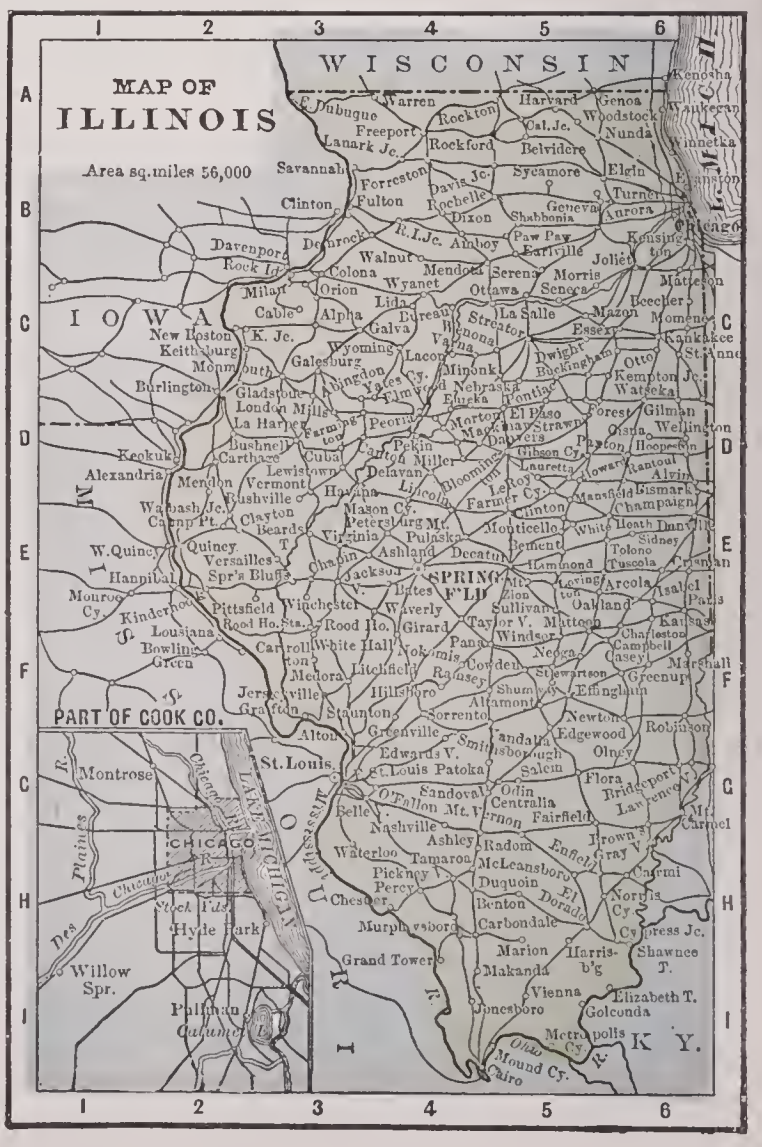


OHIO (The Buckeye State).—First settled at Marietta in 1788. Admitted to the Union in 1803. Has an area of 41,060 square miles, and a population of 4,212,000. The most important industry of the State is the manufacture of iron and steel. The manufacture of foundry and machine shop products has second rank. Ohio stands first among all the States in the manufacture of metal-working machinery. Flour and grist milling is one of the oldest industries in the State. It ranks fourth in population, fourth in wealth, eleventh in iron ore, fifth in miles of railroad, and thirty-third in square miles. The capital is Columbus. The Governor receives a salary of $8,000.

INDIANA (The Hoosier State).—First settled by the French at Vincennes in 1730. Admitted to the Union in 1816. Has an area of 36,350 square miles and a population of 2,552,000. The discovery of natural gas greatly stimulated manufacturing; in 1899 Indiana produced more natural gas than any other State in the Union. In the production of petroleum it ranks fourth and in coal sixth. The leading industry of the State is that of meat packing. The manufacture of flour and grist mill products ranks second in importance and the manufacture of liquors follows. Lumber and timber products have a large part of the industries of the State. Ranks eighth in population, sixth in wealth, twelfth in miles of railway, thirtieth in square miles. Indianapolis is the capital. The Governor receives a salary of $5,000.



ILLINOIS (Prairie State).—First settled by the French at Kaskaskia in 1682. Admitted to the Union in 1818. Has an area of 56,650 square miles and a population of 4,930,000. Chicago is the second city in the United States with a population of 1,698,575. Illinois ranks as the third manufacturing State in the United States. In 1900 the State had more railroad mileage than any other state in the country; the total number of miles being 10,997. Slaughtering and meat packing are the most important industries; Chicago is a great live stock market for the west and northwest. The foundry and machine shop products rank second in importance; the manufacture of liquor third; the city of Peoria has become the largest producer of fine wines and whiskeys in the United States. Ranks tenth in wealth, third in population, twenty-third in square miles. The capital is Springfield. The Governor's salary is $6,000.



MICHIGAN (The Wolverine State).—Was first settled by the French at Detroit in 1650. Admitted to the Union in 1837. Has an area of 57,530 square miles and a population of 2,457,000. The manufacture of lumber and timber products is the most important industry in the State. The manufacture of flour and grist mill products ranks second. Grand Rapids is one of the great furniture markets of the world. Capital is Lansing. Ranks second in iron ore, thirty-second in coal, ninth in population, seventh in wealth, seventh in railway, and twenty-first in square miles. Salary of the Governor is $4,000.

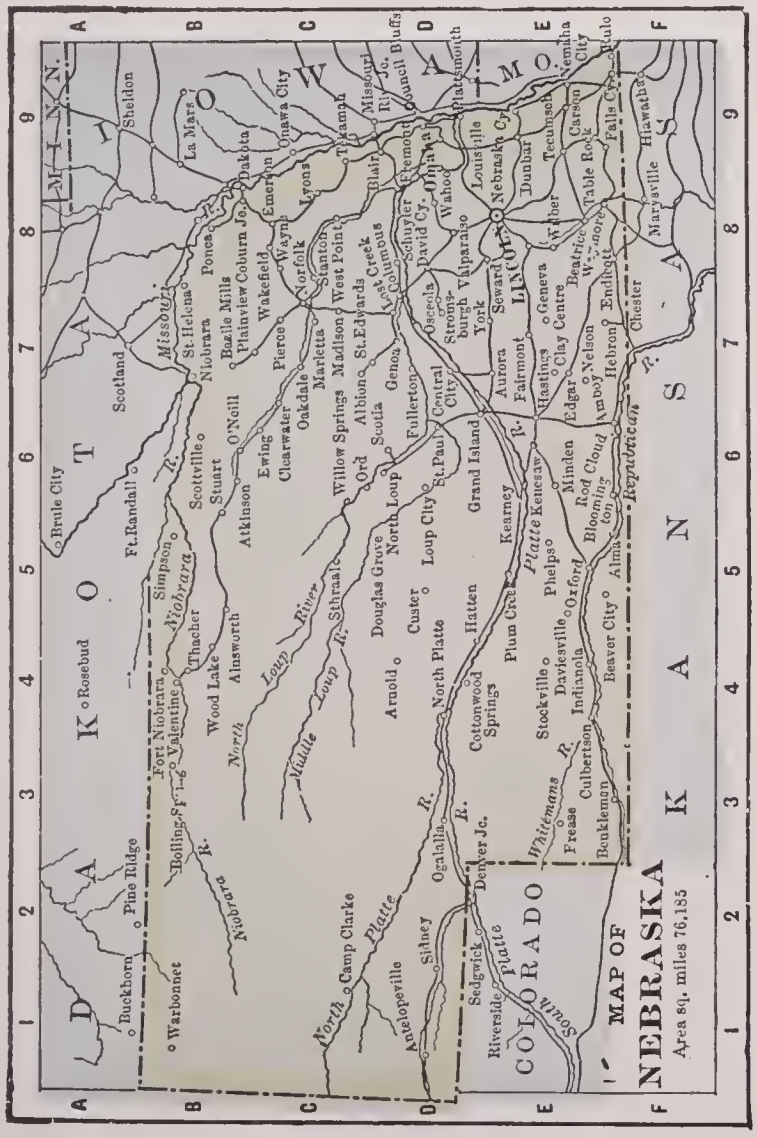
WISCONSIN (The Badger State).—Was first settled by the French in 1660. Admitted to the Union in 1848. The manufacture of lumber and timber products is the most important industry in the State. Stands first in the United States in the value of its timber and lumber. The manufacture of flour and grist mill products ranks second. The State ranks fourth in the United States in the manufacture of malt liquors. Ranks thirteenth in population, twenty-fourth in square miles, seventh in iron ore, and fifth in wheat. Capital of the State is Madison. The Governor receives a salary of $5,000.

MINNESOTA (Gopher State).—Was first settled in 1812. Admitted into the Union in 1858. Has an area of 83,365 square miles and a population of 1,799,000. There are immense tracts of white and Norway pine and extensive wheat fields in the State. It leads all others in the value of its flour and grist mill products. Minneapolis is the center of flour mill industry. The second industry of importance is lumbering. The manufacture of malt liquors is of great importance. Ranks sixteenth in wealth, nineteenth in population, ninth in railway, and thirteenth in square miles. The Governor receives a salary of $5,000. Capital is Minneapolis.

IOWA (Hawkeye State).— The first white settlement made in 1788. Admitted to the Union in 1846. Area, 66,025 square miles. Population, 2,267,000. Ranks fourth in miles of railway, seventeenth in wealth, and twenty-fifth in square miles. Primarily an agricultural State. Wholesale slaughtering and meat packing is the most important industry. Factory manufacture of butter, cheese, and condensed milk ranks second in importance; flour and grist milling holds the third place. An industry peculiar to Iowa is the manufacture of pearl buttons. Salary of Governor, $3,000.

NEBRASKA.— Territory organized in 1854; admitted to statehood in 1867. Area, 15,378 square miles, and population 1,067,000. Primarily an agricultural and stock-raising State. It has slaughtering and meat packing industries, and Omaha is now one of the great cattle markets of the world. Lincoln has the largest creamery in the country. Omaha is the headquarters for the printing and publishing trade for the middle West. The Governor receives a salary of $2,500.

NORTH AND SOUTH DAKOTA.— The Territory of Dakota was organized in 1861. In 1899 it was divided into North and South Dakota, which were admitted as States at the same time. North Dakota has an area of 70,795 square miles; South Dakota has 77,650 square miles. The populations are respectively 330,000 and 401,570. The principal industries of the two States are agriculture, stock-raising, and mining. The most important industry of the two States is the manufacture of flour and grist mill products. The Governor of North Dakota receives a salary of $3,000; that of South Dakota, $2,500.


MAP OF
NEBRASKA
Area sq. miles 76,185
COLORADO
KANSAS
MINN.
IOWA
MISSOURI
DAKOTA
Omaha
Lincoln
Grand Island
Hastings
Kearney
North Platte
Fremont
Nebraska City
Beatrice
Falls City
Hiawatha
Marysville
Chester
Hebron
Endicott
Geneva
Clay Centre
Edgar
Nelson
Superior
Red Cloud
Bloomington
Franklin
Minden
Holdrege
Orleans
Alma
Beaver City
Oxford
Cambridge
McCook
Culbertson
Benkleman
Stockville
Cottonwood Springs
Plum Creek
Platte
Phelps
Kearney
Hatten
Gothenburg
Overton
Elm Creek
Odessa
Shelton
Wood River
Alda
Doniphan
Central City
Fullerton
Genoa
Albion
Scotia
Ord
Arcadia
Loup City
St. Paul
Arnold
Douglas Grove
North Loup
Willow Springs
Madison
St. Edwards
Cedar Rapids
Silver Creek
Columbus
Schuyler
David City
Osceola
Stromsburg
York
Seward
Aurora
Fairmont
Hastings
Edgar
Nelson
Endicott
Hebron
Geneva
Clay Centre
Beatrice
Wymore
Table Rock
Falls City
Humboldt
Auburn
Nemaha
Brownville
Peru
Nebraska City
Louisville
Weeping Water
Plattsmouth
Bellevue
Papillion
Gretna
Elkhorn
Valley
Waterloo
Omaha
Council Bluffs
Missouri R. Jc.
Tekamah
Blair
Fremont
Dodge
Scribner
Wahoo
Ashland
Dunbar
Tecumseh
Nemaha
Verdon
Humboldt
Falls City
Table Rock
Pawnee City
Lewiston
Steinauer
Rulo
Hiawatha
Marysville
Chester
Hebron
Endicott
Geneva
Clay Centre
Fairmont
Aurora
Hastings

MISSOURI.—Organized as a Territory in 1812; admitted to the statehood in 1821. Its lead mines had attracted attention as early as 1720. Area, 69,415 square miles; population, 3,153,000. Slaughtering and meat packing are the most important industries. The manufacture of tobacco ranks second. Large and extensive wheat fields in the State. Ranks ninth in wealth, nineteenth in square miles, thirteenth in iron, and seventeenth in tobacco. The Governor receives a salary of $5,000.

MAP OF MISSOURI
Area sq.miles..68,735
ST.LOUIS
JEFFERSON CITY
KANSAS CITY
TOPEKA
Kansas City
St. Joseph
Hannibal
Quincy
Carthage
Springfield
Cape Girardeau
Sedalia
Columbia
Fayette
Glasgow
Marshall
Lexington
Independence
Warrensburg
Clinton
Butler
Nevada
Fort Scott
Parsons
Joplin
Carthage
Neosho
Aurora
Boston
Ozark
Gravel Pt.
Cedar Bluff
Eminence
Van Buren
Poplar Bluff
Doniphan
Neelysville
Lit. River Sta.
New Madrid
Portageville
Gayoso
Kennett
Butterfield
Cassville
Forsyth
Richville
Winslow
Gainesville
South Fork
Warm Fork
West Plains
Alton
Cobalt
Ava
Ottomer
Piedmont
Annapolis
Centreville
Big Creek
Hartville
Houston
Marshfield
Ash Grove
Greenville
Niangua
Conway
Phillipsburgh
Montauk
Hogan Mount
Cooksville
Salem
Iron Mt.
Ironton
Bismarck
Farmington
Knob Lick
Fredericktown
Russell's Mills
Marble Hill
Delta
Blum Sta.
St. Francisville
Charleston
Henson's
Sikeston
Bloomfield
Dexter
Puxico
Kennett
Caruthersville
Hayti
Steelville
Potosi
Mineral Pt.
Cuba
Rolla
Vienna
Sullivan
Crystal City
Arcadia
Pilot Knob
Ironton
Horine Sta.
Jefferson
Arondale
Pacific
Union
Washington
Hermann
Osage City
Osage Bluff
Tuscumbia
Versailles
Russellville
Windsor
Coalsburg
Turkey Cr.
Linn Creek
Jerome
Warsaw
Montrose
Rockville
Osceola
Hancock
Woodend
Sligo
Steelville
Lebanon
Scotland
Avery
Cooksville
Bolivar
Buffalo
Lamar
Stockton
Silver Creek
Walker
Hermitage
Pittsburgh
Jamesport
Trenton
Gallatin
Bethany
Pollock
Princeton
Unionville
Milan
Darlington
Maitland
Albany
Pickering
Grant City
Cottonwood
Glenwood Jc.
Lancaster
Kirksville
Browning
Linneus
Chillicothe
Lacledo
Macon City
Keytesville
Brunswick
Salisbury
Higbee
Dalton
Vandalia
Centralia
Prairieville
Benton
Elsberry
Cy. Winfield
Troy
Wentzville
St. Peters
St. Charles
Monroe City
New London
Bowling Green
Louisiana
Palmyra
Barclay
Beverly
Atlanta
W. Quincy
La Grange
Monticello
Millard
Edina
Alexandria
Harding
Memphis
Canton
Kahoka
Downing
Sublett
Kookuk
Labadie
Florissant
Ferguson
Alderney
E. St. Louis
Eureka
Fenton
Grimsley
Jefferson
Kirkwood
Missouri R.
Mississippi R.
St. Charles Riv.
Rushville
Cameron
Meadville
Cunningham
Lathrop
Richmond
Platte City
Atchison Jc.
Beverly Sta.
Atchison
Easton
Hamilton
St. Joseph
Savannah
Bigelow
Bolckow
Oregon
Maryville
Corning
Brownville
N E B
Valley Falls
Lawrence
Burlingame
Ottawa
Paola
Emporia
Garnett
Burlington
Iola
Harlem
Pleasant Hill
Napoleon
Higginsville
Brownsville
Warrensburgh
Sedalia
Tipton
Doran
Holden
Gun City
Harrisonville
Crescent
Lewis Sta.
Butler
Clinton
Rockville
Osceola
Hermitage
Walker
Silver Creek
Stockton
Bolivar
Buffalo
Lamar
Greenville
Niangua
Golden City
Carthage
Junction City
Sarcoxie
Pierce Cy.
Billings

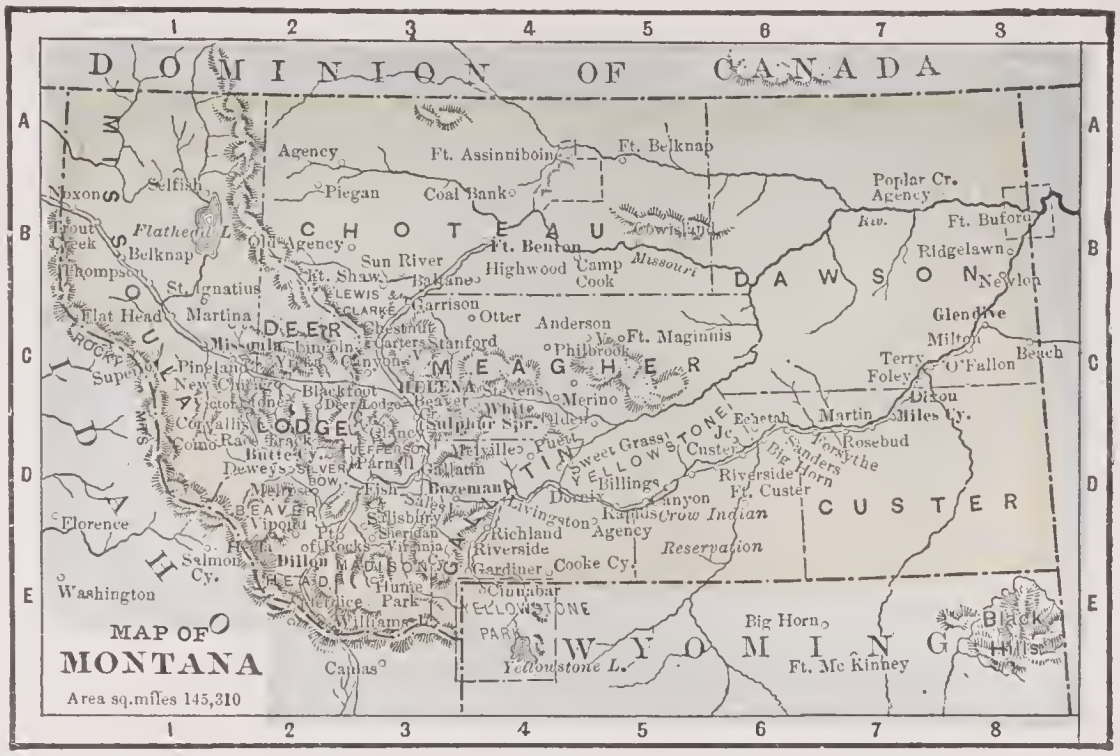
NEVADA (Sage Hen State).—Created a Territory in 1861, declared a State in 1864. The real growth of the State dates from the discovery of silver in 1859. Area, 110,700 square miles; population, 42,000. There has been in the last few years a decrease in gold and silver mining. Car construction

and repair shop work are the leading industries. Flour and grist mill and the manufacture of butter, cheese, and condensed milk form other important industries. Ranks ninth in gold, fourth in silver, forty-eighth in wealth, fifty-second in population. The Governor receives $4,000.

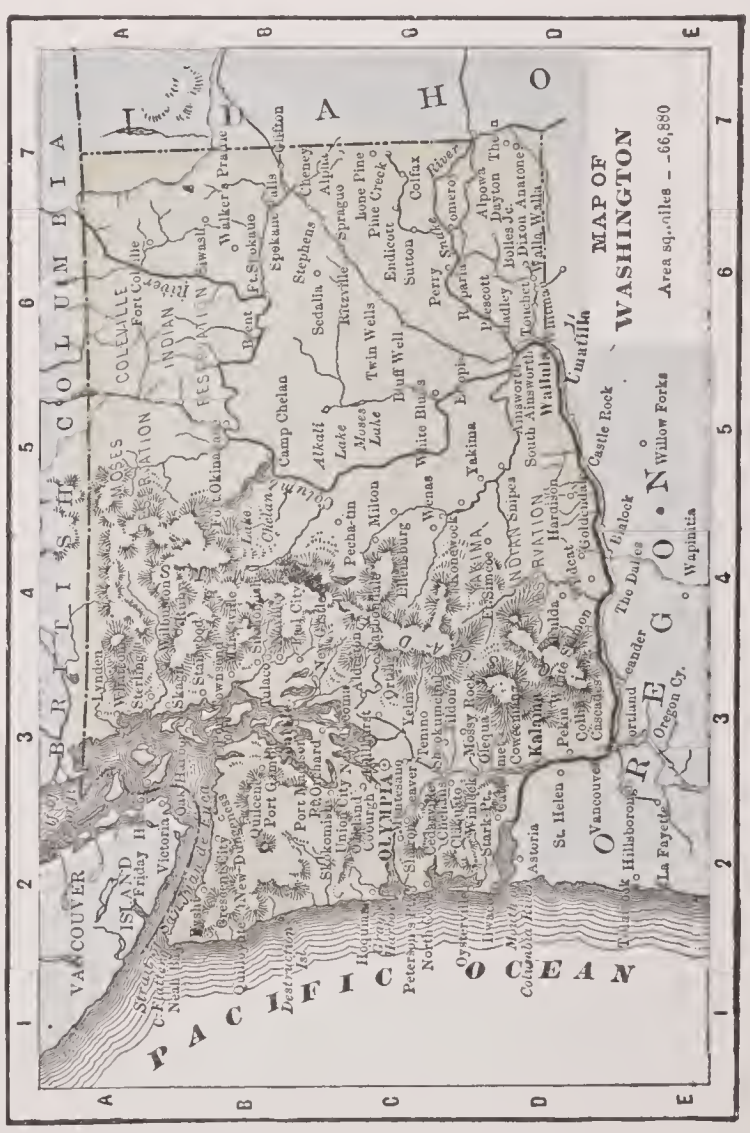
CALIFORNIA.—First settlement made in 1769 by the Spaniards. Gold was discovered in 1848. California was admitted to statehood in 1850 without passing through the intermediate stage of a Territory. Area, 155,980 square miles, and population, 1,485,053. As the gold mines declined the soil became the chief source of productiveness for the State. Grain and fruit are the chief products. Ranks second in gold, third in copper, third in square miles, and twenty-first in population. The capital is Sacramento, and the Governor receives a salary of $6,000.

MAP OF
CALIFORNIA
Area sq. miles 155,980
OREGON
NEVADA
LOWER CAL.
SACRAMENTO
Linkville
Goose Lake
Las Vegas
Shepherds
Mohave City
Camp Cady
Spanish Ranch
Cottonwood
Talasaddle
Chuckwalla
Lone Palm
Mammoth Tank
Indian Wells
Colton
Banning
Susanville
Quincy
Oroville
Marysville
Placerville
Jackson
Bridgeport
Bodie
Sonora
Mariposa
Owenyville
Indian Village
Talcose
Toll House
Oasis
Independence
Black Rock
Visalia
Hanford
Fresno City
Sanders
Walker Bridge
Merced
Modesto
San Jose
Oakdale
Milton
Stockton
Napa
Fairfield
Benicia
Roberts
Milton
Sonoma
Petaluma
Santa Rosa
Calistoga
Woodland
Arcade
Placerville
Marklee
Galt
Jackson
Bridgeport
San Andreas
Bodie
Sonora
Montgomery

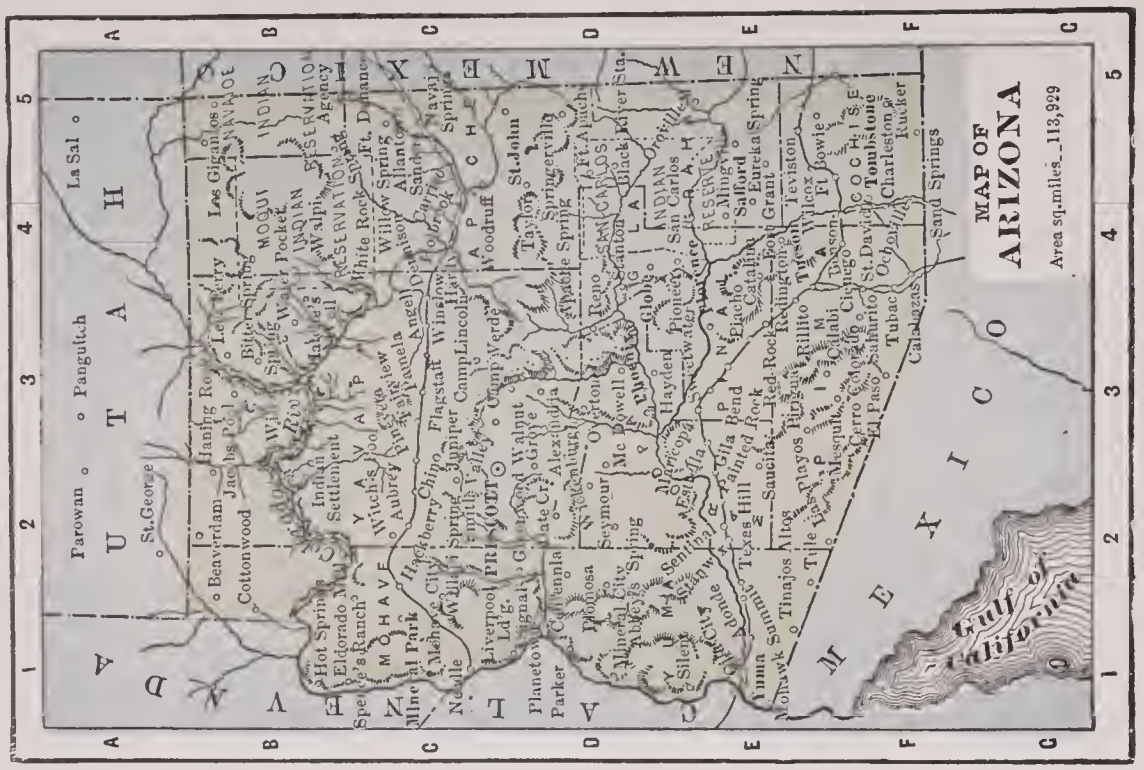
MONTANA was organized as a Territory in 1864. Its settlement dates from the opening of the gold mines. Admitted as a State in 1889. Area, 146,080 square miles; population, 254,000. Ranks fourth in silver, fifth in gold, and first in copper. The smelting and refining of copper and lead are the chief industries. Cattle raising industry is of great importance.



WASHINGTON.—Organized as a Territory in 1853. Admitted to statehood in 1899. Area, 69,180 square miles; population, 535,000. The manufacture of timber and lumber products ranks as the most important industry, the characteristic product being red-fir lumber and cedar shingles. The manufacture of flour and grist mill products ranks second; fish canning and preserving ranks third. Salmon and oysters are shipped extensively. Copper smelting and refining, the manufacture of iron and steel products, and the manufacture of paper and wood pulp are important industries. Ranks twelfth in gold, twenty-ninth in wealth, and thirty-third in population. Seattle is the leading port in the northwest.



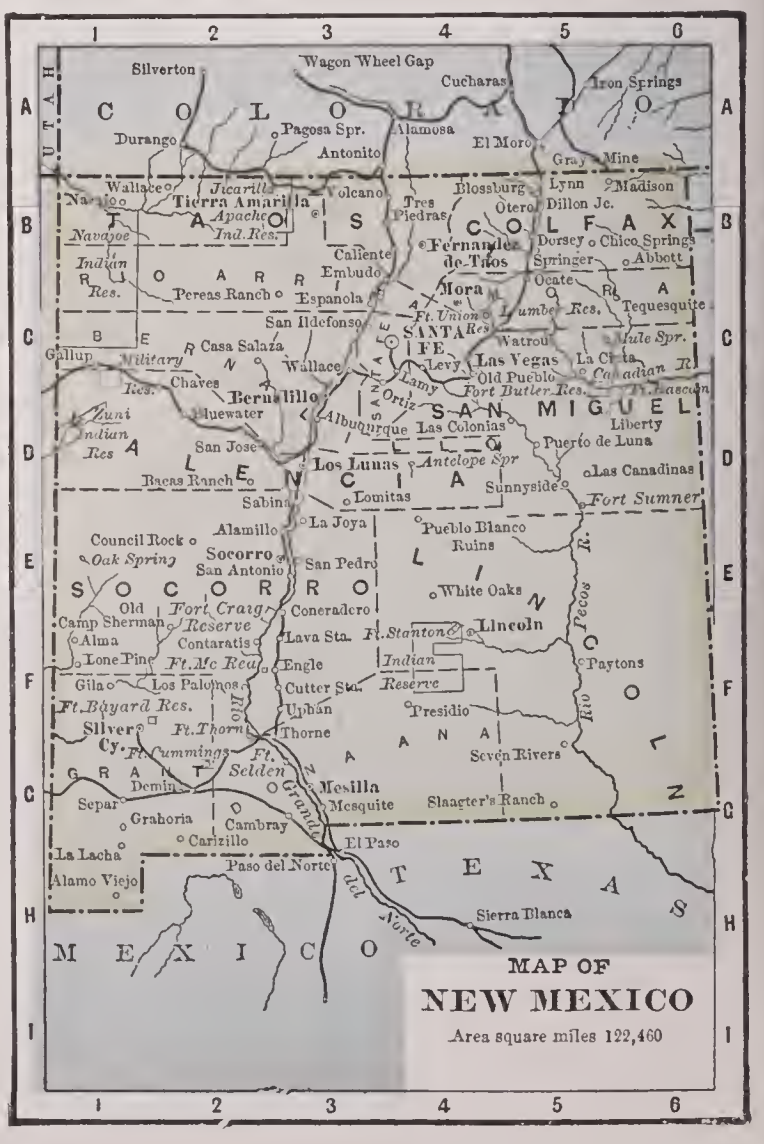
ARIZONA was organized as a Territory in 1863. Area, 112,290 square miles; population, 122,212. Of these 26,480 are Indians. About one-third of the white population are foreign born. Chiefly a mining Territory but beginning to take rank as an agricultural country owing to extension of irrigation. Copper smelting and refining is the chief industry. The number of acres under irrigation is 558,821. The staple crops of the



Territory are alfalfa, corn, wheat, barley, root crops, vegetables, and fruits. Stock raising is proving very successful. The Territory claims one of the best public school systems in the United States. A bill to admit Arizona to statehood passed the House in 1902 but was shelved by the Senate. Ranks second in copper, sixth in gold, forty-ninth in population, and forty-fourth in wealth.

UTAH was organized as a Territory in 1850. Area, 84,970 square miles; population, 283,000. Admitted as a State in 1896. In 1847 the Mormans commenced to make settlements in Salt Lake Valley and rapidly spread themselves over the entire Territory. Primarily a mining and agricultural State. The smelting and refining of lead ore is the most important industry. The manufacture of salt ranks high in the scale of important industries. Flour and grist milling, the canning of fruits and vegetables, the manufacture of beet sugar, malt liquors, and of butter and cheese are all of importance. The State ranks fortieth in wealth, seventh in gold, fourth in copper. The Governor receives a salary of $2,000.

NEW MEXICO was ceded to the United States in 1848. Since 1875 the question of the admission of New Mexico as a State has been before Congress. Has an area of 122,460 square miles, and a population of 199,000. Ranks eighth in silver, eleventh in gold, sixth in copper, forty-seventh in wealth. Mining and stock-raising are the most important industries, agriculture ranking next. Irrigation has made considerable progress. The Governor receives a salary of $2,600.



HAWAII was discovered by Captain Cook in 1778. Was annexed to the United States July 6, 1898. A bill to create Hawaii a Territory of the United States was passed by Congress and approved April 30. 1900. Was established a Territorial Government June 14, 1900.

The Hawaiian Islands are more productive of sugar in a given area than are the West Indies. The staple products are sugar and rice and there are extensive exports of coffee, hides. bananas, and wool. Total exports for 1900 were $13,509,148. Total imports for 1900 were $20,707,903.

MAP OF WYOMING
Area sq. miles - 97,575
YELLOWSTONE NATIONAL PARK
Mammoth Hot Springs
Yellowstone Lake
Big Horn
Ft. McKinney
Buffalo
Deadwood
Antelope Spring
Powder
Curtis Wells
WIND RIVER INDIAN RESERVATION
Ft. Washakie
Ft. Fetterman
Hat Creek
Warbonnet
Lander
Bates Hole
Deer Creek
La Bonte
Raw Hide Butte
Georgetown
Big Piney
Soda Lake
CARBON
Ft. Laramie
Cokeville
Fontenelle
Little Moon
Rock Cr.
Bordeaux
Hampton
Randolph
Marston
Thayer
Tipton
Rawlins
Sage
Halleck
Lookout
Davis Ranch
Little Bear
Little Horse Cr.
Evanston
Carter
Grange
Baxter
Green River
Bitter Creek
Wyoming
Wallach
Archer
Piedmont
Sage Creek
Laramie City
Harney
Hillsdale
Wahsatch
Hillard
Burnt Fork
Dixon
Corlett
Sherman
CHEYENNE
COLORADO
NEBRASKA
UTAH
IDAHO
MONTANA
SHOSHONE MTS.
BIG HORN MTS.
LARAMIE RANGE
LARAMIE PLAINS
SWEETWATER
NORTH PLATTE
SOUTH PASS
BLACK HILLS
POWDER R.
GREEN MTS.
WIND RIVER MTS.
WASATCH MTS.
UINTA MTS.
COLORADO DESERT
GREAT SALT LAKE
BEAR LAKE
BEAR R.
BLACK'S FORK
HAM'S FORK
GREEN R.
SNAKE R.
COLORADO R.
COLORADO DIVIDE
COLORADO DESERT

ONTARIO

is the most important Province of Canada. Principal products, grain, fruit, lumber, petroleum, copper and iron. The population of Ontario is one-third of the whole Dominion. Toronto, the capital, is the manufacturing and educational center. The population of this Province is largely of British descent.

QUEBEC

was originally settled by the French, and the present population is largely composed of descendants of the Voyagers. The capital, Quebec, is the oldest city in the Dominion. Its fortifications were at one time considered, next to Gibraltar, the strongest in the world. Nevertheless, the fortress was captured by General Wolfe. The metropolis, Montreal, is noted for its churches.

MANITOBA

is a great wheat-growing country, and furs are also a leading product. The first settlers, 1731, were French, and English traders first made their appearance in 1767. The Province is now traversed by the Canada Pacific Railway. Climate very severe in winter, but occasionally hot in summer. The soil is such that wheat ripens in 110 days. Winnipeg is the capital.

NATIVE HOUSES IN THE PHILIPPINES

. . . . . THE INSULAR . . . . . POSSESSIONS OF THE UNITED STATES.

THE PHILIPPINES AND THE INSURRECTION.

THE Philippine Islands, an archipelago in the Pacific Ocean southeast of Asia, became a possession of the United States in 1899 in accordance with the treaty of Paris of that year, arranging the terms of peace between the governments of the United States and Spain.

These islands had been under Spanish government for centuries, ever since their discovery by Magellan in 1521. The Bay of Manila upon which is located the city of that name, the capital of the islands, was the scene of the first engagement of the Spanish-American War, on the morning of May 1, 1898. At the close of the war the islands were ceded to the United States in consideration of the payment of $20,000,000.

During all the four hundred years of Spanish possession, the cruelty and greed of the governors sent out by the Crown to administer colonial affairs provoked numerous uprisings. The governor, the archbishop of Manila, and the religious orders of the Spanish Catholic church were the practical controllers of the lives and fortunes of the native inhabitants. Peculiar powers had from the first been conferred upon these religious orders; with the baleful result that they eventually acquired vast wealth, monopolies, and a system of espionage which was so obnoxious to the people that the great mass — devout Catholics though they were — became bitterly hostile toward the friars. For years the main political agitation was the question of the expulsion of the monks.

For a hundred years back the intractable population, restive under continual misrule, oppression, and robbery, had been in a perpetual state of insurrection. A secret society called the "Katipunan" existed — a revolutionary organization from which sprang the most serious Filipino rebellion, in 1896. It was at this time that Emilio Aguinaldo* first came into prominence as a leader.

The outbreak of '96 was characterized by fiendish atrocities on the part of the Spanish authorities. After months of warfare General Primo de Rivera opened negotiations with Aguinaldo whereby the rebels undertook to conclude an armistice for three years to await the development of certain promised reforms. In addition to this, certain moneys were paid Aguinaldo and his principal lieutenants, who immediately left the country for Hong Kong, not to return until authorized by the Spanish government. Spain, however, evidently not considering the treaty binding, failed to inaugurate any of the sweeping reforms promised; and renewed her old system of persecution.

Spain's repudiation left the rebel leader free to act, and Aguinaldo did not hesitate long. When war broke out between Spain and the United States and Dewey had made the Spanish fleet a thing of the past, Aguinaldo arranged with the Admiral to return to the islands and again raise the standard of revolt. All the provinces around Manila at once rose in insurrection and joined their young leader. So successful was he that he declared the Philippines an independent republic with himself as president, and established a military government which, though unrecognized by the United States, was nevertheless efficient and orderly.

When the terms of peace were made known to the Philippine people and American sovereignty was declared over the archipelago, the proclamation was met with bitter protest and universal resistance. By Aguinaldo and the foremost Filipino leaders it was received with something like derision. They repudiated the claims of the United States; and even the women sent in a document to the general-in-command, protesting that when all of the men were killed in the sacred cause they themselves would take the field.

The American authorities endeavored to impress the islanders with the infeasibility of their stand; but that all arguments were in vain is not surprising. The Americans believed that the Philippine Archipelago belonged to them and they moved to take possession as soon as possible. The Filipinos believed as firmly that the country was theirs and had no intention of quietly relinquishing it.

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*Emilio Aguinaldo, the recognized head of the Philippine Insurrection, is a really remarkable man. He is a half-breed, half Spanish and half Malay; brave, intelligent, and with an extraordinary genius for leadership. At about the age of fifteen he went to Hong Kong to study medicine, and there acquired the polish of Oriental society and strong revolutionary ideas. Hong Kong was the headquarters not only of the exiles and haunted leaders from his country, but also of the secret revolutionary society, the Katipunan.

Aguinaldo became intimately associated with the members of the Junto and went back to Luzon saturated with ideas of political freedom. In the early part of 1896 we find him mayor of Cavité and also a secret agent of Doctor Jose Rizal (a highly educated Chinese half-breed, who was then the head of the conspiracy), firing the natives to renewed resistance. The revolution, alway smoldering, broke out anew in every province. Aguinaldo's brilliant courage and magnetic personality made him a popular idol.

Aguinaldo had been perfectly content to use the Americans to get rid of the Spaniards. But that freedom for which he and his followers had fought so long and so bravely was not to be handed over to a second taskmaster without a struggle. The assertion of American sovereignty made war almost inevitable and could only have been avoided by the promise of ultimate independence to the islanders or by prompt and decisive action on the part of the United States Government.

Long before the outbreak of actual hostilities General Otis, who commanded the United States force in Manila, foresaw trouble. Had vigorous steps been taken by Congress at that time, it is possible there would have been no fighting. But the powers that be at Washington hesitated, and all through the winter of 1898 Aguinaldo was importing arms and organizing his forces unmolested. General Otis was not allowed to act; he could only wait for the Filipinos to show their hand. And all this time the friction between the American forces and the native army grew. However provoked, the fact remains that on the fourth day of February, 1899, the first attack occurred on the American picket-line in front of Manila, and the war began.

At this date the United States force in the archipelago was about 21,000 strong, but the actual able fighting list did not exceed 14,000. Aguinaldo had something about 30,000 men at his disposal.

The first action was naturally in favor of the Americans who drove the natives back from Manila, killing, wounding, and taking prisoner 3,000 or more. Iloilo, the second port in importance in the archipelago, Caloocan, and a number of other towns were taken possession of by the Americans; but during this time the natives were causing continual trouble in Manila. On the 22nd of February an uprising was suppressed which exposed a deliberate plot to massacre all the Americans in the city.

After considerable desultory fighting, Malolos was taken by General MacArthur on March 31st. The Filipinos then proceeded to cut off communication between Manila and Malolos. During the following months, owing largely to mismanagement of the home government, affairs were in a bad shape. An insufficient force at best was transported to the islands and an enormous per cent. of this was incapacitated by illness. The Americans numbered far too few to make any progress in Luzon and outside the island there was virtually anarchy.

By the opening of June, however, reinforcements had arrived and the American force stood 34,200. But from Washington came the command to General Otis to send his volunteers (16,000 men) home. Their departure so weakened the commander that he could make no decisive move through June and July. About this time an announcement was made to the Filipinos that the Americans were in the archipelago for the best good of the inhabitants and that the suzerainty of the United States must be recognized. The Filipinos naturally laughed at such an announcement and declared that they would accept nothing short of actual independence.

At the end of July reinforcements arrived but by that time the rainy season had set in and nothing practically could be done until the end of September. Porlac and Tarlac were then captured; and in November General Otis reported the whole of central Luzon in the hands of the American authorities; the President of the Filipino Congress, Secretary of State, and the Treasurer, prisoners; and Aguinaldo a fugitive. He pressed the scattered natives to the utmost; and in May of the following year, he left the islands, handing over his command to General MacArthur, firmly convinced that he had quenched the fire of rebellion forever.

It seemed, however, that the Filipinos were not to be conquered so easily, and that they had scattered of set purpose. Deciding it was impossible to continue resistance on regular lines, the army was disbanded and officers and men returned to their provinces to organize the people for general resistance by means of guerrilla warfare.

The revolution from now on resolved itself into the Katipunan Society — nothing else. This bloody and secret society, whose two vows were vengeance and independence, was originally organized to oppose Spanish supremacy and now bid fair to prove as deadly a foe against the Americans. At one time the society numbered several hundred thousand members all bound together by an iron-clad oath that required life itself as a sacrifice to its fulfillment. Under the baleful authority of this monstrous society all uniforms were discarded and the murderous, destroying guerrilla system from now on held full sway.

On June 21, 1900, a proclamation was issued announcing an amnesty to all who had taken part in the insurrection and who surrendered. The result was anything but encouraging; not more than 5,000 persons took the oath of allegiance. In all, the conciliation policy proved a dismal failure.

By December conditions for the Americans were far from promising and to increase the difficulty, General MacArthur had orders that the remaining volunteers must be disbanded in the United States by June, 1901. Before that time had elapsed, however, Aguinaldo had been captured on March 23, and later, on April 2, took the oath of allegiance. On January 2, President McKinley promulgated an order establishing civil government in the islands and appointing Judge Wm. H. Taft*, Governor. On July 4, Major-General MacArthur turned over the military authority to his successor, Major-General Chaffee.

The pacification of the Philippines was considered complete during the summer of 1903; and President Roosevelt formally declared the restoration of peace, issuing on July 4th a proclamation extending general amnesty to the insurgents. Every one then was perfectly satisfied that the war was over — except

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* Wm. H. Taft, first Civil Governor of the Philippines, was born in Cincinnati in 1857; graduated from Yale and afterward studied law, practicing his profession successfully. Was appointed Assistant Prosecuting Attorney for Hamilton County, Ohio; later Collector of Internal Revenues; then Judge of the Supreme Court of Ohio; afterwards Judge of the United States Circuit Court; and upon the creation of the Circuit Court of Appeals, he was assigned to that bench.

The great work of General Taft in pacifying the Philippines and laying the foundation of its civil government, industrial development, and improvement of its social condition is a matter of history. He has succeeded in organizing an admirable educational system, has asked America to reduce the tariff on all Philippine products 75%, also to admit Chinese labor under certain conditions; and is regarded by the inhabitants of the islands as their benefactor and friend. In 1904 he succeeded the Hon. Elihu Root as Secretary of War.

Vice-Governor Luke E. Wright succeeded Governor-General Taft in the Philippines and ably carried on the good policies which, as a member of the Philippine Commission, he had such a large share in developing.

General Chaffee himself. According to his view of the situation, it looked as if the force in the Philippines would have to be increased instead of diminished.

As yet the ultimate settlement has not been perfectly reached. It is just possible that the last word in the struggle between the United States and its Oriental burden is not yet said.

The Philippine Islands in 1904.

The Philippine group, so named in honor of Philip II. of Spain, number about 2,000 islands great and small. The actual land area is about 140,000 square miles. The Island of Luzon on which the city of Manila is situated is the largest member of the group, being about the size of the State of New York. The latest estimate of the areas in square miles of the most important islands are as follows:

Luzon	44,400
Mindanao	34,000
Samar	4,800
Panay	4,700
Mindoro	4,000
Leyte	3,800
Negros	3,300
Cebu	2,400

The estimates of the population differ, but the United States census places it at about 7,000,000 souls. The Spanish authorities never ordered a census and some of the parts of the islands are as yet unexplored and occupied by the fiercest and most primitive savages.

The population of the Philippines is a heterogeneous mass with different tribes and races incapable of assimilation. The inhabitants of the principal islands belong to three distinct races: Negritos, Indonesian, and Malayan.

The Negritos are the disappearing remnant of a people which populated the entire archipelago and in the matter of intelligence stand at the bottom of the human series. These original people were driven into the interior by Malays whose descendants now form a large proportion of population.

The Indonesians are physically, at least, superior to the Negritos.

The majority of inhabitants are of Malayan extraction everywhere modified more or less through intermarriage with Chinese, Arabs, Indonesians, and to some extent, Spaniards and other Europeans. Tagals and Igolotes are the most important of the Malay tribes. Besides these two races there are in the islands Malay Indians, native Caucasians, and a large number of Chinese and Mestizoes.

The representatives of the races are divided into numerous tribes which differ very greatly in customs, laws, and language — as many as thirty different dialects being spoken.

The average temperature of the year is 81°, the extreme ranges being 61° and 97°. There are three well-defined seasons, the rainy season reaching its maximum during July and August. Yellow fever seems to be unknown here; the diseases most fatal to the natives being cholera and smallpox, both of which are brought from China. Almost all of the diseases indigenous to the islands can be avoided with proper precaution even by troops during a campaign. The sickness of our troops was even less while in the islands than when in camp in San Francisco.

The chief products of the Philippines are hemp, rice, corn, sugar, coffee, cocoanuts and cocoa, tobacco leaf, cigars, and indigo; the cultivation of sugar and tobacco being almost entirely in the hands of Spanish, Englishmen, and Germans. The agricultural implements employed by the natives are of the crudest sort but the soil is so fertile and rain is so plentiful that in many sections of the country two crops are raised in a year. A Bureau of Agriculture was established in 1901 and is now investigating the best method of cultivating the various crops.

It is still unknown to a large extent what the mining resources are though it is certain there are deposits of gold, copper, and coal, together with smaller deposits of iron, lead, sulphur, granite, marble, and petroleum. Rich gold fields in the mountains have been reported. There are about 50,000,000 acres of forests also, most of it hard wood timber, and valued at $500,000,000.

Education has made rapid strides. Schools with American teachers have been established and about two thousand native teachers have been employed.

Manila as the metropolis of the archipelago has the promise of a magnificent future. It has every possibility of becoming not only the great commercial entrepôt but a beautiful city. It now presents a curious mixture of the Spanish and Oriental, while over all is the very perceptible modernizing influence. On the left bank of the Pasig River is the old walled city, a perfect specimen of a medieval Spanish fortified city. It is surrounded by a moat and a massive stone wall, built in 1590, within which is a picturesque panorama of ancient palaces, forts, churches, and convents, enlivened by specks of brilliant color, where the public squares blossom with the superbly showy vegetation of the tropics.

Across the river is the modern Manila — a bustling, cosmopolitan, commerical city. In the business portion of the town, in the bazaars, shops, and stalls, Spanish, American, Chinese, Malays, Hindoos, and Mestizoes are represented and the mingling of many tongues and dialects makes a veritable Babel.

From its favorable geographical position, which renders it the natural emporium of the trade of the Orient, and with development of the marvelous natural resources of the islands by American enterprise, Manila is bound to grow in wealth, population, and importance.

PORTO RICO.

PORTO RICO, or Puerto Rico, is an island, formerly a colony of Spain, lying in the Antilles to the eastward of San Domingo. It has an area of 3,600 square miles, with a population, consisting largely of negroes and mulattoes, estimated at 953,243. The island, which is mountainous, is divided into seven provinces, its capital being San Juan (pop. 30,000), situated on the northeast coast, though the most populous city is Ponce, on the south shore (pop. 43,000). The climate is generally healthy and the country fertile, the chief exports being coffee, sugar, tobacco, cattle, and timber. The mineral resources are for the most part undeveloped. In 1897, the value of the exports of Porto Rico to the United States, was in the neighborhood of two million dollars, about equal to the value of the imports. Previous to the cession of the island to the United States, the tariff greatly favored Spain at the expense of other nations; but on February 1, 1899 (formal possession by the United States took place October 18, 1898), a new tariff

was put in force, on the "open-door" principle, placing all countries on an equality as regards goods imported into the island. Railways are as yet in their infancy on the island, and even wagon roads are far from good. A system of telegraph lines (470 m.) have been laid, connecting the capital with the chief towns south and west; while about 175 miles of railway are in process of construction.

With the outbreak of the war between the United States and Spain the island came within the area of active operations. On May 12, 1898, San Juan was bombarded by a United States squadron under Admiral Sampson, an operation which effected little beyond giving gunnery practice to the crews. With the surrender of Santiago de Cuba (July 17), the invasion of Porto Rico was, however, determined on; and on July 21, General Nelson A. Miles embarked from Cuba with a body of troops to take the island. A landing was effected at Guinica, on the southwest coast (July 25), and when reinforcements were received Ponce was marched upon and surrendered. A series of engagements with the Spanish troops followed, in inland parts of the island, with heavy loss to the enemy. Hostilities terminated on August 13th on the signing at Washington of the peace protocol and the cession of Porto Rico to the United States. With the cession General Miles, with 5,000 of his troops, withdrew from the island, leaving the remainder (some 12,000 men), under Major-General J. R. Brooke, in occupation, and to accept for the United States the formal transfer of the island when the Spanish evacuated it (October 23). Seven days later, a mass meeting determined that the sovereignty of the United States should be acknowledged, and that the island should become a territory of that nation. The government of Porto Rico is administered by a governor and cabinet appointed by the President of the United States. The members of the cabinet and five other persons constitute a board of eleven which form the upper house of the legislature. The House of Delegates, or lower house, is composed of thirty-five members elected by the inhabitants of the different districts of the island. The governor has the power of veto over the acts of both houses, and the Congress of the United States has power of absolute veto over both the legislative and executive bodies. The present governor of Porto Rico is William H. Hunt, who was appointed by the President in 1900 to succeed C. H. Allen.

Of late the development of the island, particularly as regards its agriculture, is very encouraging. Merchandise coming into this country from Porto Rico, and entering Porto Rico from this country, is exempt from duty. In the long run, however, it is from the orange culture that Porto Rico expects its best returns. Governor Hunt's annual report of 1902 declares the people extremely loyal to the United States, their trade growing rapidly, and their system of civil government a decided success.

HAWAII.

THE Hawaiian or Sandwich Islands, discovered by Captain Cook in 1778, form a small archipelago in the North Pacific Ocean, consisting of eight principal and four or more lesser islands, the total area of which is 6,640 square miles. They are about 2,100 miles from San Francisco. The population which, besides the native Hawaiians and some 15,000 Portuguese, consists largely of Japs and Chinese, is estimated to be 153,727. The islands, which are mainly volcanic, have a fertile soil and produce sugar, coffee, rice, and tropical fruits. The capital, Honolulu (pop. 39,306), is situated on the southwest coast of the largest island of the group—Oahu. Leprosy is rife among the natives, and has been the cause of considerable mortality. Since 1865, the lepers have been segregated on the island of Molokai, to prevent the malady from spreading; the late Father Damien, a Belgian priest, did much to mitigate the sufferings of the victims, and to minister to their wants.

Until 1893 the government of the islands was that of a limited monarchy, under Queen Liliuokalani; but in that year a revolution broke out, the Queen was deposed, and a provisional government was formed. In the following year a Republic was proclaimed, and a new Constitution promulgated, with Mr. Sanford B. Dole as president, and agitation immediately followed for annexation to the United States.

The areas and populations of the several islands of the group are as follows:

	Area in sq. m.	Pop. (census 1900)
Hawaii	4,210	46,843
Maui	760	25,416
Oahu	600	58,504
Kauai	590	20,562
Molokai	270	2,504
Lanai	150	
Niihau	97	172
Kahoolawe	63	
Total	6,740	154,001

On July 6, 1898, the islands were annexed to the United States, and were organized as the Territory of Hawaii April 30, 1900. If the Philippines were to be held, the annexation of Hawaii was a logical sequence, a strategic and economic necessity. Manila is 7,500 miles from San Francisco; Honolulu is 2,000 miles out on the road to the Philippines. From a military, naval, telegraphic, and commercial standpoint the islands are indispensable.

Six lines of steamers connect the islands with the United States, Canada, China and Japan, Australia, and New Zealand. About 200 miles of railroad have been constructed in the three most important islands; and a network of telegraph and telephone lines connect the islands; while nearly every home in Honolulu has a telephone. The new Pacific cable now connects Hawaii with the rest of the world.

The native Hawaiians are mostly Christians although there is a large number of Buddhists on the islands. The immigration is largely Japanese, who form the better class of laborers and farm hands.

Honolulu is lighted by electricity and has every appearance of a modern enterprising city. The business is largely carried on by Americans and Europeans. Since 1901, the Marconi system of wireless telegraphy has been in successful operation here.

The prohibition of the importation of Chinese and Japanese labor has brought about a severe decrease in the sugar exportation. Americans do not seem able to stand the work in the sugar plantations and the uncertainty of the labor supply is apt to be followed by disastrous results. Governor Dole in his report of 1902 asked Congress to permit the immigration of a limited number of Chinese farm hands.

GULF OF MEXICO
ATLANTIC OCEAN
CARIBBEAN SEA
PACIFIC OCEAN
WEST INDIES
AND
CENTRAL AMERICA
Scale of Miles
0 50 100 200 300 400 500
Longitude West from Greenwich
R.S. PEALE & CO., CHICAGO.
FLORIDA
Great Bahama I.
Great Abaco
Eleuthera
NASSAU
New Providence
Andros I.
San Salvador I.
Watling I.
Long I.
Gt. Exuma I.
Acklin I.
Caicos Is.
Turk Is.
Gt. Inagua I.
Bahama Bank
Key West
Matanzas
HAVANA
Bahia Honda
Cat Island
Progreso
C. Catoche
Merida
YUCATAN
C. St. Antonio
YUCATAN CHANNEL
Cozumel I.
Isle of Pines
Cienfuegos
Trinidad
Espiritu Santo
Nuevitas
Puerto Principe
Baracoa
C. Maysi
Windward Passage
Cape Haytien
Lit. Cayman
Gt. Cayman
C. de Cruz
Santiago de Cuba
CAMPECHY
Turneff I.
BELIZE
BAY OF HONDURAS
Ruatan I.
Truxillo
C. Gracias a Dios
Vol. de Agua
GUATEMALA
SAN SALVADOR
HONDURAS
COMAYAGUA
Manas R.
MOSQUITO COAST
La Union
Fonseca B.
Coseguina V.
Leon
L. Managua
MANAGUA
Granada
San Juan del Sur
Orosi V.
NICARAGUA
San Juan de Nicaragua (Greytown)
Irasu V.
Punta Arenas
G. of Nicoya
SAN JOSE
COSTA RICA
Chiriqui V.
G. of Dulce
Colba I.
C. Mariato
ISTHMUS OF PANAMA
BAY OF PANAMA
Aspinwall
Panama
Colon
Steamer Route to Quebec, Montreal & Halifax
JAMAICA
Falmouth
Pt. Negril
Spanish Town
KINGSTON
Port Morant
Aux Cayes
PORT PRINCE
HAYTI OR SAN DOMINGO
SAN DOMINGO
Gonaives
Samana Bay
DOMINICA
Mona Passage
PORTO RICO
Ponce
SAN JUAN
St. Thomas
Virgin Is.
Anguilla
St. Bartholomew
St. Christopher
Barbuda
Santa Cruz
St. Eustatius
LEEWARD IS.
Antigua
Montserrat
Guadeloupe
Marie Galante
Dominica
Martinique
St. Lucia
St. Vincent
Grenadines
Barbadoes
WINDWARD IS.
LESSER ANTILLES
Grenada
Tobago
Port of Spain
Trinidad
C. Gallinas
Oruba
Curaçoa
Buen Ayre
Orchilla
Blanquilla
Los Roques
VENEZUELA COAST IS.
Margarita
Tortuga
La Guayra
CARACAS
Cartagena
Maracaybo
L. Maracaybo
UNITED STATES OF COLOMBIA
Magdalena R.
Atrato R.
SOUTH AMERICA
VENEZUELA

The legislature of the islands is composed of two houses, the Senate of 15 members, holding office 4 years; and the House of Representatives of 30 members, holding office for 2 years. The executive power is lodged in a Governor and Secretary both appointed by the President of the United States, and other officers appointed by the Governor with the consent of the Senate. The present (1904) Governor of Hawaii is the Honorable George R. Carter.

There is the supreme court with three judges appointed by the president, the circuit court, and inferior courts established by the legislature. The Territory is represented in Congress by a delegate who is elected by the people.

Queen Liliuokalani continues to press her claims against the United States for certain crown lands of which she says she was deprived when the Hawaiians declared their independence. Her last trip to the United States was made in the fall of 1902.

GUAM.

The island of Guam, the largest of the Ladrone Archipelago, was taken possession of by Captain Glass, commodore of the cruiser *Charleston*, June 20, 1898, and was ceded to the United States by the treaty of Paris, December 10, 1898. It lies in a direct line from San Francisco to the Philippines; is 5,200 miles from San Francisco, 4,300 miles from Honolulu, and 900 miles from Manila. The island has an area of 3,200 square miles and a population of about 8,661. The inhabitants are chiefly emigrants or descendants of emigrants from the Philippines. The principal products are rice, cacao, sugar-cane, tropical fruits, corn, and tobacco

TUTUILA.

Tutuila, the Samoan island, with Tau, Olesinga, and Ofu, came into the possession of the United States in 1899. This island possesses the most valuable harbor, Pago-Pago, in the entire Pacific Ocean. With the exception of those owned by the United States, Germany governs the entire Samoan group.

WAKE ISLAND.

Wake island is on a direct line from Hawaii to Hong Kong. The United States Flag was hoisted over the island January, 1899, in token of formal possession.

At different times the United States government has come into possession of a number of scattered islands in the Pacific some scarcely more than rocks. The largest are: Christmas, Gallego, Starbuck, Penrlyn, Phœnix, Calmyra, Howland, Baker, Johnston, Gardner, Midway, Morell, and Marcus islands.

The Aleutian Chain is a part of Alaska; while the Santa Barbara group is a part of California.

DANISH WEST INDIA ISLANDS.

The United States government has negotiated with Denmark for the transference of the three islands, St. Thomas, St. Croix, and St. John, lying east of Porto Rico. A treaty for the cession of the islands in consideration of the payment of $5,000,000 was signed at Washington and ratified by the Senate but was rejected by the upper house of the Danish Legislature. A satisfactory settlement in the future is considered probable.

CUBA

CUBA, one of the world's youngest republics, was discovered by Columbus while on his first voyage, but it was not until 1511 that Velasquez conquered the natives. Eight years later the present capital, Havana, was founded, which in 1538 and 1554 was destroyed by the French. Near the close of the sixteenth century the cultivation of the sugar-cane, was begun, and slavery followed. In 1762 the English captured Havana, and took possession of the island, but restored it to Spain in the following year. Cuba's brightest and happiest era began with the rule of Las Casas as Governor-General, who arrived at the island in 1790. Under him the island's resources were developed rapidly, old restrictions were removed, and the natives, grateful for their new liberties, developed a strong affection for their foreign rulers. In 1808, when Napoleon deposed Ferdinand of Spain, they remained loyal to the Spanish crown. After that time Spanish misrule occasioned Cuban discontent, and when the French republic was proclaimed in 1848 the question of annexation to the United States was openly advocated, and President Polk offered Spain one million dollars for the island, which was declined. Ten years later a proposition to purchase the island for thirty millions was submitted to the United States Senate, but nothing was done in the matter. Four years previously the American Ministers at London, Paris, and Madrid had drawn up what is known as the Ostend Manifesto, which urged that Cuba should belong to the United States, and that, if Spain declined to sell it, it should be wrested from her. In 1868 the discontent of the natives culminated in open rebellion, which soon spread over the entire island. In 1869 Cespedes, who had headed the uprising, was elected President, and Manuel Quesada was given command of the forces. Offers from the United States to settle the strife amicably, and for the cession of the island, were rejected by Spain, which continued to mass troops upon the island to quell the insurrection. Peace overtures were made to Cespedes in 1873, on the condition that Cuba should become a Spanish republic, but they were declined. Eventually the Spanish arms prevailed, but not until over 13,000 Cuban soldiers had been killed in battle and over 43,000 prisoners slain, in accomplishing which horrible result more than 150,000 men had been sent from Spain and over twenty millions of dollars expended. Peace was then nominally restored, but the native Cubans continued to detest the foreign yoke, and in 1895 a new rebellion broke out which was very bitterly protracted, with calamitous and desolating results.

Spain's barbarous methods of conducting the war against the Cuban insurgents everywhere aroused indignation. In the United States sympathy for the victims of Spain's infamous war methods had for many years prevailed. This feeling rose to a high pitch when news reached this country of the butcheries and devastation committed by Captain-General Weyler. It was further intensified when the U. S. battleship "Maine" was blown up in Havana harbor on the night of February 15, 1898, which sent to the bottom three-fourths of her crew. Events now moved swiftly, for the animosities on both sides grew intense. On the 5th of March Spain asked the United States to recall her Consul-General at Havana, Fitzhugh Lee, which was refused, though he was withdrawn on the 9th of April, two weeks before hostilities between the United States and Spain broke out and an American fleet was sent to blockade Cuban ports. On the 7th of March a bill was passed in Congress appropriating fifty million dollars for the national defence, and on the 19th of April Congress adopted resolutions declaring Cuba independent and directing the President to use the forces of the United States to put an end to Spanish authority on the island. Two days later war broke out and the blockade of Cuban ports was established. On April 27 the Spanish defences at Matanzas were bombarded, and on May 11 an attack was made by the American fleet on Cienfuegos and Cardenas. Eight days later a Spanish squadron, under Admiral Cervera, arrived at Santiago de Cuba, and on the 31st of the month (May) the forts at the entrance to Santiago harbor were bombarded. On June 11 marines landed at Guantanamo and on the following day skirmished with the Spaniards. By the middle of the month Shafter's army of invasion landed at Daiquiri (?) Baiquiri, and by the 1st–2nd of July the Spanish earthworks at El Caney and San Juan, Santiago, were carried by assault, with heavy loss, in which the "Rough Riders" and the 71st N. Y. regiment actively participated.

On the 3rd of July (1898) Admiral Cervera's fleet, attempting to escape from Santiago, was destroyed by the American war vessels, and on the 17th Santiago capitulated. After the surrender, some trouble was experienced in the desire of the Cubans to sack the city, which General Shafter prevented, and this led to strained relations between the American forces and the Cubans. Another element of anxiety was the health of the United States troops at Santiago, many of whom were prostrated by malarial and yellow fever, and in consequence they were largely withdrawn and brought north. Meanwhile (August 12) the peace protocol was signed, the blockade raised, and an armistice was proclaimed, and commissioners were appointed on both sides to arrange the conditions for the Spanish evacuation of the island. In November a Cuban Assembly was organized, and in the following month Major-General John R. Brooke was appointed military governor of the island, which was divided into seven military departments. General Brooke is assisted by a Cabinet, the four offices in which are Secretaryships of State and Government; Finance; Justice and Public Instruction; Agriculture, Industry, Commerce, and Public Works. The first incumbents are all Cubans. On January 1st, 1899 formal possession of Cuba was given to the American authorities at Havana, the capital, and the Stars and Stripes replaced the emblem of Spain. Since then much has been accomplished in securing peace and prosperity to the long vexed island and great attention has been given to its sanitary improvement.

After the signing of the peace treaty, the United States assumed control of the Island. In 1901 Congress authorized the President to turn over the Territory to the Cuban people; the only provisions being that Cuba should make no treaty with any foreign power that could endanger her independence, that it would contract no debts for which the current revenue would not suffice, and that it would concede to the United States Government the right of intervention and the use of naval stations.

The Cuban Congress held its first meeting on May 5, 1902, and the informal inauguration of the government took place on May 20. Amid the salutes of cannon the American flag was lowered from every public building in Havana and the Cuban flag was raised in its place. Within an hour the last of the American troops had left the Island.

The present President of the Republic is Tomas Estrada Palma who was elected Feb. 24, 1902. The Constitution provides also for a Senate and a House of Representatives.

ALASKA

RECENT discoveries of gold in the upper waters of the Yukon have called attention to Alaska, the semi-arctic territory of the United States, and to the gold-bearing region known as the Klondike, a possession of the Canadian Dominion, situated in what is termed the Yukon district, among the affluents of the Yukon River, southwestward of the mouth of the Mackenzie River on the Arctic Ocean. The region is reached either overland from British Columbia, or by water from Seattle and up the Lynn Canal to Dyea, thence over the Chilcoot Pass and up Lake Bennett and the Chilcoot trail to Dawson City. Another way of reaching the auriferous region is by steamer from San Francisco to St. Michael, thence up the Yukon River to the Klondike, a further distance of 1,700 miles.

Alaska has an area of 599,446 square miles, and a population, by the latest census, of 63,592. The northwest coast of Alaska was discovered and explored by a Russian expedition in 1741, and soon after settlements were made by the Russians in the interest of the fur trade. In 1825 Russia and England made a boundary treaty by which Russia claimed and secured the sea-coast, a strip of country bounded on the east by a line running along the mountain peaks and on the south by latitude 54 degrees 40 minutes. Russia, in 1867, ceded to the United States all of her territory in America for the consideration of $7,200,000. Settlement was slow until the discovery of gold in the Klondike region, which brought instant change, and small towns grew into cities in a night.

In 1896, when the large deposits of gold were discovered in the Klondike region within Canadian territory, controversy arose between the American and British Governments over the Alaska boundary, turning on the construction of the wording in the old Anglo-Russian treaty of 1825. In order to have ports of her own by which to gain access to her rich gold fields, Canada disputed the hitherto accepted definition of the yet unsurveyed boundary line, holding that the boundary should ignore the deep inlets and follow an imaginary line drawn across their mouths; while America insisted upon her rights to the coast and the control of the ports. Efforts in the direction of a treaty have been put forth for a long time. On January 24, 1903, a treaty, providing for the settlements of the Alaskan boundary question, was signed at Washington by Secretary Hay and the British Embassador. The treaty provided for the reference of these boundary questions to a mixed tribunal of three from each side, to determine the interpretation of the old treaty of 1825 between Great Britain and Russia, which defined the boundary between British America and Alaska. The Senate ratified the treaty February 11; Great Britain February 16; and it was proclaimed on March 3rd. The Alaska boundary commission, sitting at London, came to a decision October 17, 1903, sustaining all the American claims except those pertaining to the Portland Canal in which Canada won. Canada, by this circumstance, is barred from communication with the Pacific except at the southern terminus of the boundary. Pearse and Wales Islands at the juncture of Observatory Inlet and Portland Canal were given to her. The United States' right to the control of a continuous strip or border of the mainland was confirmed. The result is satisfactory in every way to the United States, and is of very great material value to the American people in the far Northwest.

Alaska, something like the District of Columbia, is an incompletely organized territory and is under the direct control of Congress; it is not represented therein by any deputy. The climatic conditions do not permit of the pursuit of agriculture to any extensive degree; the principal industry is the mining of gold and copper. Since its purchase this possession has brought to our Government over $9,000,000,000. It is reported that a strong effort will be made at the next session of Congress to secure territorial government for the district.

FRUIT STAND IN HAVANA

THE DOMINION OF CANADA.

THE Dominion of Canada, now a semi-independent confederation of provinces subject to the British Crown, has an interesting history which reaches back to within a very few years of the discovery of America by Columbus. The French sea captain Jacques Cartier, in 1534, planted the standard of Francis I. of France upon the shores of New Brunswick, and in later voyages he discovered the St. Lawrence River. Attempts at colonization were made, but none were very successful until the time of Samuel de Champlain, when the city of Quebec was established, and the foundation laid of the empire of New France. His explorations were ably followed up by the Jesuit missionaries who were sent out later by the French Government, and the names of Fathers Joliet, Marquette, La Salle and Perrot, who first saw the Great Lakes and the Mississippi River, are indissolubly linked with the story of early discovery in North America. Cruel wars with the Indians constitute the leading feature of interest in early Canadian history, each of the leading claimants of North American soil —England and France—employing the willing savages to carry destruction into the settlements of the other. Directly resulting from this cruel policy was the massacre of Lachine, in which the Iroquois, at the instigation of the English, fell upon the French settlements in the neighborhood of Montreal, and slaughtered their inhabitants, and which caused the cruel reprisals of Schenectady and Salmon Falls. During the frequent wars between England and France, the latter's Canadian colonies became more than once the object of English attack, but it was not until September, 1759, that the citadel of Quebec fell before the gallant English General Wolfe, and with it the French tenure of Canada, which was called the Province of Quebec, divided into three districts and placed under the direction of a Governor appointed by Great Britain. During the war of American Independence, the Americans, finding that the Canadians would not join the revolution, invaded Canada, but were unable to hold the country on account of their failure to capture the city of Quebec.

After the close of the war a great many persons from the English colonies settled in that portion of Canada lying north of Lake Ontario, which, upon the separation of the province in 1791, became known as Upper Canada, the eastern province taking the name of Lower Canada. Dissensions arose in both provinces over questions of government, but the war of 1812 united Canada in defence against a common invasion, in which the Canadians showed a patriotism and valor very creditable for so young a country. After the war, the same causes of dissension still existing, the old quarrels were renewed and the disaffection finally culminated in separate rebellions in each of the provinces. In Upper Canada a popular agitator named Mackenzie attempted to set up the republic, and in 1837 gathered a body of armed followers, who marched against the capital, Toronto, where they were defeated. More serious disturbances were caused in Lower Canada, when, under the leadership of Louis Papineau, the French Canadian "patriots" collected in masses on the Richelieu, and were not dispersed until after severe conflicts, in which several hundreds were slain. The union of the two provinces was decided upon by the home Government as a remedy for the troubles complained of, and this measure was accomplished in 1841, the new Constitution giving Canada one legislature instead of two. Under it the country progressed rapidly in population, commerce and general prosperity. About 1861 a strong party feeling arose between the two provinces over the claim for representation by population made by the inhabitants of Upper Canada, who, having largely outgrown the lower province in numbers, desired that their representation in Parliament should be proportionately larger. The Lower Canadians would not agree to any change of the Constitution in accordance with this plan, and the political struggle was growing dangerously bitter, when the confederation of the various British provinces in America, with local government for each, was suggested as an available remedy. The provinces of Canada, afterwards known as Ontario and Quebec, Nova Scotia and New Brunswick, accepted the proposed union. Newfoundland and Prince Edward Island rejected it. The matter was left with the British Government, which, in 1867, conferred the Constitution under which the Canadians now live, as well as the name Dominion of Canada. Since then the confederation has been enlarged by the admission of the Hudson Bay Company's Northwestern territories in 1870, now known as Manitoba and the Northwest Territories; of British Columbia in 1871, and of Prince Edward Island in 1873.

To the vast majority of Americans the country to the north of the international boundary line is a *terra incognita*, of which less is known than of the small revolutionary States of Central America. Of Mexican affairs the people of the

United States have sufficient reminders to spur interest or promote enquiry, in its biennial revolutions and military dictatorships, but of the quiet, progressive 5,000,000 of people owning the 3,500,000 square miles comprising the Dominion of Canada we know but little.

However much it may be ignored, it is still an undoubted fact that a great nation is rapidly assuming consistency and form in that country. National sentiment and feeling have been developed, and now the habitants and *bourgeois* of Quebec vie with the agriculturists, manufacturers and tradesmen of Ontario and the Maritime Provinces in priding themselves upon being Canadians. Already they complain of being held in leading-strings by Great Britain, and the wish is generally expressed that Canada should have the appointing of its own Governor-General, the power of negotiating foreign commercial treaties, and that the slight ties now binding the Dominion to the Colonial Secretary's office in London be yet further loosened, until the political connection, now merely nominal, ceases to exist even in name. The presence of Lord Strathcona as High Commissioner at the British Court, with functions almost equal to the representatives of independent powers, is a tacit claim by the Dominion of the privileges of a sovereign people.

ITS VAST AREA.

The Dominion, extending from the Atlantic to the Pacific oceans and from the United States boundary line to the Arctic seas, has a larger area than Europe, and even exceeds the United States exclusive of Alaska. Territory, however, does not of necessity imply a correspondence in greatness, wealth or power, and any speculations based entirely upon such data must prove fallacious. In order to form anything like a just estimate of the importance of the country the state of the settled and cultivated portions must be considered.

Old Canada, consisting of the provinces of Ontario and Quebec, containing more than three-fourths of the population of the Dominion, is 1,000 miles long, with an average breadth of 230. It has an area of 569,350 square miles, or 364,384,000 acres. That portion of it included in Ontario may be considered the garden of Canada, both as to climate, soil and the variety of productiveness of its agricultural exhibits.

POPULATION.

The people of Ontario are very different from their French neighbors on the other side of the Ottawa, and are as noted for real American enterprise, industry and progressiveness as those are for the opposite. In 1825 the number of inhabitants in Ontario (at that time Upper Canada) was 158,027. In 1852 the number had reached 952,004, and at the census of 1891 it was 2,112,989. The growth of the cities is also remarkable. Toronto in 1826 had only 1,677 inhabitants, and in 1854 it numbered 40,000, and now it contains 207,971 people. Hamilton, within ten years, from 1844 to 1854 quadrupled its population, and its increase since, if less rapid, has been remarkable.

In 1875 the population of the entire Dominion was 4,000,000; in 1881 it was about 4,400,000, and now it numbers 5,338,883. The material progress of the country has embraced even its tribes of Indians which have long since been gathered together into settlements, under the care of superintendents and other officers of the Indian Department, and in some cases, with industrial schools and other organizations for accelerating their progress to an equality in all respects with the white settlers. Missions under the care of different Christian bodies have also undertaken the work of religious training, and the supervision of their schools. Of the bands of Indians thus settled on their own reserves, accurate statistics are furnished in the annual reports of the Indian Department.

The nationalities of the population of Canada are in some respects peculiar. The first settlement made by Europeans, as has been already noted, was by the French navigator Jacques Quartier, or as he is now universally styled, Cartier, in 1535. For two centuries and a quarter thereafter Acadie and Canada were provinces of France; and when, in 1759, they passed to English rule, a French population of 65,000 souls changed their allegiance. They were secured in the undisturbed possession of their lands, and in the free exercise of their religion. The French laws in like manner remained intact, except in so far as the new subjects of England welcomed the substitution of its criminal law, and trial by jury. By such means the language and customs of the French population of Canada have been perpetuated, and continue to exercise a marked influence on the character of the country as a whole; though the results of confederation are already tending to diminish this, and to limit the French element to the old province of Quebec.

The other nationalities of the Dominion include 77,753 natives of the United States, while the Irish population of Canada amounted to 957,403, the English to upwards of 880,000, the Scotch to 700,000, the Germans and Dutch to upwards of 284,000, the mixed race of African descent to nearly 22,000, the Welsh to 9,900; Swiss, 4,588; Norwegians, Swedes, Danes, and Icelanders, 7,000.

CANADA PACIFIC RAILWAY.

One of the most important factors in the prospective future advances of the country to a high condition of material progress and industrial wealth will be, undoubtedly, the Canada Pacific Railway. The route through the Dominion is, in a certain sense, preferable to that which connects the Atlantic and Pacific in our country. It is said by competent authorities to be shorter by over a thousand miles in connecting Europe with Asia. Passing close to Lake Superior and traversing the watershed which divides the streams flowing toward the Arctic seas from those which have their exit southward, the route, though presenting serious engineering difficulty, was more easy of construction than the Union Pacific. The effect of the completion of this road can scarcely be estimated at present, as it is opening up for settlement a vast region abounding in valuable timber, coal and other material products, and well suited for grazing and the growth of grain. Construction on the Canadian Pacific was

first commenced under the immediate supervision of the Government, but this plan was not found to work well, and shortly after the change of Government, in 1878, the new Ministry handed over the work of construction to a syndicate, granting to them money and land bonuses and exclusive rights on a monopoly of traffic for twenty years from the time of the completion of the road. The road was opened for traffic in 1886. The latest statistics are as follows: Miles operated, 8,647; operating expenses, $23,417,141; net earnings, $15,044,739; passengers carried, 4,796,746; tons of freight, 8,769,934.

The settlement of the Northwest Territory along the line of the railway is proceeding at an unprecedented rate. Indeed, there is nothing to be at all compared with it unless it is the rapidity of opening up in some of the Western States. Free grants are given to actual settlers, which, with an inexhaustible soil, should be a sufficient attraction for emigrants from Europe. But of this class the Canadian Northwest country has so far attracted no considerable number. Of the 44,000 emigrants arriving in Manitoba and the Northwest in one year fully three-fourths were from Ontario and other parts of Canada.

NATURAL PRODUCTIONS.

There are extensive coal fields in the Valley of the Saskatchewan and at Edmonton, but so far they have not been worked to any extent. When capital has been directed into this channel, a cheap supply of coal can be secured, and one of the principal defects of that section of the Dominion will be removed.

The Dominion is rich in mineral resources, and vast areas of the mining properties are still unimproved. The total value of the mineral products last year was $69,407,031. The principal product is gold, the amount mined last year being valued at nearly $25,000,000, and among the other minerals were: Coal, $14,671,122; nickel, $4,594,523; asbestos, $1,186,434; copper, $6,600,000; silver, $2,993,660; lead, $2,199,784; pig iron, $1,212,113; iron ore, $762,284; petroleum, $953,415.

The timber wealth of Canada is also great, and the production of lumber is one of its greatest industries. The wood pulp industry is also of great value, the exportable surplus last year being nearly $2,000,000. The forest products last year amounted in value to $32,972,545.

The length and severity of the winter in Manitoba and the contiguous territory is also a serious obstacle to their settlement. Winter often begins in October, and continues until about the end of April, after which the weather changes rapidly, and the chilling, freezing atmosphere becomes soft and warm, with the southern winds sweeping over the interminable plains. Vegetation after this becomes so rapid as to be almost incredible, and in less than four, and occasionally only three, months after the seed has been sown, abundant crops of wheat, barley, and oats can be harvested.

With all its defects, it is a magnificent country, and it requires no great powers of prevision to foresee in it the home of millions of free, prosperous, and intelligent people.

Winnipeg, the leading city of the Northwest has sprung up as if by magic, and is a very different place from the hamlet visited by General Wolseley and his troops on the occasion of the Riel disturbance, a number of years ago. It has now a population of 42,340, and for some time the boom in real estate was such that city lots were selling at a higher price than in Toronto. Many other cities now exist in embryo in that vast region, and with a liberal, wise policy on the part of the Government, the success of the Northwest is certain.

In the other sections of Canada, Ontario especially, the condition of the farming population has been entirely changed within the past twenty years. The log shanties of the squatter have been changed to elegant farm-houses of stone, brick, and frame. Frame barns have taken the place of the open log structures that so poorly protected the crops of the pioneers, and wire and picket fences surround the steadings instead of rails. Farm-houses now contain all that is requisite for comfort, with many of the elegancies of life added, and in many will be found not only a piano or parlor organ, but also a young lady quite capable of rendering music thereon. Education has also become generally diffused, and it is but rarely that a person can be met with who cannot read and write.

That the Dominion is more prosperous now than ever it has been before, will scarcely be questioned by those familiar with its present and past conditions, and that it has now entered upon a new and vast phase of its progressive development, under the most auspicious circumstances, cannot for a moment be doubted.

GOVERNMENT OF THE DOMINION.

The executive power of the Dominion is vested in a Governor-General, who is appointed by the British Government, and exercises authority in the name of the King. His advisers constitute the Privy Council, whom he appoints and removes, subject to the convenience of the lower house of Parliament. The military command is vested in the King. Parliament, consisting of an upper and a lower house, known respectively as the Senate and House of Commons, controls legislation. Senators, who are appointed for life by the Governor-General, on the recommendation of the Privy Council, are 81 in number, apportioned as follows: Quebec and Ontario, 24 each; Nova Scotia and New Brunswick, 10 each; British Columbia, 3; Manitoba, 4; Prince Edward Island, 4; Northwest Territory, 2. The House of Commons has 213 members — Ontario, 92; Quebec, 65; Nova Scotia, 21; New Brunswick, 14; British Columbia, 6; Manitoba, 6; Prince Edward Island, 5; Northwest Territory, 4. A redistribution of memberships occurs after each decennial census, with the understanding that Quebec shall never have less than 65. All appropriation bills must originate in this house, to which the Privy Council is responsible, it representing the views of the political party which is in the ascendancy. Bills passed by Parliament may be vetoed at any time within two years. The seat of government is at Ottawa. The Dominion Parliament controls exclusively the currency, postal service, public debt, raising of money, regulation of trade and commerce, the militia, savings banks, marriage and divorce, criminal law, navigation and shipping, bankruptcy, and all subjects not specially assigned to the local legislatures. The latter have the right to levy direct taxes, and to borrow money for provincial purposes, the management of public lands, public works lying within the province, municipal institutions, prisons, hospitals, asylums and charities, and generally matters of a local or private character. With a few minor exceptions, all Judges are appointed by the Dominion Government. There is a general court of appeal, possessing powers similar to that of the United States Supreme Court, and which passes upon the constitutionality of laws passed by the provincial legislatures.

NORTH AMERICA
Scale of Miles.
0 100 200 400 600 800 1000
Longitude West from Washington.
Time Longitude in Hours from Noon
Space Longitude from the Meridian
Midnight. East. West. Noon
North Pole
ARCTIC OCEAN
PACIFIC OCEAN
ATLANTIC OCEAN
GULF OF MEXICO
CARIBBEAN SEA
BERING SEA
ASIA
GREENLAND (To Denmark)
ICELAND
Behring Strait
East Cape
Cape Lisburne
Pt. Barrow
C. Prince of Wales
C. Romanzof
C. Bathurst
C. Brewster
Arctic Circle
Dunks Strait
Melville Sound
Lancaster Sd.
Baffin Bay
Davis Strait
Godhavn
New Herrnhut
Julianeshaab
Frederickshaab
Cape Farewell
Lichtenfels
C. Chudleigh
Hudson Strait
Fort Churchill
Fort York
Hudson Bay
Labrador
Hamilton R.
Strait of Belleisle
Newfoundland
St. Johns
Grand Bank
Cape Race
Cape Flattery
Portland
Cape Mendocino
San Francisco
Pt. Conception
Cape San Lucas
Tropic of Cancer
Gulf of California
Mt. Whitney
Mt. St. Helen's
Mt. Fairweather
Sitka
Cook Inlet
Kodiak I.
Alaska Peninsula
Queen Charlotte Islands
Vancouver Island
Columbia R.
Yellowstone R.
Fremont's Peak
Long's Peak
Pikes Peak
Great Salt Lake
Salt Lake City
Omaha
Chicago
Cleveland
Detroit
Buffalo
Niagara R.
Ottawa R.
Montreal
Quebec
Halifax
Cape Sable
Cape Cod
Boston
Brooklyn
New York
Philadelphia
Baltimore
Washington
Chesapeake Bay
Cape Hatteras
Bermuda Is.
Denver
St. Louis
Cincinnati
Louisville
Atlanta
Charleston
Savannah
Mobile
New Orleans
Galveston
Austin
Santa Fe
Chihuahua
Monterey
Matamoras
Tampico
S.L. Potosi
Guadalaxara
Leon
Puebla
Vera Cruz
Mexico
Acapulco
Tehuantepec
Morida
Yucatan
C. Catoche
C. Corrientes
C. San Antonio
C. Sable
C. Canaveral
Havana
Key West
Nassau
Florida Strait
Bahama Isles
Cuba
Port au Prince
Hayti
Jamaica
Kingston
Porto Rico
St. Thomas
Belize
Bay of Honduras
Honduras
Tegucigalpa
Nicaragua
Lake Nicaragua
C. Gracias a Dios
Guatemala
New Guatemala
San Salvador
Costa Rica
Managua
San Juan
Panama
Isthmus of Panama
Panama Bay
Aspinwall
South America
Revillagigedo Is.
Arctic Circle
Tropic of Cancer

MEXICO.

NO foreign country is attracting such close attention from the people of the United States just now as Mexico, sometimes familiarly alluded to as "the sister republic." Bounded on the north by the United States, on the south by Guatemala, on the east by the Gulf of Mexico and Caribbean Sea, and on the west by the Pacific, it occupies the tapering southern extremity of the North American continent—a region of mountain table-lands, rich in mineral wealth and agricultural resources, which, having lain for ages comparatively undeveloped, are now beginning to feel the impulse of a new civilization supplied from the United States, whose capitalists are building railroads in different parts of the country. The history of the country begins—no one knows when. Ages before the coming of the Spanish conquerors the settlement of the Mexican valley had been accomplished by Indian tribes who are said to have come from the north, the last of these being the Aztecs, who founded a city, established a monarchial government, enforced civil and criminal laws, kept a standing army, and cultivated the arts and sciences, their skill in the working of metals and their profound knowledge of astronomy being attested by venerable relics which are extant at the present day. About the only dark feature in this pleasing picture of prehistoric civilization and culture is that provided by their religious observances, which included human sacrifices, the practice being so common that the observance of certain days caused the immolation of thousands of victims. Such were the accomplishments of the wonderful people whom De Cordova met in Mexico when he discovered it in 1517. Two years later Fernando Cortez effected a landing upon Mexican soil at a spot where the city of Vera Cruz now stands. Here he burned his ships to give a disaffected portion of his command to understand that nothing was left them but obedience, after which he marched into the interior. On his way he fought several engagements with the natives, and finally arrived at the City of Mexico, where the Aztec Emperor, Montezuma, received him with apparent kindness. Fearing treachery, Cortez caused Montezuma to be seized and conveyed to the Spanish quarters. Cortez' conquests were delayed by the opposition of the Governor of Cuba, who sent a party to seize him and his staff and send them back to Cuba. The brave Spaniard turned the tables upon his pursuers, vanquishing them and taking their leader, Narvaez, prisoner. Montezuma, after a long imprisonment, consented to acknowledge Spanish supremacy, but the Aztecs declined to submit so easily, and, making a final effort, compelled Cortez to retreat. He returned, however, a year later, and, after a series of battles, reached once more the City of Mexico, which he captured, August 13, 1521, after a siege of seventy-five days. The other provinces fell in succession before the invader, and for nearly 300 years subsequently Mexico remained in subjection. The government which the Spaniards first inaugurated was known as "Audiencia," with a President and four Auditors, but the measures of this body soon proved so harsh and arbitrary that the colony complained loudly of their oppression. A vice-regal government was inaugurated in 1535, which lasted undisturbed for nearly three centuries.

Events in Europe at the opening of the nineteenth century shaped the history of Mexico. The uprising of 1810 is thus graphically described by Mr. John A. Dillon, a journalist whose thorough knowledge of Mexican affairs, no less than his eminent literary attainments, makes him peculiarly qualified to treat the subject :

"The revolution was long in coming. Shut off as it was from the world, Mexico could not help noting that the power of Spain had grown weaker and weaker, until at last the rough hand of Napoleon pushed the feeble Bourbon from the throne. The latent fires of revolution broke forth on the 15th of September, 1810, in the village of Dolores, near Guanajuato, where a curate named Manuel Hidalgo set up the *Grito de Dolores*, as it is called in Mexican history, or the 'call of Dolores.' What the call meant was little known, either to him who started it or to those who heard it. It meant anything but a republic to Hidalgo; it meant the cause of religion, and loyalty to some Mexican sovereign. To the Indians who heard it, it meant death to the strangers, the *Gachupines*, as they called the Spaniards.

"Then was started the most *bizarre* and motley revolution in history, outshaming Jack Cade. Swarms of ragged and swarthy Indians gathered around the priest, armed with sticks and stones and knives and clumsy pikes. They swarmed down to Guanajuato in thousands and tens of thousands, and the slaughter of Cortez was repeated on their defenceless bodies. Cannon and musket tore their ranks in vain, for they rushed up to the loaded cannon's mouth and stuffed in their battered straw hats and ragged *serapes*, to keep the balls from coming out. By sheer force of numbers they destroyed the troops, and then in savage triumph sacked the city of their brothers.

"Brief and sad was the career of the soldier-priest. Under the banner of the Virgin of Guadalupe he led his hordes from Guanajuato down to Valladolid, and thence to Queretaro, and in six weeks had reached the mountain of Las Cruces, within thirty miles of the capital. Here the Viceroy gave him battle, and here again the ragged hordes rushed on the batteries and killed every man behind them, only three officers of the Viceroy's army of 3,000 escaping.

"Then fear came on the victor for the unknown power of a city such as he had never seen the like of. He came within sight of Mexico, lingered there for a month, and then turned to retreat. A bloodhound was set on his trail in the person of General Calleja. The fugitive rebels passed back through Guanajuato, and the bloodhound Calleja followed them and cut to pieces 14,000 men, women and children in the city. In his report he said that he had them hacked with knives and swords, because gunpowder was very dear, and he did not want to put the Government to the needless expense of using ammunition.

"On the 17th of January Hidalgo reached the place called the Bridge of Calderon, and there his last battle was fought and lost. He fled toward our frontier, but his commanders rebelled, and one of them, Elizondo, delivered the whole band up to the Government on the 21st of March, 1811. It is needless to say that they were shot, and their heads were afterward exposed in iron cages on the castle wall of Guanajuato."

The population was made up of four classes — the Spaniards of European birth; the Mestizos, or half-breeds, the result of union between the Indians and whites; the Creoles, who were the pure-blooded descendants of the original Spanish settlers, and the pure-blooded Indians. The last-named had experienced but little change of condition under the Viceroys, and were still subject to the payment of tribute and held in a sort of life-long tutelage. Degrading restrictions weighed upon them from which only their nobles were exempted. The Creoles, as proud of their origin as the native Spaniards were of their birth, were treated contemptuously by the latter, and denied all part in the government, or even high command in the army. Many of them had amassed great wealth, and while titles and other empty honors were conferred upon such, the Government deemed it imprudent to allow them a share of the administration of public affairs. This treatment was resented by the Creoles, and open rebellion would have been gladly availed of by them, had they not dreaded that, at such a turn of affairs, an uprising of the Indians and half-breeds would occur, and they and the native Spaniards be together overcome and destroyed. While the revolution of 1820 was going on in Spain, which lost Ferdinand his throne, the Mexicans agitated in favor of a liberal government, and Don Augustin Iturbide, a native Mexican officer of rank, who had served with distinction in quelling the earlier uprisings, inaugurated a second and successful revolution, which resulted in the declaration of Mexican independence, February 24, 1821. His authority obtained the national recognition; in August he established a regency, and May 19, supported by his army and his followers, in the City of Mexico, he was proclaimed Emperor. December 2, 1822, Santa Anna, supported by other chiefs, proclaimed the Republic at Santa Cruz, and March 19 Iturbide abdicated. Shortly afterwards he was ordered into exile, and in May, 1823, he left Mexico for London.

The Constitution which Congress formulated October 4, 1824, was modelled after that of the United States, and established in Mexico a republic with nineteen States and five Territories. The first President was Don Felix Fernando Victoria, during whose administration Iturbide returned to the country and was arrested and shot. At the second presidential election the candidates were Generals Padraza and Guerrero. The former was elected, but Guerrero instituted a revolt, and seized the presidency in 1829. That year the Republic received the recognition of the United States, and defeated an attempt of the Spaniards to recapture the country with an army of 4,000, who were sent back to Havana. General Anastasio Bustamante, who had assisted in the expulsion of the Spanish invaders, declared against Guerrero, and deposed him. Intrigues and revolts followed in quick succession, Santa Anna coming to the front April 1, 1833, who, after banishing Bustamante and several other political leaders, instituted an administration of sweeping reform. Laws were passed suppressing the convents and abolishing the payment of tithes, and measures discussed looking to the appropriation of church estates and their application to extinguishing the national debt. These failed to prove popular, going further than the people cared to follow. Insurrections followed, and troubles which led, in 1835, to the abrogation of the Constitution which had been adopted in 1824, and the formation of a consolidated republic, which took the place of the confederation of States. Santa Anna possessed dictatorial power, and the revolution was endorsed by the whole country except Texas, whose citizens declined to accede to the centralization of power. Santa Anna then invaded the State with an army, which was destroyed, and Santa Anna was captured. Bustamante became President, but Santa Anna, after a trip to Washington, where he conferred with President Jackson, was released, and returned to Mexico. Another period of chronic revolution soon set in, a dictatorship was established for a while, and in 1844 constitutional government was resumed, with Santa Anna at its head. He was banished, however, and Herrara happened to be the President at the time war was declared against the United States after the annexation of Texas.

The American arms were successful, and Mexico lost, in addition to Texas, New Mexico and Northern California, when peace was declared, in February, 1848. Santa Anna was recalled in 1853, and for the fifth time elected President. He attempted now to secure the position for life, with the right to name his successor, and this led to another revolution in 1855, when Alvarez deposed him and became President. He resigned in favor of Comonfort, who gained the opposition of the ecclesiastical party by his promotion of a law, which was adopted in 1856, for the sale of church lands and the freedom of religious belief. Revolutions followed, and in 1857 Congress promulgated, and the President was forced to accept, a very democratic Constitution.

In the following year Benito Juarez, Chief Justice of the Supreme Court, claimed the legal succession to the presidency, but was defeated by the incumbent, Zuloaga, and driven to Vera Cruz, where he established himself as Constitutional

President. His claims were strengthened by their acknowledgment by the United States, and, after defeating General Miramon in several engagements, he entered the capital in triumph, January 11, 1861. His administration was noted for the reforms which he carried out, and which gained him the love of the Mexican people. Among the most important of these were the appropriation of church property to the service of the State, by which more than three hundred millions' worth of real estate was saved to the people; making marriage a civil contract; the abolition of ecclesiastical tribunals and perpetual monastic vows; and, finally, the complete separation of Church and State. Much as the people enjoyed their liberties, the Church party could not brook so great a curtailment of their property and prerogatives, and they resolved upon the destruction of Juarez' Government. Their opportunity was not long wanting. Subjects of Spain, France, and Great Britain having sustained alleged losses and injuries in Mexico, for which Juarez declined to give satisfaction, these three powers, at a convention held in London, October 31, 1861, decided to send a joint expedition to Mexico to demand it. In December of that year, General Prim, commanding a Spanish detachment from Cuba, landed at Vera Cruz, and a month later French and British troops followed. A settlement being effected with Spain and Great Britain, the forces of these powers were withdrawn from the country. The French army remained in Mexico, declared war against Juarez, and captured the City of Mexico June 10, 1863, President Juarez and his Ministers retiring to San Luis Potosi. June 24 a regency was formed, and July 8 an assembly of notables which was convened to decide upon Mexico's form of government, resolved that it should be a hereditary monarchial government under a Roman Catholic Emperor. The Archduke Maximilian, of Austria, accepted the crown. Juarez and his republican supporters retired to El Paso, where they remained from September, 1865, to the beginning of 1866, when, the United States having secured the withdrawal of French troops from Mexico, they assumed the aggressive. Maximilian was captured and shot, together with his Generals, Miramon and Mejia, June 19, 1867, three days after Juarez had re-entered the City of Mexico. The work of national reconstruction was at once commenced. An attempted revolution by Santa Anna was quelled and its instigator captured and exiled. In 1871 Juarez was again elected, his opponents being Porfirio Diaz and Sebastian Lerdo de Tejada, the latter of whom, on the death of Juarez, July 18, 1872, became President.

Although a brilliant scholar and statesman, Lerdo misunderstood the sentiments of the Mexican people, mistook the spirit of the age, and seemed to oppose the material progress of the country, endeavoring to stem the tide of reform and advancement and opposing the railroad movement. General Diaz seized this opportunity, and in 1876 organized a revolution. After a series of victories and defeats, the revolutionary chieftains met the Government forces at Texcoac, and came out victorious after a sanguinary conflict. During his short administration Diaz began the work of regeneration, and initiated the railroad movement, which was ably conducted onward by his successor, Gonzales, elected to the Presidency in 1880, and again by Diaz, re-elected 1884, '88, '92, '96, and 1900.

Under the present constitution, which bears date of February 5, 1857, Mexico is a federative republic. It was originally divided into nineteen States, but at this time there are twenty-seven, with two Territories and the Federal District, and, while each manages its own local affairs, they are bound together as an inseparable body by the constitutional laws. The form of government in Mexico is broadly similar to that of the United States, the executive vesting in a President, who is elected for a term of four years, and who is assisted by a Cabinet, while the legislative power is conferred upon a Congress, which is composed of two Houses—a Senate and a House of Representatives. The President may serve any number of terms, and the present Executive, General G. Porfirio Diaz, is now in his sixth term, as he had already served five four-year terms when he was inaugurated December 11, 1900.

The States have local constitutions, with elective Governors and legislatures. Under the direction of the President and seven Cabinet ministers, the administration is carried on by the Secretaries of State in charge of the following portfolios: Foreign Affairs, Interior, Justice and Public Instruction, Agriculture and Colonization, Finance, Communications and Public Works, War and Navy.

The Senate consists of fifty-six members, two from each State, who must be at least thirty years of age. They are elected by the ballots of all respectable males and serve for a term of two years. Representatives must be twenty-five years of age. They are elected for an equal term with the Senators and in a similar manner. The President is elected by electors popularly chosen at a general election.

The judicial power of Mexico is entirely distinct from that of the Executive. It includes a Supreme Court, consisting of fifteen Judges, who are chosen for a term of six years; Circuit Courts, with three judges, and District Courts with thirty-two judges.

There is no State religion in Mexico, and all religious sects are equal before the law. The prevailing religion, of course, is Roman Catholic, but no ecclesiastical body can own realty, and since 1863, when all the churches were closed and the lands confiscated, many of the buildings have been assigned to serve as hospitals, schools, etc.

Primary education, which is free and compulsory, is chiefly carried on at the expense of each State, although the government assists with frequent grants.

The chief sources of Mexican revenue are the internal taxation and the customs, less than 15 per cent. being obtained from other sources.

Agriculture is quite largely pursued in Mexico, but in a primitive manner. The principal crop is wheat, although great numbers of cattle are raised to be shipped to the United States. The minerals found throughout the country make mining a very important industry to Mexico, nearly all the valuable metals being found in working quantities.

The area and population of Mexico, according to the latest census report, are as follows: Area 767,005 sq. miles; population, 13,545,462.

CENTRAL AMERICA.

UNDER the name of Central America are included the republics of Guatemala, Honduras, San Salvador, Nicaragua, Costa Rica, and the territory known as British Honduras. In 1502 Columbus discovered the eastern shore of Central America, and shortly afterward the Spaniards took possession of it, retaining it until 1820, when it rebelled and many of the states which then composed it were annexed to Mexico. Three years afterward was formed the Central American Confederation, but in 1839 Nicaragua withdrew, as did also Costa Rica in 1840 and Guatemala in 1847. In 1872 Guatemala, Costa Rica, San Salvador, and Honduras became united, the object of the union being the maintenance of peace in the several states and of the republican form of government.

GUATEMALA.

Up to 1862 Guatemala kept clear of the many wars which disturbed her sister republics, but shortly after that, began a succession of internal disturbances which greatly retarded her development. The constitution which is now in force was proclaimed in 1879 but has been modified a number of times since then.

The area of Guatemala is estimated at 48,290 square miles and in 1900 the population was 1,574,340. About 60 per cent. of the inhabitants are pure Indians. There are very few descendants of Europeans. The Roman Catholic religion prevails; education is free and compulsory. The soil is very fertile; coffee being the most important crop and the largest plantations being in the hands of the Germans. Sugar, tobacco, and bananas are raised extensively and shipped in large quantities to the United States. The government is making every effort to encourage the cultivation of the rubber tree. The mineral wealth of the country is but little worked.

The present president is M. Estrada Cabrera elected in 1899, and his term expires in 1905. The legislative power is vested in a national assembly and a council of state.

HONDURAS.

In 1823 Honduras became a part of the Central American Federation but in 1839 withdrew as a separate republic and took active part in the war and intrigues which followed one another until 1862. Civil strife has been instrumental in retarding the progress of the little republic.

The country has an area of about 46,250 square miles and the latest census puts the population at 420,000 exclusive of uncivilized Indians. It is an agricultural country and the cultivation of bananas is beginning to assume great importance. Tobacco, sugar, cocoanuts, maize, sarsaparilla, and coffee are extensively cultivated; rice, indigo, and wheat are grown in small quantities.

Legislative power is vested in a Congress of Deputies. President General Manuel Bonilla was inaugurated on May 17, 1903, and will hold office for a term of four years.

SALVADOR.

Salvador is a constitutional republic in which the executive power vests in a president elected for a term of four years. He is aided in his administrative duties by a cabinet and four ministers. The legislative power vests in a Congress of seventy Deputies elected annually. The country possesses great mineral wealth but the majority of the population is engaged in agriculture. Coffee is the chief crop, 90 per cent. of which product is exported. Other principal products are rubber, tobacco, indigo, and sugar. Senor Pedro Jose Escalon was elected president Feb. 19, 1903, and assumed office on March 1, of the same year.

COSTA RICA.

In 1505 when Columbus sailed down the coast of South America he called this country La Costa Rica y Castilla de Oro from the samples of gold that were given him. Previous to 1821 the province was included in the Territory of Guatemala and afterward became a part of the Republic of Mexico and still later became a member of the Confederation of the Republics of Guatemala, Honduras, San Salvador, Nicaragua, and Costa Rica. In 1840 Costa Rica withdrew and established an independent government.

It possesses an area of 14,800 square miles and a population of about 309,683. There are over 3,000 aborigines in the state and twice as many foreigners, the Spaniards predominating. Almost anything can be grown in this country although the principal agricultural products are coffee and bananas.

The legislative power vests in a Chamber of Representatives, one half retiring every two years; the president is elected for a term of four years and is assisted by a cabinet of four members. President, Ascension Esquivel (1902).

NICARAGUA.

Nicaragua has an area of about 49,210 square miles and a population of about 500,000 including uncivilized Indians. The number of Europeans in the country is small. Coffee forms the principal industry; in 1902 the coffee crop was about 3,000,000 pounds, the largest ever produced. The sugar industry is expanding and tobacco and bananas are extensively cultivated. There are several rubber plantations which give promise of large yields in the future.

The legislative powers are vested in a Congress of one House including forty members elected for a term of two

years. General Jose Santos Zelaya was elected President in 1902, his term expiring in 1906.

HAYTI.

The negro Republic of Hayti occupies about one-third of the island of Hayti and embraces an area of 10,204 square miles. Hayti was the sixth point of land discovered by Columbus in 1492 and was named by him Hispaniola. For eighty years after Haitian independence was proclaimed in 1804, there have been almost continual internal strifes. During that period seventeen presidents have occupied the seat of executive power and with very few exceptions all have met with violent deaths or been driven into exile. The legislative power vests in a Chamber of Communes and a Senate. The president is elected by the joint vote of the two Chambers for the period of 7 years. The head of the executive to-day is General Nord Alexis.

The little republic occupies a rather unique position in history, since here a white man is not allowed to own property. Among a population of 1,325,400 nine-tenths are negroes and the remainder are mulattoes. A dialect known as Creole French is spoken generally. The republic is as separate and distinct from the neighboring republic of Santo Domingo as the United States is from Canada.

Hayti depends chiefly upon agriculture for her income. The most important product is coffee of a very superior quality. Cacao and tobacco are cultivated extensively. There are now several flourishing cigar and cigarette factories in operation.

SANTO DOMINGO.

The settlement of Santo Domingo was made by the Spaniards, the first settlement in the new world. It is principally known because the remains of Columbus were buried there. In 1884 independence was asserted by the people on the eastern end of the island of Hayti and from that date the two political divisions, Hayti and San Domingo have been maintained. The present president is General Alejandro Wos-y-Gil (1903). He is assisted by a Cabinet of Ministers. The legislative power is vested in a national congress of twenty-four deputies.

The Dominican republic has an estimated area of 18,045 square miles and the population is estimated in 1904 at about 700,000. The population is composed chiefly of persons of Spanish descent mixed with Indian blood of the aborigines and of mulattoes and negroes. The geographical position of the republic makes its soil and climate suitable for the production of all kinds of tropical fruits and vegetables. The land is particularly adapted for the cultivation of sugar and this industry has grown rapidly within the last few years. Cocoa and tobacco are grown extensively and the former is rapidly becoming one of the most important agricultural industries. Tropical fruits are raised abundantly and shipped extensively.

SOUTH AMERICA

FOR obvious reasons no history of South America as a continent need be given. It will readily be gleaned by the reader from the separate histories of the various countries contained within its boundaries. It may be stated, however, that the tableland of Bolivia was the nucleus of the earliest civilization in South America. From there came the Inca rulers of Peru and Ecuador, which places, together with Colombia, provided the Spanish explorers with the only evidences of civilization and culture. These and the Portuguese made easy conquests wherever they went in South America, and established colonies, which, however, declared their independence early in the last century and obtained their freedom after fighting for it bravely.

The International Bureau of the American Republics was established under the recommendation of the International American Conference in 1890 for the very laudable purpose of maintaining closer relations between the several republics of the Western Hemisphere. It was reorganized in 1901, its scope widened, and new and important duties imposed upon it. The International Bureau corresponds with the executive departments of these different governments through their diplomatic representatives in Washington; and is required to furnish at request to any of the republics such information as it has in its possession.

The population of the Latin-American Republics according to the very latest estimates are as follows:

Argentine Republic	4,800,000	Honduras	420,000
Bolivia	2,500,000	Mexico	13,570,545
Brazil	18,000,000	Nicaragua	420,000
Chile	3,110,083	Panama	286,000
Colombia	4,600,000	Paraguay	600,000
Costa Rica	309,683	Peru	3,000,000
Dominican Republic	600,000	Salvador	915,512
Ecuador	1,300,000	Uruguay	863,864
Guatemala	1,574,340	Venezuela	2,444,816
Hayti	1,211,625		

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New Siberia
Lena
Archip.
R. Yenisei
RUSSIAN EMPIRE
SIBERIA
R. Lena
R. Amoor
ASIA
SEA OF OKHOTSK
Kamtchatka
SEA OF KAMTCHATKA
Aleutian Is.
East Cape
Bering Strait
Pt. Barrow
C. Lisburne
C. Pr. of Wales
ALASKA
Yukon
Cooks Inlet
Mt. St. Elias
Sitka I.
Mackenzie
R. Mackenzie
C. Bathurst
Banks Ld
Melville I.
PARRY IS.
Ellesmere Ld.
Grinnell Land
Kennedy Ch.
Smith Sd.
Prudhoe Land
C. York
Melville Sound
Lancaster Sound
BAFFIN BAY
Victoria Land
Boothia
Great Bear L.
Gt. Slave L.
L. Athabasca
HUDSON BAY
Hudson Strait
C. Chudleigh
Labrador
Davis Strait
BRITISH UNION
ROCKY MTS.
Columbia
Fraser
L. Winnipeg
NORTH AMERICA
Vancouver I.
Victoria
R. Columbia
L. Superior
L. Michigan
Ottawa
Quebec
Montreal
Str. of Belle Isle
St. Lawrence
Gulf of St. Lawrence
Newfoundland
St. John
C. Race
C. Breton
Halifax
Boston
New York
Philadelphia
Baltimore
Washington
C. Hatteras
Bermuda Is.
Charleston
Savannah
Bahama Is.
WEST INDIA ISLANDS
St. Domingo
Jamaica
Caribbean Sea
Barbadoes
Trinidad
Georgetown
Cayenne
Chicago
Toronto
S. Lawrence
L. Ontario
L. Erie
Niagara
Pittsburg
Cincinnati
St. Louis
Missouri
Mississippi
San Francisco
S. Diego
UNITED STATES
New Orleans
Rio Grande
Peninsula of California
G. of Mexico
Havana
Vera Cruz
Mexico
Acapulco
CENTRAL AMERICA
COSTA RICA
Isthmus of Panama
VENEZUELA
COLUMBIA
Quito
ECUADOR
Galapagos Is.
Guayaquil
PERU
Lima
Callao
SOUTH AMERICA
BRAZIL
BOLIVIA
Potosi
Arica
Caldera
S. Felix
Valparaiso
Santiago
Juan Fernandez
ARGENTINE REPUBLIC
URUGUAY
Monte Video
Rio de la Plata
Buenos Ayres
Valdivia
Wellington I.
Falkland Is.
Magellan Str
Tierra del Fuego
Cape Horn
South Shetlands
TROPIC OF CANCER
TROPIC OF CAPRICORN
EQUATOR
Sandwich Is.
Marquesas Is.
Society Is.
Pitcairn I.
Feejee Is.
Marshall Is.
Caroline Is.
Ladrone Is.
PACIFIC
MICRONESIA
POLYNESIA
CHINESE EMPIRE
Pekin
Yellow Sea
Sea of Japan
JAPAN
Tokio (Yedo)
ISLANDS
Yang-tse-Kiang
Shanghai
CHINA
Canton
Hong Kong
PHILIPPINE IS.
HIMALAYA MTS.
R. Ganges
Calcutta
BAY OF BENGAL
CHINA SEA
Gulf of Siam
Sumatra
BORNEO
Java
EAST INDIA ISLANDS
Ceylon
INDIAN OCEAN
Papua or New Guinea
Torres Str.
AUSTRALIA
N.W. Cape
C. Leeuwin
NEW SOUTH WALES
Sydney
Melbourne
Tasmania
Bass Str.
NEW ZEALAND
Cook Str.
Auckland
Chatham I.
Norfolk I.
New Caledonia
Campbell I.
ANTARCTIC
C. Adare
South Victoria Land
Mt. Erebus
Mt. Terror
Mt. Ross
REGIONS
THE W
MERCATOR'S P

Greenwich 15 0 15 Long. 30 East 45 from 60 Greenwich 90 105 120 135 150 165 180 165
ARCTIC OCEAN
North East Land
SPITZBERGEN
North East Land
William and
LAND
Scoresby's Ld.
C.Brewster
North C.
Loffoden Is.
Lapland
ARCTIC CIRCLE
ICELAND
Reikiavik
Faroe Is.
Shetland Is.
Orkney Is.
SCOTLAND
BRITISH ISLANDS
IRELAND
Dublin
London
English Channel
Paris
FRANCE
Bay of Biscay
C.Finisterre
SPAIN
PORTUGAL
Oporto
Lisbon
Madrid
Str. of Gibraltar
Madeira
Canary Is.
C.Blanco
C.Verd Is.
C.Verd
Sierra Leone
Monrovia
C.Palmas
Timbuctoo
SAHARA OR GREAT DESERT
Mourzouk
Benin
L.Tchad
SOUDAN
ABYSSINIA
Ascension
St.Helena
Trinidad
C.Frio
Orange R.
CAPE COLONY
C.of Good Hope
Pernambuco
Bahia
Georgia
Kerguelen's Land
ANTARCTIC CIRCLE
Enderby Land
Kemp Land
ANTARCTIC REGIONS
WORLD
SECTION
NOVA ZEMBLA
KARA SEA
Walgaiz I.
C.Mauritius
North East C.
New Siberia
Gulf of Ob
Lena's Archip.
R.Yenisei
R.Lena
Behring Strait
C. Lisburne
East Cape
C.Pr.of Wales
Archangel
White Sea
Stockholm
St.Petersburg
Moscow
Tobolsk
R.Obi
Yakutsk
R.Lena
SIBERIAN EMPIRE
RUSSIA
Volga R.
Caucasus
Black Sea
Constantinople
TURKESTAN
HIMALAYA MTS.
Sea of Aral
L.Balkash
L.Baikal
ALTA MTS.
R.Amoor
SEA OF OKHOTSK
SEA OF KAMTCHATKA
Kamtchatka
Aleutian Is.
Alaska Penin.
Kurile Is.
C.Lopatka
MONGOLIA
MANCHOORIA
CHINESE EMPIRE
Pekin
Hoang Ho
Yellow Sea
Sea of Japan
JAPAN
Tokio (Yedo) ISLANDS
Shanghai
PACIFIC OCEAN
Tibet
Tsiang
CHINA
Canton
Formosa
Hong Kong
Sandwich Is.
PHILIPPINE ISLANDS
Manilla
SEA
Caroline Is.
Marshall Is.
EQUATOR
Tehran
PERSIA
AFGHANISTAN
BELOOCHISTAN
Jerusalem
Alexandria
Isth. of Suez
Cairo
EGYPT
Sinai
Red Sea
Mecca
NUBIA
Muscat
Aden
Bombay
Arabian Sea
Delhi
Calcutta
Ganges R.
INDIA
BAY OF BENGAL
BURMAH
SIAM
C.Guardafui
C.Comorin
Ceylon
Maldive Is.
EAST INDIA
Str. of Babelmandeb
Str. of Mozambique
Mozambique Channel
Zanzibar
L.Victoria Nyanza
L.Tanganyika
R.Congo
Benguela
Angola
C.Amber
Madagascar
Mauritius
C.St.Mary
INDIAN OCEAN
Java Sea
Batavia
Java
ISLANDS
Sumatra
Malacca Str.
Gulf of Siam
BORNEO
Celebes
Molucca Pass
Moluccas Str.
Papua or New Guinea
Torres Str.
C.York
G.of Carpentaria
New Hebrides
Feejee Is.
POLYNESIA
AUSTRALIA
QUEENSLAND
NEW SOUTH WALES
VICTORIA
TASMANIA
TASMAN LAND
N.W.Cape
C.Leeuwin
K.George Sd.
Swan R.
Adelaide
Melbourne
Sydney
Base Str.
Hobart Town
New Caledonia
Norfolk I.
Auckland
NEW ZEALAND
Cook Str.
Wellington
Dunedin
C.Adar
South Victoria Land
Mt.Erebus
Mt.Terror
Mt.Ross
R.S.PEALE & CO., CHICAGO.
Greenwich 15 0 15 Long. 30 East 45 from 60 Greenwich 90 105 120 135 150 165 180 165

BRAZIL.

NOTABLE as the largest of the divisions of South America; as one of the youngest republics of the Western hemisphere, Brazil's history is of peculiar interest to the historical reader. Pedro Alvarez de Cabral, who had been sent out by King Emmanuel of Portugal to follow up the discoveries of Vasco da Gama, discovered the land in 1500, and the richness of its forests in dye-woods soon attracted the attention of commerce. A Governor of the territory was appointed in 1549, who founded the present capital of Rio de Janeiro. Numerous attempts were made by the Dutch and French to take the country, but it was retained almost in its entirety by Portugal, whose King, on the occasion of Napoleon's invasion of his country in 1808, fled to Brazil, and virtually transferred the monarchy to his colonial possession. Seven years later Brazil was made a kingdom and its ports thrown open to the world, and in 1821 the King went back to Portugal, leaving behind him his son, Dom Pedro, as regent. A revolution, or rather a transition, occurred in the same year, and in 1822 Brazil was proclaimed an independent empire, and Dom Pedro was invested with the imperial crown. A Constitution was granted in 1824, when the home Government acknowledged the independence of the young empire In 1826 Dom Pedro became King of Portugal by the death of his father, and he resigned the European crown to his daughter. In 1831, after long and harassing wars with adjacent countries, the Emperor abdicated in favor of his son, Dom Pedro II., then but six years old, and the country was ruled by a regent until he came of age, in 1841.

The imperial dynasty continued until November 15, 1889, when, by declaration of the principal citizens of the national capital, the Republic of the United States of Brazil was founded. The revolution was peaceful, the Emperor was kindly treated, provision was made for his support, and he was transferred to his kindred in Portugal; he has recently died. A provisional government was formed, upon the model of that of the United States of America, under the presidency of Marshal Deodoro da Fonseca, and on February 24, 1891, a new constitution was voted by the Constituent Assembly, by which the President's term of office is fixed at four years. Everything went on much as usual; the Imperial officials became Republican, most of the ambassadors who had represented the Empire abroad continued at their posts to represent the Republic. Some few important changes were made; the Church and the State were separated, civil marriages only are recognized, and education is secularized. A second revolution broke out in 1891, but since 1894 the country has been reasonably quiet. The new President, Dr. Francisco P. Rodrignes Alves, has had experience as a Cabinet Minister, and was peacefully elected and inaugurated.

CHILI.

IN 1533 the Incas of Peru lost their control over Chili, and a few years later the Spaniards occupied the country, the city of Santiago being founded by them shortly after their arrival. A treaty was established with the natives in the early part of the eighteenth century, by which boundary lines were established and the rule of the Spanish Viceroy acknowledged. A preliminary movement to the declaration of independence was made in 1810, when the Chilians deposed the Captain-General and placed the executive power in the hands of a committee of seven. War between the mother country and the colony commenced in the following year, and two years later the latter was entirely under the control of the royalist troops. Nothing daunted, the colony, in 1817, rebelled again, and, after a severe struggle, defeated the royalists and secured their independence. At first the Government took the shape of a directorship, but confusion prevailed until 1833, when a new Constitution, whose formation was begun two years previously, was adopted. Under the amended form of government an improved condition of affairs was established, which has endured up to the present day.

Allusion has been made, under the head of Peru, to the war in which that country was conquered, but a fuller mention of it may be afforded here, as the event is one of great importance in connection with South American history. In 1879

hostilities began between Chili and the allied republics of Bolivia and Peru, growing out of rival territorial claims, and claims to guano beds and mineral deposits. Chili insisted that, having done more than either of the others to repel the enemy, she was entitled to generous treatment. When the war came she had an army of 22,000 and a navy of ten small steamers and two powerful iron-clads, which gave her a vast advantage over the enemy. The war was conducted with great spirit and intrepidity, the naval conflicts between the two powers being especially remarkable for the ferocious courage displayed on both sides. In the spring of 1881 Callao and Lima were taken, and the Chilians were masters of the situation. By the terms of peace Chili exacted from the conquered countries the absolute annexation of the territory containing all the nitrates and the great bulk of the guano, the occupation of other territory for a period of years, and of the Loblis islands as long as there is any guano on them; also the payment of a monster war indemnity.

In 1891 a civil war resulted in the overthrow and death by suicide of President Balmaceda. An incident of this war was the escape from San Diego, California, with a cargo of arms, of the Chilian steamer Itata; which was pursued and finally surrendered to the United States. Shortly after this a murderous attack was made upon unarmed American sailors in the streets of Valparaiso. The United States demanded explanation and reparation, on which lines the affair was settled by diplomacy. Chili is fast resuming her normal prosperity.

PERU.

IN 1524, Pizarro made a visit to the coast of Peru, but it was not until 1531 that he returned with intention of conquest. His aim was aided at the time by the divided condition of the country, for the possession of which rival Incas were struggling. With less than 200 men in his command, the Spanish adventurer made the friendship of one of the Incas, whom he took prisoner. Promising to release him for a ransom, he acquired from the natives metals and valuables worth nearly eighteen millions of dollars, after which he treacherously slew his prisoner. After subjecting the country to misrule, accompanied by atrocious cruelties, Pizarro was assassinated in 1541. Spanish rule became firmly rooted, however, and in the early part of the eighteenth century the colony of Quito was separated from Peru and added to the adjoining colony of New Granada. Another partition of the colony resulted in the formation of the separate governments of Venezuela, Guatemala, Caracas, Cumana and Chili. Peru was the last of the colonies to rise against Spain, but in 1821 patriots from Chili and Buenos Ayres entered the country and drove the Spaniards from the capital. In 1824 the dictatorship was assumed by Bolivar, who, two years later, drove the Spaniards from their last stronghold, after which he formed a republic called Bolivia of the southern and southeastern portions of the colony, and resigned the dictatorship. Revolution in Peru occurred in 1826, and in place of the Constitution prepared by Bolivar, a new one, similar in form to that of the United States of America, was adopted. Civil war followed, but peace was finally brought about by General Castilla, who became President in 1845 and ruled the country until 1851, when, a vicious government succeeding him, another revolution occurred. Complications with the United States arose in 1858, through the seizure of several American vessels by ships belonging to the revolutionary forces, but in 1873 the American claims for damages were settled. Castilla's star once more shone in the ascendant, and the country enjoyed good government until 1862. In 1867 a Constitution was adopted and a treaty of commerce and friendship was made with Chili. After revolutions, assassinations and other exhibitions of anarchical tendency, the country came, in 1879, into conflict with Chili. With the Bolivians as allies, the Peruvians made a gallant stand, but in 1881 the Chilians defeated and dispersed the Peruvian army and drove the President from the capital.

After this disastrous war with Chili, which deprived Peru of territory and the income derived from the guano deposits, the Republic receded from public notice. Recent surveys, however, show the existence of rich deposits on the coast of the mainland, and in 1889 an arrangement was concluded by the Government for the cancellation of of its external debt, in pursuance of which the State railways, the guano, the celebrated silver mines of Cerro de Pasco, and vast tracts of land are vested in the Peruvian Corporation.

SOUTH AMERICA

Scale of Miles.

0 100 200 400 600 800 1000

90 75 Longitude West 60 from Greenwich. 45 30

28 Longitude 13 West 0 2 East 17 from 32 Washington. 47 62

Tropic of Capricorn

Equator

(902)

Since 1890 Peru has been in the possession of a firm and stable government, under the influence of prudent, far-sighted statesmen who devote themselves to the material development of the country and to the improvement of the people.

The Constitution of the Republic of Peru is modeled after that of the United States. The executive power vests in a president who exercises these functions through a Cabinet of Ministers; and the Legislative power in a Congress composed of a Senate and a House of Representatives. The Constitution stipulates that the practise of any faith other than the Roman Catholic shall be prohibited. Manuel Candamo was elected president in May, 1903, and installed in September.

THE UNITED STATES OF COLOMBIA AND OTHER COUNTRIES OF SOUTH AMERICA.

ONE OF the most enlightened and progressive countries in South America is the United States of Colombia. In 1536–37 the country was conquered by the Spaniards who held it until 1809, when a war of independence, lasting 8 years, gave its inhabitants their liberty. At that time the country, then known as New Granada, was united with Ecuador and Venezuela, but a separation took place in 1829. In April, 1859, the name of the Republic was changed to the Confederation Grenadina. In 1863 the name reverted to Colombia with the full title of The United States of Colombia. Civil war desolated the country from 1860 to 1885, but peace has prevailed generally with the exception of the struggle occurring within the last year. The treaty between Colombia and the United States, affecting the Panama Canal, was signed in the United States January, 1903. Opposition began to develop in March; and on August 12 the Colombian Congress unanimously refused to ratify the treaty. This unwise rejection began to develop a revolutionary tendency on the part of many of the people who favored the canal. This struggle eventually terminated in the separation of Panama from Colombia and its declaration of independence.

Colombia had an area, before the loss of the Department of Panama, of 504,773 square miles, with an estimated population of 4,000,000. Bogota is the capital. Colombia can scarcely be called an agricultural country though the coffee cultivation is expanding rapidly. The rubber tree grows wild, and with the increased demand for india rubber, its cultivation is being extended. Gold and silver are found in all departments; and copper, platinum, lead, mercury, and other minerals are found in paying quantities. The precious emerald mines belong to the government.

The president is chosen by an electoral college and holds office for 6 years. Legislative power is vested in a Senate and a House of Representatives. J. M. Marroquin was elected president in 1900.

PANAMA.

THE revolt of the Isthmian State of Panama from the Republic of Colombia took place quietly and practically without resistance during the first days of November, 1903; thus simplifying the long deferred solution of the Isthmian Canal problem and bringing the history of the endeavor again into prominence.

For generations the Panama Canal had been the dream of men and for 50 years had been a practical problem for engineers, diplomats, and financiers. When the De Lesseps Company actually began work in 1881, the enterprise seemed finally about to be carried out. The disgraceful and disastrous failure of the French corporation seemed to put to an end, for a generation at least, to the hopes of the Panama people for their long wished for canal. American citizens in the meantime were pushing with reasonably good success the Nicaragua Canal Company. But the Nicaragua Company in turn proved a failure.

The Spanish-American War and the subsequent acquisition of distant possessions, demonstrated the almost absolute need of a canal for the better defense of American Atlantic and Pacific seaports. It had been thoroughly evidenced that private enterprise could do little that was efficient, consequently the United States Government took matters into its own hands. After a good deal of discussion the Nicaragua route was decided upon; and a bill to that effect was introduced in the House and passed unanimously. However, before the final steps were taken, the Panama idea was again agitated; and as a result of investigation of the relative advantages of the two courses, and of clever political moves on the part of leaders in favor of Panama, the President was instructed to adopt the Panama route, if he could make the necessary arrangements in a given time.

During this period, the government of Colombia gave the United States every reason to believe that a treaty could be arranged on reasonable terms. But it was only after a concession to its demands for a large sum of money and the guarantee of sovereignty over the canal territory, that the treaty was signed.

Owing to the irresponsible conduct of certain politicians at Bogota, the treaty was rejected by Colombia in the hopes, presumably, that more money could be wrested from the United States. The Panama people, already highly dissatisfied with the existing government, considered the rejection a grievance not to be borne; and the leading citizens promptly planned a separation, safe in their conviction that they, as an independent republic, would be well taken care of by the United States.

A provisional government was established practically without resistance; and within a few days United States ships and marines were on hand to offer all protection necessary. The new republic had reasoned wisely for it received recognition and every possible encouragement from Washington. Since the new republic frankly acknowledges that it exists for the purpose of a speedy completion of the Panama Canal, negotiations were resumed with it that had failed with Colombia. As a result, a satisfactory treaty was signed and sealed.

It is estimated that the total cost of the completed Canal will reach something like $185,000,000.

The new republic covers over an area of about 31,500 square miles with a population of 300,000. The interior is a dense jungle and largely unexplored, the seacoasts only being inhabited. The city of Panama, on the south point of the Canal, has nearly 25,000 people.

The sentiment in Europe was greatly in favor of the revolution. The newspapers of England and France expressed sympathy with the United States. The sentiment in Bogota, where it was believed that the revolution had been planned and fostered in this country, was openly against the United States.

VENEZUELA.

VENEZUELA was discovered by Columbus in 1498 during his third voyage. During the following year a great part of the coast was explored by Spanish navigators and by 1550 colonization had become widespread. In 1820 Venezuela achieved independence from Spain, for which she had been desperately fighting for 10 years. In 1821 this country formed part of the Federal State of Colombia and in eight years later she became a separate government. In 1846 began the first of those internal strifes which have desolated the country. By 1902 civil war of the deadliest kind was in progress; although the government succeedcd in a measure in subduing the rebels. The opening of the year 1903 saw Vcnezuela with her ports blockaded by great war-ships and her country overrun with rebels. Gcrmany, Italy, and England were represented in the blockade. President Castro looked to The Hague for a settlement of the difficulties and ultimately made a positive statement that he would trust his country's affairs to the International Tribunal. The Czar of Russia was called upon to name the members of the Court of Arbitration. The Hague protocols were finally signed on May 7, in Washington. Thc Civil War was brought to an end in July; and early in September the country was at peace, for the first time since General Castro became President four years before.

Venezuela has an area of 593,943 square miles and the latest census puts the population at about two and a half million. Agriculture, stock-raising, and thc exportation of tropical fruits and nuts are the principal industries of the country. The staple product is coffee. Gold is found in large quantities as is also silver. Copper, silver, iron are found abundantly; and here are situated the great asphalt lakes. The chief executive of Venezuela is a President, who is assisted by a cabinet and a Federal Council. Legislative power is vested in a Senate and a House of Representatives. The government is modeled largely after that of the United States. The country is divided into eight large states each subdivided into districts. Besides these there are several territories.

ECUADOR.

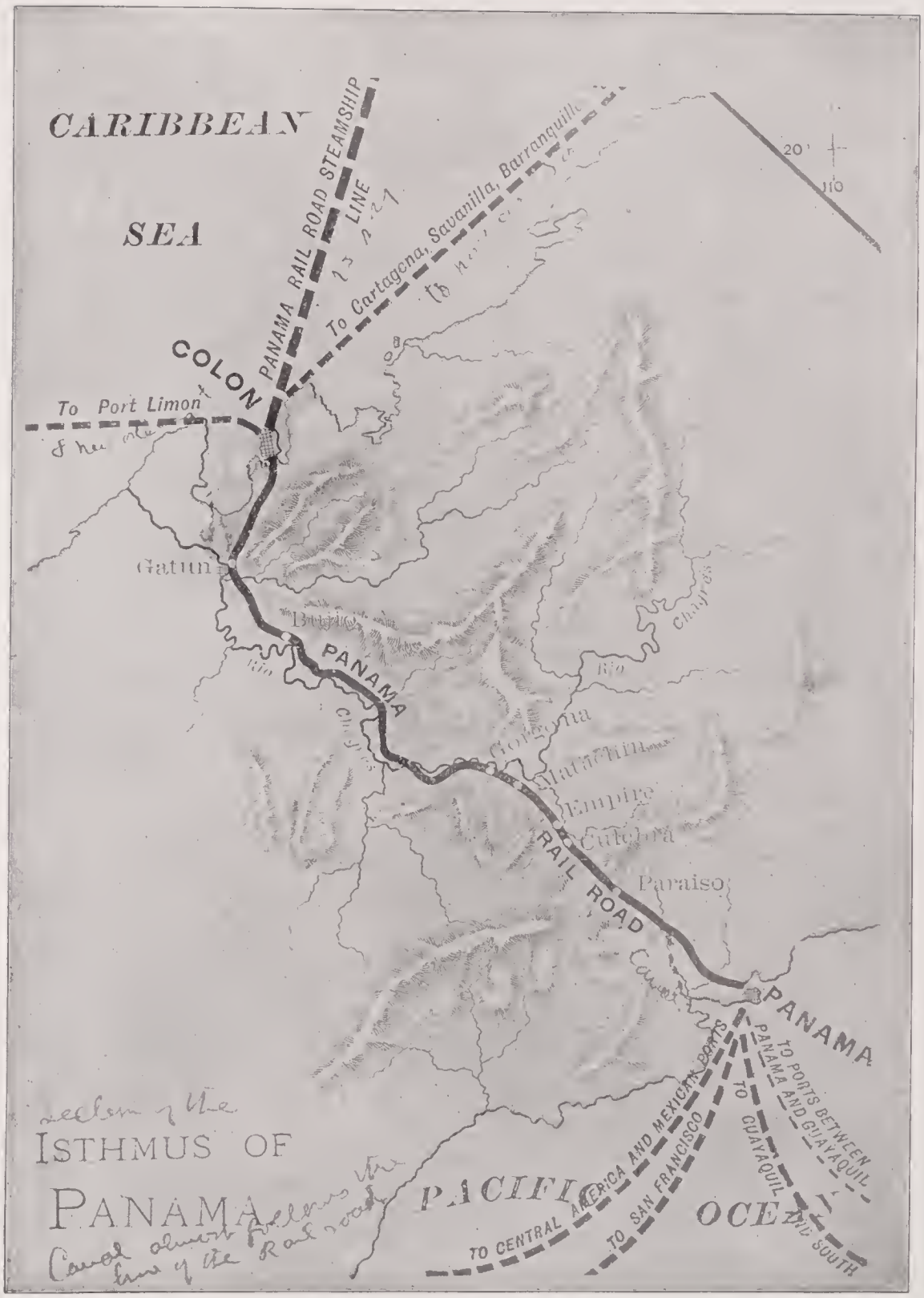
ECUADOR was, many years previous to the coming of the Spaniards, the seat of an Indian monarchy, whose King was overthrown in the tenth century by Indians, who established a government and ruled the country until it was conquered in the latter part of the fifteenth century by Huaqua Capac, Inca of Peru. His sons divided the country between them and quarreled, the war resulted in the victory of the one of them to whom the province of Quito had fallen. He reunited both countries, but in 1532 Pizarro seized and slew the Inca, and Spanish rule prevailed until 1809, when the colonists arose in rebellion and obtained their independence in 1820. Ecuador became an independent State in 1830, and civil war followed, lasting 20 years, after which came war with Peru. Peace was restored and prosperity has of late rewarded the country's effort in the direction of commercial and social advancement. A constitution was adopted in 1884, modifying in some respects that which already existed, and with a few changes, is the one now in force. It is claimed that the condition of the country has been steadily receding since the election of President Leonidas Plaza (1901–1905), who is a comparatively young man and probably badly advised. Since his election the progress has ceased, and commerce retrograded.

PARAGUAY.

PARAGUAY was discovered in 1530, and settled in 1536 by the Spaniards, whose missionaries found the natives mild and peaceful of disposition and well disposed to receive the truths of Christianity. In 1811 the country declared for independence, and was for 29 years kept under the rule of Jose Gaspar Rodriguez Francia, who sustained during the whole period the policy of non-intercourse with foreigners. The whole country was accessible only by the river Parana, and ingress and egress by it were so thoroughly stopped that during the long period of his rule no foreigners were allowed to enter, and only half a dozen were permitted to leave. Such shipping that was in the river at the time this policy was inaugurated stayed there, rotted, and fell to pieces. This unique condition of affairs was only ended by Francia's death, when the dictatorship was seized by Antonio Lopez, who held it under the title of President until 1862, when he died, and was succeeded by his ambitious son, Francisco Solano Lopez, who set himself up as the protector of the "equilibrium" of the La Plata region. War with Brazil, Uruguay, and the Argentine Republic ensued, which lasted 5 years, closing in 1870, when Lopez was killed and peace restored. At the mercy of its conquerors, Paraguay ceded a portion of its territory to Brazil, and agreed to pay in all an indemnity so enormous that it is now bankrupt with no prospect of regaining the financial prosperity it enjoyed previous to the war. Executive power rests in a President, who is elected for 4 years; and the legislative function in a Congress composed of a Senate and Chamber of Deputies. Juan Ezquarra was elected President in 1902.

GUIANA.

CONSISTS of 3 divisions belonging respectively to Great Britain, France, and The Netherlands, and has no specially interesting historical reminiscences. British Guiana, the largest and most valuable of the three possessions, was



ROUTE OF THE PANAMA ISTHMIAN CANAL

acquired by Great Britain in 1803. It is ruled by a Governor appointed by the Crown. French Guiana was acquired in 1704. It is not a very valuable possession, and its main use to France is as a penal settlement. Dutch Guiana, which lies between the others, is a rich country, and is ruled by a Governor-General and Council.

Formerly known as Buenos Ayres, the ARGENTINE REPUBLIC was discovered in 1512, and twenty-three years later its settlement began, as a part of the Peruvian domain. Such it remained until the end of the fifteenth century, when the viceroyalty of Buenos Ayres was formed by the consolidation of the land now divided among the Argentine Republic, Paraguay, Uruguay and Bolivia. War for independence from Spanish rule began in 1809 and ended in 1812, with the revolutionary arms in the ascendant. In 1817 a Dictator was elected, subject to the limitations of a provisional constitution, and three years later a democratic government was inaugurated. After a war with Brazil the Argentine provinces in 1831 formed a confederation, and the power fell into the hands of General Rosas, commander of the army, who exercised it despotically until 1852, when he was deposed, at which time the province of Buenos Ayres seceded from the confederation. It returned, however, later, and by a recent treaty the confederation was increased by the acquisition of all of Patagonia, except a strip along the Straits of Magellan, and all of the island of Terra del Fuego east of the Andes. Subsequent to the deposition of Rosas, the confederation engaged in a number of foreign wars, and suffered many internal broils; but since 1890 peace has been enjoyed to a fair extent. A President, who is elected for six years by the provincial representatives, holds the executive power. Legislative power rests in a National Congress, which comprises a Senate of twenty-eight members and a House of fifty-four Deputies. The provinces, fourteen in number, are ruled by Governors, who are elected for fourteen years.

URUGUAY has a history even more bloody and bellicose than any other of the South American dominions.. It was first settled by the Jesuits in the early part of the seventeenth century, but Spain and Portugal both claimed possession of it later, and after much fighting the former succeeded in making its claim good in 1724. About a century later Brazil annexed it, but it revolted and secured its independence in 1828. Since that time until quite recently revolution continued to be the normal condition of the country, and at times civil war was conducted with such ferocity that the intervention of foreign powers became necessary as an act dictated by feelings of humanity. Although in theory a republic, with a President and a Senate and House of Delegates, the real power lies with whatever General happens at the time to have the control of the military.

BOLIVIA, named after Simon Bolivar, sometimes called the "Liberator of South America," for the leading part which he took in helping the efforts made by the different States in the direction of independence, was held by the Spaniards until 1825, when it became independent. Since then revolt has almost entirely occupied the attention of its people. In the war with Chili it was virtually annihilated, the conditions of peace imposed being such as to keep the country in everlasting subjection. A President enjoys the executive power, and legislative functions are vested in a Senate and House of Representatives, elected by the people.

EUROPE

GREECE has the honor of being in the van of European civilization and power, but in the seventh century before Christ a rival sprang up in Italy, which in the course of time attained such vigor that Greece at last was humbled to the condition of a Roman province. From 200 B.C. to 100 A.D. the Roman Empire enjoyed its greatest glory, extending its power until almost all Europe came under its rule. From the unconquered portion to the north, however, poured legions of barbarians, who overran the Roman Empire and laid upon its ruins the foundations of modern Europe. What are known as the dark or middle ages of European history lasted from the fifth to the fifteenth century, and these are pregnant with historic interest, the extension of the Christian Church, with the accompanying development of rational civilization, being accomplished during those centuries. Many valuable inventions made during this period assisted in the beneficent work, among the most important of which was that of printing. Among the most advanced of European nations during this time were the republics of Italy, which led the world in commerce, the arts and civilization. Such is a general summary of the continent's history up to the end of the middle ages. Fuller facts regarding individual national progress during and subsequent to this period will be found under the proper heads elsewhere.

EUROPE

Scale of Miles
0 100 300 500

ARCTIC CIRCLE

ARCTIC OCEAN

North Cape

Hammerfest

Kolguev I.

Reikiavik

ICELAND

Mt. Hecla

Lofoden Isles

LAPLAND

WHITE SEA

Archangel

Mezen R.

Petchora R.

Onega R.

Dwina R.

Torneå

Trondhjem

Faroe Is.

Shetland Is.

Orkney Is.

C. Wrath

Hebrides

Bergen

NORWAY

SCANDINAVIAN MTS.

Gulf of Bothnia

Lake Onega

Ladoga

Gerle

Aland Is.

Abo

Gulf of Finland

ST. PETERSBURG

Vologda

Perm

Kama R.

Ufa R.

Ural R.

URAL MOUNTAINS

ASIA

Mt. Kolvinskoi

Mt. Konjakovski

Obi R.

Irtish R.

Volga R.

Kasan

Orenburg

Saratov

Ural R.

Christiansand

The Naze

Skagerrack

CHRISTIANIA

Upsala

STOCKHOLM

Lake Wetter

Gothland

Gottenburg

Revel

Lake Peipus

Gulf of Livonia

Riga

Oesel

Baltic Sea

Kattegat

Sound

Zealand

COPENHAGEN

Carlscrona

Memel

Duna R.

Moscow

Tula

Minsk

Pripet R.

Dantzic

Vistula R.

Oder R.

Elbe R.

Hamburg

BERLIN

Hanover

Dresden

Breslau

Warsaw

Poland

Kiev

Poltava

Koursk

Don R.

Cossacks

Volga R.

Astrakhan

Azov

Sea of Azov

Kherson

Jassy

Dniester R.

Bug R.

Dnieper R.

Odessa

Crimea

Str. of Yenikale

Sevastopol

Balaklava

BLACK SEA

Mt. Elburz

CAUCASIAN MTS.

Trans Caucasia

Tiflis

Kuma R.

Caspian Sea

Persian Gulf

Beshd

Erivan

Mt. Ararat

L. Van

R. Aras

L. Urumiah

PERSIA

Ruins of Nineveh

R. Tigris

Bagdad

R. Euphrates

Hillah (Ruins of Babylon)

Aleppo

Antioch

SYRIA

Damascus

Jerusalem

Dead Sea

PALESTINE

Beyrout

Cyprus

Rhodes

Adalia

Smyrna

ASIA MINOR

TURKEY IN ASIA

Janina

Sea of Marmora

Constantinople

Bosphorus

Adrianople

Sinope

Trebizond

TURKEY

Belgrade

BOSNIA

SERVIA

ROUMANIA

Bucharest

R. Danube

BULGARIA

BALKAN MTS.

Hungary

AUSTRO-HUNGARIAN MONARCHY

VIENNA

Buda Pesth

Gratz

Trieste

Venice

Adriatic Sea

Ancona

Naples

Mt. Vesuvius

Str. of Otranto

G. of Taranto

Ionian Is.

Ionian Sea

Str. of Messina

Lipari Is.

Sicily

Mt. Etna

C. Passaro

Malta (Br.)

Palermo

Sassari

SARDINIA

Str. of Bonifacio

CORSICA

Elba

ROME

Florence

Toulon

Nice

Marseilles

G. of the Lion

Rhone R.

Genoa

Milan

Turin

Lake Geneva

Lyons

Alps

Munich

Stuttgart

Frankfurt

Prague

Bohemia

Moravia

Carpathian Mts.

Galicia

Transylvania

GERMANY

Rhine R.

Meuse R.

Seine R.

Caen

Brest

Ushant I.

C. St. Matthew

English Channel

Str. of Dover

Scilly Is.

Lands End

Bristol

Cardiff

Dover

LONDON

Thames R.

Amsterdam

Zuider Zee

Hague

HOLLAND

BELGIUM

BRUSSELS

Liverpool

Irish Sea

Mersey R.

Humber R.

York

Hull

Dublin

Galway

R. Shannon

Valentia Bay

C. Clear

Cork

Sligo

Malin Hd.

Bell I.

I. of Man

Glasgow

Edinburgh

Dundee

Aberdeen

Orkney Is.

Shetland Is.

Faroe Is.

Trondhjem

Bergen

Hebrides

C. Wrath

Malin Hd.

Sligo

Galway

Valentia Bay

C. Clear

Cork

Lands End

Scilly Is.

Ushant I.

C. St. Matthew

Brest

Caen

Seine R.

Nantes

Loire R.

Tours

Orleans

Dijon

PARIS

BAY OF BISCAY

Gironde R.

Bordeaux

Garonne R.

Lyons

Geneva

Rhone R.

Nice

Toulon

Marseilles

G. of the Lion

Pyrenees Mts.

Barcelona

Ebro R.

Valladolid

Douro R.

Leon

Cantabrian Mts.

Oporto

Corunna

C. Ortegal

C. Finisterre

LISBON

C. Roca

Tagus R.

Madrid

Valencia

Guadalquivir R.

Granada

Cadiz

Str. of Gibraltar

Gibraltar

Cartagena

Algiers

Tunis

C. Bon

Balearic Isles

Minorca

Majorca

Ivica

Cagliari

Str. of Bonifacio

Sassari

SARDINIA

Naples

Mt. Vesuvius

ROME

Elba

Florence

CORSICA

ENGLAND
AND
WALES
Scale of Miles
10 0 10 20 30 40 50
EDINBURGH
SCOTLAND
Leith
Dunbar
Berwick
Glasgow
R. Clyde
Firth of Clyde
Bute
Arran
Jura
Ayr
Girvan
Stranraer
Port Patrick
Wigtown
Belfast
Belfast L.
North Channel
Ireland
Mull of Galloway
Burrow Hd.
St. Bees Hd.
Whitehaven
Workington
Maryport
Solway Firth
Carlisle
R. Eden
Penrith
Keswick
Scafell
Ravenglass
Ayre Pt.
Ramsey
Isle of Man
Douglas
Castletown
R. Daddon
Barrow
Morecambe B.
Lancaster
Fleetwood
Irish Sea
Preston
R. Ribble
Blackburn
Burnley
Bradford
Halifax
Leeds
Selby
Beverley
Hornsea
Withernsea
Spurn Head
Humber Mouth
Barton
Hull
Goole
R. Ouse
R. Derwent
R. Ure
R. Swale
R. Nidd
R. Wharfe
R. Aire
R. Calder
R. Don
R. Dearne
R. Rother
R. Trent
R. Idle
R. Torne
R. Witham
R. Welland
R. Nene
R. Great Ouse
R. Lark
R. Cam
R. Stour
R. Colne
R. Blackwater
R. Roding
R. Lea
R. Medway
R. Darent
R. Wye
R. Usk
R. Severn
R. Avon
R. Parrot
R. Taw
R. Torridge
R. Exe
R. Tamar
R. Lune
R. Kent
R. Leven
R. Esk
R. Tweed
R. Till
R. Coquet
R. Aln
R. Tyne
R. Wear
R. Tees
R. Derwent
R. Ouse
R. Humber
R. Trent
R. Soar
R. Nene
R. Welland

GREAT BRITAIN.

THE island now known as Great Britain was known to the ancients previous to the date at which its written history begins, the Phœnicians, Carthaginians and Massilians having visited its shores in their trading vessels. It was not, however, until the year 55 B.C. that its real history commenced, with the conquest of the country by Julius Cæsar, and the establishment there of the Roman rule, which lasted until A.D. 420, when the pressure of Rome's enemies caused the withdrawal of the legions from Britannia—the name which Cæsar gave to the island in the stead of Albion, by which it had formerly been known. The departure of the Romans left the British a prey to the Picts and Scots, whose incursions, aided by internal dissensions among the British chiefs, reduced the country to a condition of anarchy. One of these chiefs, seeking assistance to enable him to cope with the northern invaders, effected an alliance, in A.D. 446, with Hengist, a prince of the Jutes, who, with Horsa, his brother, after driving back the Picts and Scots, turned his arms against the Britons, whom they overcame in a series of sanguinary battles. In 457 Hengist declared himself King of Kent, and in the course of time the conquest of England was fully accomplished by the Saxons, Jutes and Angles, who established three Saxon, one Jutish and four Anglian kingdoms. About the year 830 the ruling power was consolidated, and Egbert, ruler of the Saxon kingdom, Wessex, became King of all England. During his reign began the invasions of the Danes, who, gaining increased power after the death of Alfred the Great in 901, held the country from 1017 to 1041, when the crown reverted to the Anglo-Saxons and to Christianity, which had already been introduced in the person of Edward, surnamed the Confessor. His reign was merely nominal, the country being governed by Danish and English Earls, and when he died one of these, Harold, Earl of Wessex, seized the throne, which was soon wrested from him by William, Duke of Normandy, in France, who defeated him in the battle of Hastings, and established the Norman line of Kings. The Norman invasion was followed by the division of the lands among William the Conqueror's followers, as feudal lords, the foundation thus being laid of a rich and powerful landed aristocracy, which has continued to successfully defend its ascendancy in spite of all opposition. As years went by the Normans and Saxons became merged into one people.

QUEEN'S CASTLE, BALMORAL.

In the court, French manners and the Norman-French language prevailed, while the Saxon tongue remained in use among the laboring classes; but the writings of Chaucer fixed the English language, which, however, had received a strong impression from the invaders. The reigns of the Norman and Plantagenet monarchs were a series of contests between the Kings and the Barons, and the concessions which the latter wrung from royalty constitute some of the strongholds of British liberty. One of the most important of these was the Magna Charta, which the Barons forced King John to sign at Runnymede in 1215, and which secured to the English people two great rights: first, that no man should suffer arbitrary imprisonment; second, that no tax should be imposed without the consent of the National Council. In 1265 King Henry III. was imprisoned by the Barons, and the first English Parliament was convened; and though, in the same year, his son Edward defeated the Barons and restored his father, the latter was glad to conciliate his foes, and confirmed the great charter. During Edward's reign Wales was conquered and annexed to England, and Scotland was menaced, but preserved her integrity through the skilful generalship of William Wallace and Robert Bruce. The shaping of the English Parliament was greatly advanced during this reign, the National Council taking its modern form by the separation of the greater Barons from the tenants-in-chief, who thereafter took part in Parliament only through representatives. In 1295 the first session of the Commons in a separate chamber was held, and in 1296 was passed the statute providing that no tax should be imposed which was not sanctioned by the Barons, Bishops and Burgesses. Popular government made another step forward in the reign of Henry IV., the first King of the house of Lancaster,

in the enactment of the statute granting the parliamentary right of election for counties to all freeholders, and the recognition of the two houses of Parliament as bodies possessing distinct privileges, which were not to be interfered with by each other. The reform of church abuses, which had been inaugurated by Wycliff, was opposed by Henry IV., while Parliament passed the act for the punishment of heretics, which for two centuries, almost, was made the instrument for the affliction of unutterable cruelties. The aspirations of the house of York to the throne led to the sanguinary civil conflicts known as the Wars of the Roses. The Yorkists triumphed in 1461, and in Henry VII.'s marriage the two houses were joined together. The Tudor dynasty thus formed produced some remarkable reigns. Henry VIII., who in the early part of his reign earned the title of "Defender of the Faith," for his loyalty to the Pope, broke with Rome later, and assumed the title of "Head of the Church," and in 1535 the Papal authority was set aside by act of Parliament. In the reign of his daughter, Queen Mary, a devout Catholic, a strong effort was made to undo the work of reformation in England. The legislation of Henry VIII., and of the regency which succeeded him, was repealed, and many who opposed the new deal were burned at the stake. Dying without issue, Mary was succeeded by her Protestant half-sister, Elizabeth, who restored the supremacy of the Church of England, which about this time accomplished the reform of the service books of the church, and of its doctrines, which resulted in the preparation of the thirty-nine articles, in substantially the same form as they exist at present. The nation was threatened in Elizabeth's reign by the Spanish Armada, which Philip II. of Spain fitted out for England's invasion, but which, overtaken by a storm, was dispersed, and its great vessels made an easy prey for the lighter and more manageable English ships. Under Elizabeth Ireland was subjected, commerce with India established, and colonies planted in America.

The Stuart family of Scotland succeeded that of Tudor, and with them culminated the struggle between royal prerogative and popular right. The power of the feudal Barons had already been destroyed, and the bulwark of British law and liberty now was the middle class. The Stuart monarchs, James I. and Charles I., by no means understood the spirit of their age, and their constant exercise of despotic power brought them in collision with the united trading and laboring classes. King Charles attempted to dispense with the Parliament, and ruled for many years without one, but in 1642 the people arose against him, and in 1645 the Roundhead (Puritan) army, under Oliver Cromwell, overthrew the Royalist forces. The King was imprisoned and executed, and Cromwell, declining the title of King offered him by Parliament, ruled the country as Lord Protector of the Commonwealth. Under this great man the power of England increased greatly. At his death, in 1659, his son, an amiable man of moderate capacity, succeeded him, but resigned his power in the following year. This paved the way for the return of the Stuarts in Charles II., a vicious monarch, whose reign saw further conflicts between the King and Parliament, which, however, in 1679, showed their opposition to his will, and passed the Habeas Corpus act. His brother and successor, James II., worked persistently for the overthrow of constitutional government and the establishment of despotic regal power with the Roman Catholic Church as the State religion, and fared no better than his predecessors, being forced to abdicate to make room for William of Orange, whose acceptance of the crown was made subject to limitations inspired by Parliament, which passed an act arranging for the succession, while the Bill of Rights guaranteed the liberty of the country. Under Queen Anne, the English armies under the famous Marlborough won splendid victories on the continent against France. In 1707 the union with Scotland was consummated. With George I., who succeeded her, came in the Hanoverian dynasty, during the early years of whose rule efforts were made to re-establish the Stuart line, whose hopes were finally crushed at Culloden in 1746. The reign of George II. was marked by the acquisition of India and Canada. England's colonial possessions were largely increased during the earlier years of George III., but later on the persistent attempts to tax the American colonists drove them to successful revolution and the formation of the United States of America. The intellectual brilliancy of the Parliamentary leaders of this epoch is one of its striking features, the destinies of the nation being in the hands of such men as Pitt, Fox, Burke and Sheridan. The successes of Napoleon in Europe alarming England, she joined with the other powers in a war whose object was to replace the Bourbons on the French throne. The prolonged conflict was ended by the battle of Waterloo in 1815, in which Napoleon was defeated by a British army under Wellington and a Prussian army under Blucher. During these wars England's victories at sea, under Admiral Nelson, constitute the brightest page in her naval history. In 1798 the Irish, assisted by the French, rebelled, but were subdued, and in 1801 occurred the passage of the act of union between Great Britain and Ireland. George IV., a regal profligate, succeeded him, and in the reign of William IV., who followed, was passed the first reform bill, which placed the political power in the hands of the people. Three years before his death, which occurred in 1837, the decree was ordered abolishing slavery from British territory. He was succeeded by the present sovereign, Queen Victoria, whose reign has proved one of the most remarkable, as well as beneficent, of all the British sovereigns. Born in London, May 24, 1819, she was only 18 years old at the time of her accession. In February, 1840, she was married to her cousin, Prince Albert of Saxe-Coburg-Gotha, with whom she sustained very happy conjugal relations until his death, in 1861, since which time she has remained a widow. The earliest event of importance in her reign was the repeal of the Corn Laws in 1845. In 1847 a famine occurred in Ireland, which was followed by a large emigration from that country. The Chartist agitation followed in 1848, and in 1853 the Crimean war commenced, in which England and France allied themselves with Turkey against the encroachments of Russia. It lasted from January, 1854, until March, 1856, when the Russians, having lost the fortress of Sebastopol, which was the key to their position, consented to a peace. The next serious employment of the English arms was that provided in the suppression of the Indian mutiny, which occurred in 1857–8, after which England assumed direct control of affairs in that country. In 1868 the supplementary

R. S. PEALE & CO., CHICAGO

IRELAND
Scale of Miles
10 0 10 20 30 40
Longitude West from Greenwich
10 9 8 7 6
53 54 55
ATLANTIC OCEAN
IRISH SEA
ST. GEORGES CHANNEL
NORTH CHANNEL
SCOTLAND
Malin Hd.
Fanod Hd.
Lough Swilly
Culdaff & Bay
Tory I.
Sheep Haven
Bloody Foreland
Is. of Arran
Trawenagh B.
Loughros More B.
Teelin Head
Donegal Bay
Mc Swynes B.
Benwee Hd.
Downpatrick Hd.
Broad Haven
Erris Hd.
The Mullet
N. & S. Inniskea
Blacksod Bay
Saddle Hd.
Achill Hd.
Achill Sound
Clew Bay
Clare I.
Inishturk
Inishbofin
Inishshark
Killary Har.
Slyne Hd.
Birterbuy B.
Kilkieran B.
North Sound
Inishmore
IS. OF ARRAN
Inisheer
Hags Hd.
Mal Bay
Loop Hd.
Mouth of the Shannon
Brandon Hd.
Brandon Bay
Tralee Bay
Dingle Bay
Valencia Id.
St. Finans B.
Ballinskelligs B.
Kenmare River
Crow Hd.
Bantry Bay
Dunmanus Bay
Mizen Hd.
Roaring Water B.
Cape Clear
Galway Bay
Ballycastle
Killala
Carrowmore L.
Mt. Nephin
Sligo Bay
Drumcliff
Sligo
Dromore
Collooney
Ballymote
Tobercurry
Arrow L.
Gara L.
Easky
Milk Haven
Melvin L.
Erne R.
Gill L.
Manor Hamilton
Ballyshannon
Pettigoe
Donegal
Ardara
Loughros More B.
Trawenagh B.
Liffor
Letterkenny
Dunfanaghy
Milford
Buncrana
Moville
Culdaff & Bay
Malin Hd.
Fanod Hd.
Lough Swilly
Sheep Haven
Mulroy B.
Tory I.
Bloody Foreland
Is. of Arran
Port Rush
Giant's Causeway
Rathlin I.
Cantire
Fair Hd.
Bushmills
Port Stewart
Coleraine
Lough Foyle
Newtown Limavady
Ballymoney
Tristan
Glenarm
Larne
Belfast Lough
Belfast
Donaghadee
Newtown Ards
Strangford
Lough
Lisburn
Dromore
Ballynahinch
Downpatrick
Killough
Dundrum B.
St. Donard
Kilkeel
Carlingford Lough
Dundalk
Dundalk Bay
Dunany Pt.
Clogher Hd.
Drogheda
Drogheda Bay
Boyne R.
Collon
Moynalty
Virginia
Oldcastle
Navan
Trim
Athboy
Tara
Balbriggan
Skerries
Rush
Lambay I.
Swords
Dunshaughlin
Howth Hd.
Dublin Bay
Kingstown
Bray
Blessington
Wicklow
Arklow
Mizen Hd.
Kilmichael Hd.
Courtown Harb.
Cahore Pt.
Enniscorthy
Ballywilliam
Castlebridge
Wexford
Wexford Haven
Greenore Pt.
Carnsore Pt.
Saltee Is.
Bannow B.
Waterford Harbour
Helvick Hd.
Hook Hd.
Dungarvan
Youghal Harb.
Youghal
Cork Harbour
Cork
Middleton
Queenstown
Passage West
Kinsale
Kinsale Harb.
Old Hd. of Kinsale
Courtmacsherry B.
Clonakilty Bay
Galley Hd.
Glandore Harb.
Bandon
Bantry
Dunmanway
Clonakilty
Skibbereen
Kenmare
Macroom
Killarney
Lakes of Killarney
Millstreet
Mallow
Fermoy
Tallow
Dungarvan
Waterford
Cappoquin
Tramore
Lismore
Youghal
Dungarvan
Dingle
Castlemaine
Tralee
Ardfert
Listowel
Newcastle
Foynes
Tarbert
Kilrush
Carrigaholt
Kilkee
Ennis
Clare
Killaloe
Limerick
Castleconnell
Shannon R.
Templemore
Thurles
Nenagh
Roscrea
Abbeyleix
Durrow
Johnstown
Kilkenny
Callan
Thomastown
Cashel
Fethard
Tipperary
Clonmel
Carrick on Suir
Carlow
Bagnalstown
Gorey
Camolin
Ballymena
Antrim
Carrickfergus
Belfast
Lough Neagh
Moira
Charlemont
Dungannon
Omagh
Strabane
Lifford
Dungiven
Kilrea
Maghera
Portglenone
Ballymena
Larne
Glenarm
Londonderry
Letterkenny
Milford
Buncrana
Moville
Culdaff & Bay
Malin Hd.
Fanod Hd.
Lough Swilly
Sheep Haven
Tory I.
Bloody Foreland
Is. of Arran
Port Rush
Giant's Causeway
Rathlin I.
Cantire
Fair Hd.
Bushmills
Port Stewart
Coleraine
Lough Foyle
Newtown Limavady
Ballymoney
Tristan
Glenarm
Larne
Belfast Lough
Belfast
Donaghadee
Newton Ards
Strangford
Lough
Lisburn
Dromore
Ballynahinch
Downpatrick
Killough
Dundrum B.
St. Donard
Kilkeel
Carlingford Lough
Dundalk
Dundalk Bay
Dunany Pt.
Clogher Hd.
Drogheda
Drogheda Bay
Boyne R.
Collon
Moynalty
Virginia
Oldcastle
Navan
Trim
Athboy
Tara
Balbriggan
Skerries
Rush
Lambay I.
Swords
Dunshaughlin
Howth Hd.
Dublin Bay
Kingstown
Bray
Blessington
Wicklow
Arklow
Mizen Hd.
Kilmichael Hd.
Courtown Harb.
Cahore Pt.
Enniscorthy
Ballywilliam
Castlebridge
Wexford
Wexford Haven
Greenore Pt.
Carnsore Pt.
Saltee Is.
Bannow B.
Waterford Harbour
Helvick Hd.
Hook Hd.
Dungarvan
Youghal Harb.
Youghal
Cork Harbour
Cork
Middleton
Queenstown
Passage West
Kinsale
Kinsale Harb.
Old Hd. of Kinsale
Courtmacsherry B.
Clonakilty Bay
Galley Hd.
Glandore Harb.
Bandon
Bantry
Dunmanway
Clonakilty
Skibbereen
Kenmare
Macroom
Killarney
Lakes of Killarney
Millstreet
Mallow
Fermoy
Tallow
Dungarvan
Waterford
Cappoquin
Tramore
Lismore
Youghal

reform bill was passed, and in 1870 the disestablishment of the Irish Church was accomplished. In the year following, the peaceful negotiation of the differences between the United States and Great Britain, caused by the acts of the rebel cruiser *Alabama*, resulted in the Alabama Claims treaty. Amongst the minor wars of her reign were those against the Chinese, Abyssinians and Ashantees, the Afghanistans, Zulus and Boers, Egyptians and Mahdists, and Arabs. Great Britain from 1885 to 1893 was menaced by the defiant attitude of her Irish subjects, who, seeking to redress the wrongs which they have suffered, were in *quasi* rebellion against the Government. Ameliorating legislation has in some measure since brought peace to the island. In 1887, and again in 1897, Queen Victoria celebrated with great state the fiftieth and sixtieth anniversaries of her accession to the Crown.

The present ruler, Edward VII., "by the grace of God, of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India," as his title was declared under the Royal Title Act, proclaimed November 4, 1901, was born November 9, 1841, and succeeded to the throne on the death of his mother, Queen Victoria, January 22, 1901. He was married in 1863 to Alexandra, the daughter of the King of Denmark.

At the opening of Parliament in the last year, the King's speech expressed satisfaction over the settlement of the Venezuela and Alaska boundary controversies, reported satisfactory progress in South Africa, promised an Irish Land Bill, and other important measures.

There is no space here to discuss the perpetual differences, wranglings, and friction between England and the Pretorian authorities in South Africa. The aggressive bearing and attitude of such men as Cecil Rhodes and those associated with him in the callous enterprises of the British South African Company, or in the stock-jobbing operations of the diamond and gold mines, was not calculated to give to the Boers and their Republic assurance of the friendliness and good will of the mother government. On the contrary their presence and influence in promoting the industrial developments of the country were a perpetual irritant to the Boers and a menace to their hopes of domination in Africa. It is difficult to give a satisfactory explantion of the events which led up to the Boer War. President Kruger says "It was to be a war of aggression." This is no doubt true. The rapid growth of Germany and the United States made it imperative that England should strengthen herself colonially and nowhere else did such an opportunity offer itself as in the southern part of Africa. If it had not been for England's hunger for land there would not have been any Boer War.

Judging the English generals from the Boer standpoint, Buller, MacDonald, and French were the most able three. Lord Kitchener had little strategic ability and Lord Roberts was too old. Among the Boers, Botha, Delarey, and DeWitt were brave leaders. Delarey was considered the best general in either army.

For particulars of the war see article on Cape Colony. It is sufficient here to say that finally, on May 31, 1902, the remaining Boers in the field surrendered and a treaty of peace was signed, which brought the protracted struggle to a close. The conditions of surrender were advantageous to the Boers and generous on the part of the English.

The executive power of the English Empire vests in the sovereign through his ministers. The real power of the empire, however, is to be found in the Parliament, a body that not only has complete legislative power but, through the Lower House, exercises much authority in executive matters.

The present form of Parliament, divided into two Houses, the Lords and the Commons, dates from the middle of the fourteenth century. The members of the House are elected by popular vote, about one-sixth of the population being electors, and the election must be by secret vote by ballot. The House of Lords is composed of peers, who hold their seats by hereditary right, by creation of the sovereign, by virtue of office(the bishops), by election for life (the Irish peers), and by election for the term of Parliament (the Scottish peers). It lasts seven years or until dissolved by the sovereign, and it usually meets annually for a term of about six months. In 1902 there were 590 peers. The House of Commons consisted in 1902 of 670 members.

The established Church of England is the Protestant Episcopal Church, of which the King is the supreme head; but all religions are tolerated and are equal at law.

The budget of 1901–2 shows that the actual revenues of the Kingdom amounted to $714,989,995, while the expenditures were $977,611,075. The public debt is about $3.750,000,000. Great Britain's trade is enormous. In 1901 the exports amounted to $1,869,396,850, the imports to $2,770,587,520.

The British Possessions are world-wide. It has been truly said that the sun never sets upon them. They exist on every continent and in all climates and latitudes. The British Colonies are of three types: 1. The Crown colonies, entirely controlled by the Home Government; 2. those having representative institutions, in which the Crown retains only a right to veto legislation, although the Home Government retains the control of the public offices; 3. those having responsible government, in which the Crown has only the veto and the Home Government can appoint the Governor and has no control over any public officer.

IRELAND.

AT the present moment, on account of the strenuous effort the Irish are making to effect the liberation of their land, Ireland is commanding a great deal of attention. Christianity was introduced into the island in the fifth century, when St. Patrick, being taken a captive in war, was sold into slavery in Ireland, where he remained for five years. Twenty years later he returned there as a missionary, and for thirty years preached the truths of the gospel to its people, succeeding most remarkably in his mission as a Christian propagandist. From the eighth to the eleventh century was the period of Ireland's greatest comparative civilization. During this period she was far more advanced than England in learning and culture. Colleges flourished, and the arts were carried to a high degree of perfection. Unfortunately, while so well advanced in civilization, Ireland had not achieved what was at that time necessary for her salvation—a strong central government. On the contrary, it was divided up into a number of petty kingdoms, which had no secure bond of union. Hence, when the Plantagenet monarch of England, Henry II., made his raids in 1172, his conquest of the disunited country was a comparatively easy matter, taking into consideration the really warlike qualities of the Irish chiefs and Barons who ruled the land. The foothold thus gained was in the province of Leinster, and from that date England has asserted a fictitious claim to rule a people persistently unreconciled to any interference with home rule. It was under the Tudors, however, that the fate of the unhappy island was settled. There was no centralization in Ireland. Britain became great because the petty kingdoms were consolidated into one nation, while Ireland dwindled away and lost its splendid opportunity, through the calamitous influence of the tribe and the clan, in distinction from the country. For a long time the "English Pale," or the area of actual British rule in Ireland, was very limited. Henry VII. determined to extend it, but pursued his purpose only feebly. Henry VIII. was more intently bent on Irish subjugation, and under his reign nobles and people felt the crushing hand of a tyrant. In 1542 he assumed the title of King, instead of Lord of Ireland, by virtue of an act passed by the Anglo-Irish Parliament in 1541, and about the same time some of the native princes were induced to acknowledge him as their sovereign and to accept peerages. Since then his successors have never ceased to hold fast both the shadow and substance of Irish sovereignty. In order that the national sentiment might be suppressed, the language, dress, customs, and laws of the country were prohibited. The fact that Henry was at war with the Pope made loyalty to Rome an expression of patriotism in Ireland. Very little favor was extended to the doctrines of the Reformation, either by the descendants of the old English settlers or by the native Irish, and when the English Government sought to introduce it great dissensions were stirred up. When Mary came to the throne, and Protestantism lacked the support of the Government, it almost immediately melted away. She was not disposed to abandon the island to itself by any means, but her personal sympathies were with the Irish in the matter of religion. Elizabeth was in sympathy, of course, with the Protestantism of her father rather than the papacy of her sister; but she took a secular view of the Irish question, and under her the power of the British Crown was felt throughout the entire island. The old Celtic Constitution was rejected; the tribal authority of the chiefs was taken from them, and the tribal system of property set aside; English judges and English law were substituted for the old proceedings; the result of which, says Green, was that "the evicted natives withdrew sullenly to the lands which had been left them by the spoiler; but all faith in English justice had been torn from the minds of the Irishry, and the seed had been sown of that fatal harvest of distrust which was to be reaped through tyranny and massacre in the age to come."

Very shortly before Elizabeth's death occurred the famous insurrection of Tyrone, who invited the Spaniards to assist him; but they were all defeated in 1620. Repeated rebellion tried the temper of the Government, which, in the reign of James I., seized the province of Ulster and divided it among such of his Scotch and English subjects as chose to settle there. In 1641 occurred More and Maguire's rebellion, in which an endeavor was made to expel the Protestants from the island. From 1649 to 1656 the iron hand of Cromwell was laid upon the land. In the year of King Charles' execution, the Royalists being still strong and rebellious in Ireland, Cromwell went there in person as Lord-Lieutenant and Commander-in-Chief, and his measures were so cruel and sanguinary that the Island was, in nine months, completely crushed. He left in charge of it his son-in-law, Ireton, who completed the island's subjection, and no disturbance of its tranquillity occurred until the revolution. The northern province, Ulster, was colonized by the Scotch shortly after Cromwell's invasion. At the time of the revolution James II. received very generally the support of the Irish, while the Scotch and English colonists took the part of William and Mary. The struggle between oppressor and oppressed lasted for four years, and was ended by the bloody battle of the Boyne, fought July 1, 1690, and resulting in the overthrow of the Irish, who, two years later, were again in utter subjection. From this time on the British Government systematically sought to destroy the Irish national sentiment. Penal laws were passed which imposed terrible restrictions

upon the Roman Catholic population, and rebellions were frequent. Backed by the "Volunteers," Henry Grattan secured a free Parliament and a partial abolition of the heavy restrictions on Irish commerce. It was mainly through this patriot's exertions and influence that the stringent pressure of the penal laws against the Roman Catholics was relaxed. He steadily opposed the idea of a legislative union of the countries, and in 1800 he was elected to fight in Parliament for Irish liberty. Two years previous the country, driven to desperation by oppression, had been in revolt, and the year that saw Grattan's election saw also the crushing out of the attempt to secure Ireland's liberty. Notwithstanding his brilliant advocacy of the Irish cause, the oppressors were in the preponderance in Parliament, and the union was consummated January 1, 1801. Since that time Ireland has not lacked for agitators to keep alive the national spirit and to fight for the amelioration of her condition. In 1829 the Catholic Emancipation Act was passed, largely through the exertions of the great Daniel O'Connell, and later on a reform bill and a poor-law were enacted. About the middle of the last century a strong movement was on foot for the repeal of the union, and while it was in progress famine fell upon the land and whole counties were depopulated. In 1848 Smith O'Brien's abortive revolution was easily suppressed. More formidable since then have been the alternately secret and overt workings of the Fenian Brotherhood. Organized in 1859 in both America and Great Britain, it held a congress at Chicago in 1863 that attracted much attention. Two years later another was held in Cincinnati, which represented a constituency of 80,000. In 1866 an attempt was made to conquer Canada, and in 1867 several Fenian riots occurred in Great Britain. It has been urged that these aggressive movements accomplished nothing. Directly they may have failed of great success, but indirectly they proved of immense value to the Irish cause. By far the greater part of the population of Ireland hold to the Roman Catholic faith, and their taxation for the support of the State Church was one of the leading causes of Irish discontent. It is not uninteresting to note that it was in 1869—two years after the first Fenian agitation—that the Episcopal State Church was disestablished and disendowed, and the endowment, except as used for annuities, dedicated to educational and other secular purposes. Important as was the concession, it did not satisfy the Irish people, who had placed national independence and autonomy as the goal of their combined struggles, and a powerful movement was inaugurated for securing reform in tenure of land and the relations of landlord and tenant. Under the lead of Mr. Parnell, Irish ideas as to the proper relation of Ireland to Great Britain were brought nearer to realization than they ever before were within the last 600 years. His policy was to compel attention to Irish wants by obstruction of parliamentary business. By speaking on every topic before the House, he wearied the English members into action on Irish affairs. His first demand was for fixity of tenure for farmers, fair rent, and free sale. This was secured in 1881. But having, in 1879, with Mr. Davitt, organized the Land League, with the object of inducing the tenant farmers to take a greater interest in the national movement, Mr. Parnell increased his demands upon the English Government and declared for Irish independence and a Parliament in Dublin. His arrest and imprisonment in Kilmainham jail, the outlawing of the League, and the assassinations in Phœnix Park, in 1882, were striking events of this period. Toward the close of 1885 Mr. Parnell's persistence was rewarded by Mr. Gladstone's submission, and a Home Rule bill was the result. The advent of the Tories to power, in 1886, prevented the immediate realization of Mr. Parnell's hopes, though he succeeded in extracting, even from the victors, legislation which placed Irish tenants in a position of advantage over other tenants in any part of the world. An alleged *fac simile* letter, published by the London *Times*, representing Mr. Parnell as consenting to the Phœnix Park murder, was shown after a protracted trial to be a forgery. It was at this period that he reached the top of his career and the height of his popularity. The cloud thrown upon the Irish patriot's life by a divorce in 1890, in which Mr. Parnell figured as co-respondent, had important results for the Irish party, introducing dissension and causing ultimately Mr. Parnell's expulsion from the leadership at Mr. Gladstone's demand. Mr. Parnell died Oct. 6, 1891. In 1894 the party in Parliament numbered 9 Parnellites, against 74 anti-Parnellites led by Justin McCarthy.

Ireland is represented in the British House of Commons by 103 members, and in the House of Lords by 28 representative Peers, who are elected and hold office for life. Its executive consists of a Lord Lieutenant and Privy Council, nominated by the Crown. English rule is enforced throughout the country with the assistance of an armed military constabulary numbering over 12,000 men.

SCOTLAND.

PREVIOUS to the union with England, Scotland, as an independent country, had attracted considerable attention. In the middle of the ninth century the Scots acquired a predominance in North Britain by revolution. A lineal descendant of Ardan, a powerful prince who more than once successfully invaded the English borders, named Kenneth, claimed the British realm. Under his son, Malcolm II., the Scotch acquired the Merse and Teviotdale from the Earl of Northumbria. Malcolm III., who succeeded, had a long and prosperous reign, in which Scotland made great strides forward, both politically and socially. English customs were introduced, owing to his long residence in England and his marriage with an English princess, and the English language began to make headway on account of the large immigration from England which took place. During the succeeding reigns of Edgar, Alexander I., and David, who was a great reformer in both clerical and secular affairs, the English influence increased. One of the ablest and best of Scottish kings was Alexander III., who, by a treaty with Norway, added the Isle of Man to his dominions, together with other islands of the Western Sea. A dispute over the crown followed the death of his granddaughter in 1290, and the decision between the claimants, Baliol and Bruce, was left to King Edward I. of England, who entered the country with an army, deposed Baliol and instituted English government. A prolonged struggle for independence followed, in which the heroic deeds of Wallace and Bruce gained for the Scotch a deathless reputation for valor and patriotism. During succeeding generations the history of Scotland was one prolonged story of interminable civil and border warfare, and of occasional invasions from England. Amicable relations between the Crown and the nobles were first accomplished during the reign of James IV., whose gay and elegant court seduced the warriors from the field and left the peasantry to attend undisturbed to the peaceful and profitable occupation of husbandry. Fisheries were encouraged, a navy built and commerce promoted, while the King's marriage with Margaret, daughter of the Tudor Henry VII., laid the foundation of the union of the two kingdoms. Henry VIII. sought to conquer the country, and in the war which James IV. was provoked into declaring against him the Scotch navy was destroyed, and its armies defeated on Flodden Heights. The King was among the slain. His son, subsequently James V., was then a minor, and during the regency which ensued the country fell into a wretched condition. He married a daughter of the French Duke of Guise, the fruit of which marriage was the unfortunate Mary, Queen of Scots, whose son, James VI. of Scotland, became James I. of England, thus uniting the two countries. The overthrow of the Stuart family and other events which happened from the accession of James VI. to the English throne, down to ratification of the act of union by the Scottish Parliament in 1707, are told in the history of Great Britain given elsewhere. Scotland retained, on its admission to the union, its church system and its laws. It is governed by the Imperial Parliament, to which it elects 72 commoners.

VIEW OF EDINBURGH.

GERMANY.

WHEN Julius Cæsar was on his way of exploration through Europe, which led him through Gaul and into Great Britain, he avoided rather than sought to measure arms with the Germans, whose fighting he tasted of and then learned to respect. A conflict between the Romans and Germans was,

KING'S PALACE, BERLIN.

however, inevitable, and the freedom and independence of the nation was firmly established by Arminius, who crushed the invaders in the historic battle of Teutoberger, which occurred B.C. 9. About 500 years later, Clovis, moving westward, established the Frankish Empire, which, under the famous Charlemagne, reached from the Raab, in Hungary, to the Ebro, in Spain, and from the Eider, in the north, to the Tiber, in the south. The division and subdivision of the empire created numerous duchies and principalities, and the ruler over all was generally the one who was able to secure the influence of the clerical leaders. Wars for the possession of the imperial crown and changes of dynasty were frequent. The empire lasted until 1273, when Count Rudolph of Hapsburg began his reign as King, destroyed the power of the nobles and laid the foundation of the family which still reigns over Austria. In the reign of Charles V. the power of Germany was extended so that it included Belgium, Spain, the Netherlands, Austro-Hungary and Italy, and she became the ruling power in Europe. This reign was also remarkable for the beginning of the Reformation. In 1521, at the Diet of Worms, Luther made his famous defence; at the Diet of Speyer was made the formal protest of his supporters against decisions unfavorable to them, while at the Diet of Augsburg their creed was publicly announced. Religious dissensions occupied the country for about fifty years after the retirement of Charles V., in 1556, and in 1618 the Thirty-Years' War broke out. At first the Protestants were defeated, but under Gustavus Adolphus, King of Sweden, they rallied, and Germany was secured forever in her religious freedom by the peace declared at Westphalia in 1648. In 1675 the Elector of Brandenburg vanquished the Swedes at Fehrhellin and laid the foundation of the Prussian monarchy, the name of Prussia being assumed when Frederick I. was crowned King in 1701. Numerous wars occurred in the next one hundred years, and constant mutations occurred in the map of Germany. The young kingdom of Prussia, under the famous Fredericks, developed rapidly into a first-class power, and in the great wars, especially that which led to the downfall of Napoleon, her generals and soldiers gained many important victories. During the Napoleonic wars Germany lost a large portion of her territory, fully half of it being lost by the Peace of Tilsit in 1806, when Napoleon formed the Rhenish Confederation under French protection, and the German Empire was formally dissolved. Subsequent to the return of the Bourbons

HEIDELBERG.

the affairs of Germany were regulated in accordance with a plan drawn up by Metternich, whose influence then predominated throughout Europe. In 1833 the Zollverein was established, an important event as being in the direction of a united Germany. The confederation of the German States was alternately swayed by Austria and Prussia. In 1849 Frederick William IV. of Prussia was tendered the imperial crown by the Diet of Frankfort, but declined to accept it. His successor, William I., early evinced a desire to rule in accordance with constitutional views, but when, in 1862, the Government declined to pass certain laws relating to the army, he created Bismarck Minister of State and instituted a violent reaction.

In the following year Prussia laid claim to the Danish duchies of Schleswig and Holstein, which Denmark disputed, and, war following, the Prussian arms were victorious and the two countries were annexed. This action was opposed by Austria, who sought to have them placed under the rule of a branch of the Danish royal family, and in June, 1866, war was declared against Prussia, whose splendidly organized army, armed with the needle-gun, which was at that time a novelty in warfare, completely routed the Austrians at Sadowa. Austria withdrew entirely from the German confederation and acknowledged the political and other changes which Germany had undergone at Prussia's hands. The work of German unification was now further advanced. The North German Confederation was formed, its Constitution, modified in parts, was made to cover the whole German Empire, and treaties were effected with the South German States. France, jealous of the growing power of Germany, became alarmed when she saw that the unity of her traditional foe in the East was fast being realized, and the relations of the two countries became day by day more strained. A conflict was inevitable, and the issue was furnished by the question of supplying a ruler for Spain, whose throne was at that time tenantless. The crown was tendered by the Spaniards to Prince Leopold of Hohenzollern, who declared his willingness to accept it. The French Government, hoping to gain a diplomatic victory of great political consequence, demanded of King William that he should command the Prince to withdraw his acceptance of the Spanish crown. This the King declined to give, and when the Prince himself renounced the crown the French Government demanded of William a declaration that he approved of the renunciation and that he would not in the future permit of the Prince's candidature. This William declined to give, and on July 19, 1870, France declared war against Prussia. In a very few days it became apparent that the haste with which the French diplomats had brought about the war was not warranted by the condition of the country's military and naval affairs. From the beginning it was apparent that, while the Prussian armies were in a high state of efficiency, those of France existed to a large extent only on paper, were poorly equipped and very defectively organized. The fight opened at Saarbrucken, where the French gained a slight advantage, but the defeats of Weissenburg and Worth completely changed the aspect of affairs. The French armies withdrew into France, and the German battalions streamed over the frontier, following up eagerly the advantages they had secured. Bazaine, the French commander-in-chief, after conducting several unsuccessful battles, was locked up in Metz with a large army. The main body of the French army, led by Napoleon III. and commanded by Marshal MacMahon, sought to relieve Bazaine, but were checked at Sedan and overthrown. Napoleon surrendered and was sent in captivity to Wilhelmshohe.

The war should have ended here, as the German hold upon France was so complete that no hope was left to her. The Parisians, however, would not accept the situation. A provisional government was formed and the defence of the capital, pending the formation of a new army, decided upon. The Empress Eugenie escaped to England. September 19 the German armies invested Paris, the idea being to starve the city out, and January 26 the siege was raised and the Germans took possession. At Versailles, February 26, a preliminary peace was signed, by which Alsace and Lorraine were to be ceded and a war indemnity paid to the Germans. The peace was ratified by the French National Assembly, and Paris was evacuated. Thus it will be seen that the war which France waged against the unification of Germany resulted in its accomplishment. The treaties by which the unity was secured were concluded between Northern and Southern Germany in December, 1870, and January 18, 1871, while the victorious German armies were thundering at the gates of Paris, the King of Prussia was proclaimed Emperor of Germany as Kaiser Wilhelm I. Since the latter's death, in 1888, Germany has been ruled, for a few months in 1888, by Frederick William, and, since June of that year, by the present Kaiser, William II.

The Government of Germany is a limited monarchy. The German Empire is a confederation of sovereign States, with largely representative governments. Although the Emperor is limited in certain relations, he is given large power in others. By the terms of the Constitution, which bears date April 16, 1871, all the States of Germany form an eternal union for the protection of the realm and care of the welfare of the German people. In the King of Prussia, who bears the title of *Deutscher Kaiser* (German Emperor), is vested the supreme direction of the military and political affairs of the Empire. The Kaiser "represents the Empire internationally," and can declare war, if defensive, and make peace; can enter into treaties with other nations, and can appoint and receive embassadors. To declare war, if not merely defensive, he must have the consent of the *Bundesrath*, or Federal Council, in which body, together with the *Reichstag*, or Diet of the Realm, are vested the legislative functions of the Empire. The Reichstag represents the German Nation, and its members, 397 in number, are elected by universal suffrage and ballot for terms of three years. The Bundesrath represents the individual States, and its members, numbering 58, are appointed for each session by their respective governments. The Bundesrath and Reichstag meet in annual session, convoked by the Emperor. All laws must have a majority of both houses, and must be approved by the Emperor and promulgated by the Chancellor of the Empire.

Prince Bismarck, "the man of blood and iron," creator of the German Empire, died July 30, 1898, aged 84.

(S16)

FRANCE

Scale of Miles

20 10 0 20 40 60 80 100

ENGLAND

ENGLISH CHANNEL

BAY OF BISCAY

SPAIN

BELGIUM

PRUSSIA

SWITZERLAND

ITALY

GERMANY

MEDITERRANEAN SEA

GULF OF THE LION (Erroneously called Gulf of Lyons.)

Plymouth, Portsmouth, I. of Wight, Str. of Dover, Calais, Dunkirk, St. Omer, Boulogne, Lands End, Lizard Hd., C. la Hague, Alderney, CHANNEL ISLANDS, Guernsey, Jersey, Les Sept Is., C. Frehel, Cherbourg, Dieppe, Le Havre, Ushant, Brest, S. Brieuc, Quimper, L'Orient, Vannes, Belle Isle, Nantes, I. Dieu, I. de Rhe, La Rochelle, I. d'Oleron, Rochfort, R. Gironde, Niort, Civray, Gueret, Boussac, Poitiers, Napoleon Vendée, Angoulême, Limoges, Bordeaux, Medoc, Castillon, Bazas, Roquefort, Bayonne, S. Sebastian, Pau, Tarbes, Lourdes, Agen, Cahors, Beaumont, Aurillac, Tulle, Ussel, Perigueux, Condom, Auch, Toulouse, Foix, Carcassonne, Castres, Montauban, Rodez, Mende, Le Puy, Privas, Alais, Nimes, Montpellier, Béziers, Perpignan, Salces, Arles, Aix, Marseilles, Toulon, Draguignan, Nice, Avignon, Nyons, Digne, Grenoble, Gap, Briançon, Mt. Genevre, Mt. Viso, Genoa, Gulf of Genoa, Milan, Mante Rosa, Gt. St. Bernard, Lit. St. Bernard, Mt. Blanc, Geneva, L. Geneva, Lausanne, Lucerne, Zurich, Basle, Mühlhausen, Colmar, Strasburg, Carlsruhe, Stuttgart, Mannheim, Palatinate, Frankfort, Mayence, Treves, Metz, Nancy, Luxemburg, Sedan, Mezieres, Laon, Rheims, Châlons, Vitry, Bar le Duc, Epinal, Langres, Versoul, Montbart, Belfort, Besançon, Dijon, Auxonne, Autun, Salins, Lons le Saulnier, Macon, Bourg, Chambery, Vienne, Lyons, St. Etienne, Le Puy, Clermont Ferrand, Thiers, Moulins, La Palisse, Nevers, Bourges, Aubigny, Cosne, Auxerre, Troyes, Sens, Chaumont, Pithiviers, Melun, Fontainebleau, Versailles, Paris, Chartres, Evreux, Elbeuf, Rouen, Beauvais, Amiens, St. Quentin, Arras, Douay, Lille, Tourcoing, Valenciennes, Cambrai, Abbeville, Dieppe, Liége, Namur, Mons, Douay, Orleans, Blois, Tours, Angers, Le Mans, Laval, Mayenne, Alençon, Caen, St. Lo, Cherbourg, Rennes, Quimper, Chateaudun, Chateauroux, Poitiers, Vendée, Napoleon, Niort, Civray, Rochfort, Saintes, Angoulême, Limoges, Tulle, Ussel, Clermont Ferrand, Thiers, Lyons, Chambery, Vien

GERMAN EMPIRE AND AUSTRO HUNGARIAN MONARCHY

Scale of Miles
0 25 50 100 150

Longitude East from Greenwich
5 10 15 20 25

55 50 45

DENMARK
SWEDEN
Funen
Zealand
G. Belt
C. Arcona
Bornholm
BALTIC SEA
Kurische Haff
Tilsit
Memel R.
Konigsberg
Pillau
Rixhoft
G. of Danzig
Danzig
Vilna
N. Sylt
Frisian Is.
Flensborg
Schleswig
I. Zealand
Zingst I.
Rugen I.
Kiel B.
Fehmern
Kiel
G. of Lubeck
Stralsund
Usedom I.
Holstein
Lubeck
Rostock
Demmin
Kammin
Kolberg
Pregel R.
East Prussia
Spirding S.
Niemen R.
Bialystok
Mths. of the Elbe
Weser R.
Jade R.
Dollart
Cuxhaven
Hamburg
SCHWERIN
Mecklenburg
Pomerania
West Prussia
Konitz
Bromberg
Stargard
Stettin
NEU STRELITZ
Haff
Oldenburg
Emden
Altona
Luneburg
Laasonburg
R. Elbe
R. Oder
Netze R.
Thorn
Vistula R.
Lewarden
OLDENBURG
Bremen
Uelzen
Amsterdam
Haarlem
Zuider Zee
THE HAGUE
Rotterdam
HANOVER
Minden
Hanover
Brunswick
Magdeburg
Potsdam
Prussian Brandenburg
BERLIN
Frankfurt
R. Spree
Posen
Warthe R.
Plock
WARSAW
R. Eug
Pinsk
Osnabruck
Munster
Cleves
Delmold
Westphalia
Waldeck
Cassel
DESSAU
Guben
Kottbus
Glogau
Wohlau
Breslau
Radom
Lublin
Kovel
Antwerp
BRUSSELS
Liege
Meuse R.
R. Rhine
Dusseldorf
Cologne
Saxony
Hall
Leipzig
DRESDEN
Gorlitz
Silesia
Oppeln
Rhenish Prussia
Bonn
Marburg
Hesse Cassel
Gotha
Jena
Weimar
Chemnitz
SAXONY
Miechow
Vistula R.
San R.
Jaroslaw
Brody
Lemberg
Galicia
Sedan
Arlon
Treves
Luxemburg
Mosel R.
Coblenz
Nassau
Wiesbaden
Frankfurt
R. Main
Mainz (Mayence)
COARMSTADT
Worms
Mannheim
Heidelberg
Rhenish Bavaria
CARLSRUE
Baden
Coburg
Sadowa
Karlsbad
Eger
Elbe R.
Koniggratz
PRAGUE
Cracow
Tarnow
Verdun
Metz
Nancy
Strasburg
Kehl
Reutlingen
Ulm
Bamberg
Wurzburg
Nurnberg
Ausbach
Amberg
Bohemia
Pilsen
Tabor
Olmutz
Moravia
Troppau
Brunn
Iglau
Austerlitz
TATRA MTS.
Sambor
Dniester R.
Eperies
Kaschau
Pruth R.
Czernowitz
Buckowina
Neushol
Wagg R.
Schemnitz
Pressburg
Tokay
Theiss R.
Szamos R.
Debreczin
Erlau
Ofen or Buda
Pesth
Hungary
R. Danube
Gran
Raab R.
Balaton or Platten See
Foldvar
Grosswardein
Transylvania
Korös R.
Klausenburg
Arad
Maros R.
Karlsburg
Hermanstadt
Kronstadt
Temesvar
Teiss R.
Temes R.
Walachia
TRANSYLVANIAN ALPS
Lorraine
Moselle R.
Meuse R.
Vosges
Colmar
Freiburg
Basle (Basel)
Schaffhausen
Constance
L. of Constance
Kempten
Bregenz
R. Doubs
R. Rhine
Muhlhausen
Danube
Ratisbon
Nordlingen
Ausbach
Bienheim
Augsburg
MUNICH
Landshut
Passau
R. Inn
Isar
Lower Austria
Krems
VIENNA
Upper Austria
Linz
Salzburg
Enns R.
Styria
Gratz
Carinthia
Klagenfurt
Innsbruck
TYROL
ALPS
NORIC ALPS
CARNIC ALPS
Lucerne
BERN
SWITZERLAND
L. of Geneva
Geneva
Mont Blanc
Turin
Botzen
Trient
Adige
Udine
Laibach
R. Save
Goritz
Carniola
Agram
Croatia
Slavonia
R. Drave
Mur R.
Nagy Kanisa
Tolna
Funfkirchen
Szegedin
Theresiopel
Peterwardein
Trieste
Flume
Istria
G. of Trieste
G. of Venice
Venice
Garda
L. Maggiore
L. of Como
ADRIATIC SEA
R. Save
BELGRADE
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AUSTRIA-HUNGARY.

AUSTRIA'S early history will be found under the head of Germany. The Government under which the Austro-Hungarian Empire now exists will receive attention here. About the end of the eighth century Charlemagne founded a Margraviate in Lower Austria which, in 1156, became a Duchy, and three centuries later an Arch-Duchy. Maximilian II., son of Emperor Charles V., of Germany, became Emperor in 1564, with a dominion over Austria, Hungary and Bohemia. It was not until the eighteenth century that Austria came to the front as one of the great European powers, and attained a preponderating influence in the conduct of German affairs. In the year 1806 the reigning Emperor, Francis, renounced the title of Emperor of the Romans and became the first Emperor of Austria. In the seven years which followed, Napoleon worried the country, but he was courageously resisted, and the territories which he took from her were restored in 1815 by the Congress of Vienna, together with the Tyrol, Dalmatia, Lombardy and Venice, and the Illyrian provinces. Several insurrections in the Austro-Italian provinces occurred during the last year of Emperor Francis' reign, and the maintenance of the confederation was shown to be a very difficult matter, far beyond the ability of his son, Ferdinand I., who succeeded in 1835. The crafty Metternich almost entirely dictated the national policy during his reign, which ended by his abdication in 1848, when the throne was given to his nephew, Francis Joseph. During this year occurred the Hungarian revolution, led by Kossuth. In 1859 the relations of Austria and France were broken off, but after a warfare of two months the two Emperors, Francis Joseph and Napoleon III., consummated a peace by which Austria surrendered Lombardy, Italy was made a confederation under the Pope, and Tuscany and Modena were restored to their rulers. The Constitution which Kossuth and his compatriots struggled for in 1848 was granted in 1867. In 1860 the first Constitution of Austria was promulgated, which was followed by a patent in 1861, upon which was based a charter that went into effect in 1867. Hungary's independence was acknowledged, and July 8, 1867, the Emperor was crowned King of Hungary, which country pledged itself to contribute to the national revenues. In 1864 Austria combined with Prussia in the occupation of the Danish provinces of Schleswig, Holstein and Lauenburg, which terminated in their acquisition; but, quarrelling afterward with Prussia over the question of their disposition, she went to war with that power. This adventure was freighted with disaster, and the peace which followed was only purchased at the cost of Venetia, the fortresses of the Quadrilateral, the recognition of the dissolution of the German Confederation, and the payment of a large indemnity. After the close of the Turko-Russian war of 1877–8, the Austrian Empire was enlarged by the acquisition of Bosnia, Herzegovina and Novi-Bazar.

In 1894, Kossuth, the leader of the revolutionary movement of 1848, died at Turin in his 92nd year. The famous exile to the last refused to become reconciled to the Austro-Hungarian government. Since then, the Dual Monarchy has suffered much from factional and racial strife, the Slavonic and Teutonic elements in the Monarchy constantly warring against each other. In 1897 a new element of disturbance actively manifested itself in the ambitions of Bohemia to assert herself as an integral part of the Austro-Hungarian nation. This, coupled with the racial jealousies within the Empire, inflamed political passions to such an extent that a legislative deadlock ensued in Vienna, and public disorder could only be quelled by calling out the troops, while the Reichsrath was dissolved by the fiat of the Emperor.

By the present Constitution each of the two countries, Austria and Hungary, has its own parliament, ministry and government, the connecting links being a common sovereign, army, navy and diplomacy, together with a controlling body known as the Delegations. The latter form a parliament of 120 members, equally divided between the two countries, the delegates being chosen by the local legislatures, the latter bodies having two branches, substantially the same as the Senate and House of the United States Congress. The local legislature or diet is called Reichstag in Hungary, Reichsrath in Austria. The delegations of each country sit in a body by themselves, possessing co-ordinate authority and power; but if they cannot agree upon measures while thus acting separately, they meet as one body, and the final vote is binding upon the entire empire. This imperial diet is confined in its jurisdiction to foreign affairs and war. There are three Ministers for the whole empire, namely, the Ministers of War, of Foreign Affairs and of Finance. There is a ministry in Austria and another in Hungary. The former consists of the Interior, Public Education, Justice and Ecclesiastical Affairs, Finance, Agriculture, Commerce, and National Defence. The Hungarian departments or executives are: Presidency of the Council, Finance, National Defence, Ministry near the King's Person, Interior, Education and Public Worship, Justice, Communications and Public Works, Agriculture, Industry and Commerce, and the Ministry of Croatia and Slavonia. The Imperial Cabinet is responsible to the Delegations, the local cabinets to their respective diets, the Reichstag and Reichsrath, as the case may be.

BELGIUM.

BELGIUM, the most densely populated country in Europe, was in its earlier days a favorite bone of contention for the European powers, and frequently became the battle-field upon which their claims were settled. The Burgundians, the Austrians and the Spaniards successively ruled it, and in Napoleon's time it came under French rule. In 1814 a union between Holland and Belgium took place, which proved very unpopular with the Belgians, and shortly after the Paris revolution of 1830 they rose against the Government in such force that the troops ordered to quell the uprising found themselves unable to do so. Brussels, the capital, and other large cities fell into the hands of mobs, who destroyed much valuable property. A separation of the States followed, and the differences between them were finally settled by a convention of the great powers in London. The dissolution of the Kingdom of the Netherlands was proclaimed, and in 1831 Prince Leopold of Saxe-Coburg entered Brussels as the Belgian King; but the kingdom was not recognized by all the States of Europe until 1839, when the treaty was signed which established peace between Leopold and the King of the Netherlands. Leopold I. died in 1865, and was succeeded by his eldest son, Leopold II., who still reigns. Belgium has long been the scene of a struggle between the priests and growing liberalism. In 1850 the educational question, which had occasioned a long and fierce dispute, was supposed to be settled on liberal principles, but since then there has been another keen struggle between the Progressionists and the Ultramontanes, and in 1875 Belgium was the scene of serious religious riots, in which many persons taking part in processions were injured by mobs which attacked the demonstrations.

The Government of Belgium is a limited constitutional monarchy, which was established in its present form by the revolution. The broadest principles of freedom and liberality are its foundation; power comes from the people, and is restrained by law. Republican equality and simplicity pervade all institutions. No act of the King is valid unless it has the approval of one of his Ministers. The law-making power is vested in the Legislature, consisting of a Senate and a Chamber of Representatives, who are elected in the proportion of one to every 40,000 inhabitants. The law is administered by local and provincial tribunals, with courts of appeal in the principal cities. The provinces, each of which has a Governor who is named by the King and a Provincial Council, are divided for civil purposes into arondissements, justice of peace cantons, and communes. The provincial councils guard the interests of the different provinces, direct taxation, superintend public improvements and prepare budgets.

HOLLAND.

(THE NETHERLANDS.)

AFTER being ruled for four centuries by a number of princes who were subject to either France or Germany, the Netherlands, in the fourteenth century, came almost entirely under the rule of the Duke of Burgundy. At that time the country was rich, prosperous and happy, the controlling interest of the State resting in the great commercial cities, which were in the enjoyment of almost republican freedom, and renowned for the splendor and wealth which they acquired under the Burgundian rule. About the middle of the sixteenth century an attempt to bring under the power of the Inquisition the Netherland Protestants, who had taken early a part in the Reformation, was stoutly resisted. Concessions were made which produced a temporary quiet, but Philip II., who was King at the time, entered upon the work of crushing Protestantism, and carried it on with merciless rigor, his ferocious policy entailing the execution of large numbers of the aristocracy who had aided the rebellion. The Prince of Orange, having made alliance

with the Protestant powers, waged war against the oppressor. However, the assassination of the Prince in 1584 for the time being dashed their hopes of success, and the war ended. His son, Prince Maurice, carried on the war later with success. In 1648 war with Spain ended, and the Netherlands achieved their independence. Foreign conquest occupied the attention of the Dutch even when occupied with domestic troubles, and their standard was planted on several of the East India Islands and on the American continent. A great naval power, they for many years disputed with England the supremacy of the seas. The events which led to the separation from Belgium are described in the history of that country. Since that occurrence the Netherlands, with the exception of wars with her colonies, have enjoyed a prolonged peace, during which they have advanced greatly in prosperity. The colonial possessions of the country are very important, consisting mainly of islands in the East Indies; portions of Borneo, Celebes and Sumatra, in Asia; and Dutch Guiana and Curacoa and several islands in America. Like Belgium, the Government of the Netherlands is a limited constitutional monarchy, with the executive vested in the King, with a Council of State nominated by him, and the Ministers of the Interior, Foreign Affairs, Finance, War, the Colonies, Marine and Justice. Legislative authority rests in a Parliament, consisting of two chambers, known as the States-General. The governors of the provinces, the burgomasters of cities, towns and villages, and many other officials, are appointed by the King.

CITY OF AMSTERDAM.

A SWEDISH CAFÉ

NORWAY AND SWEDEN.

NORWAY was a collection of petty tribes up to the time of Harold Harfager, who, in 863, began the work of unification. Attempts to introduce Christianity met with little success up to the time of Olaf Skatkonung, who inaugurated a crusade against the Pagan Finns, destroyed the Pagan temples, and laid the foundations of the city of Trondhjem. In the early part of the eleventh century Canute, the Danish King of England, conquered Olaf and assumed the crown. Wars with Britain followed, and Ireland was invaded. On the water the prowess of the Norsemen was remarkable, and for years they scourged the seas, but the defeat of Haco V. off the west coast of Scotland, and his death later in the Orkney Islands, were followed by a period of national depression. National industries were checked, foreign wars exhausted the exchequer, and in two years following 1347 the plague prevailed through the land, carrying off more than half the people. Not only its nationality, but also its language, passed away during this period, and when, in 1380, the crown descended to the son of Olaf III., a union of the two countries was accomplished which lasted for over four centuries. Near the close of the fourteenth century Margaret effected the conquest of all Scandinavia, and the three kingdoms became one under the treaty of Calmar, which remained in force until 1523, when Sweden emancipated herself from the union with Denmark, and gave to Gustaf Vasa, who helped on the deliverance, the crown. For more than two centuries thereafter Norway was merely a province of Denmark, but about the beginning of this century the national prospects brightened, when Charles XIV. of Sweden was on the throne. The Danes acknowledged Norway as a Swedish dominion, and the two countries were united August 14, 1814. In 1818, Napoleon's General, Bernadotte, was elected to the throne, and under him and the succeeding generations of his dynasty, which still rules, great advancement has been made in the direction of liberal government.

SWEDEN'S modern history is almost indissolubly connected with that of Norway. During the rule of Gustaf Vasa, who headed the successful revolt against Denmark, the country enjoyed great prosperity. In succeeding reigns the country was at war almost constantly, and the successes of the great Gustavus Adolphus are among the most glorious of the nation's annals. In 1743, in a war with Russia which had lasted two years, Sweden lost Eastern Finland to that power. A new constitution was decreed in 1809, when Gustavus IV. was forcibly deposed in favor of his uncle, Charles XIII. The union with Norway, in 1814, which has already been mentioned, ends the distinctive histories of both countries. In 1855 Russian encroachments were threatened, but an alliance which Norway and Sweden effected with Great Britain and France, by which the former engaged themselves never to cede or sell territory to Russia, secured the guarantee by the two latter powers of their future territorial integrity.

Though having a common ruler, the treaty of union between Norway and Sweden leaves each of them free, independent, indivisible and inalienable. The Government, of which Oscar II. is now the head, is a constitutional hereditary monarchy. Legislative authority lies in the Storthing—an assembly of deputies which meets annually, and whose members are chosen by indirect election. It meets of its own authority and divides itself into two chambers—the Lagthing, practically a Senate, and consisting of about two-fifths of the entire Storthing, and the Odelsting. A Council of State gives consent to the declaration of war, making of peace or conclusion and abrogation of treaties by the King, who is required to pass some months of each year at Norway and to be crowned at Trondhjem.

DENMARK.

IN the days of the Norsemen Jutland was occupied by a number of sea-faring chieftains, who divided their time between war among themselves and piracy upon outsiders. In the tenth century these bold mariner-warriors had made their way as far as the coasts of Scotland and Normandy, carrying terror into such places as they visited. After having paid England one or two flying visits, they came to stay in 1018, when the Danish King Canute added that country to his dominions in the east. The Danish tenure was of short duration. Anarchy arose in Denmark after Canute's departure, and in 1042 his dynasty became extinct, and his sister's son, Svend Estridsen, succeeded. Foreign wars

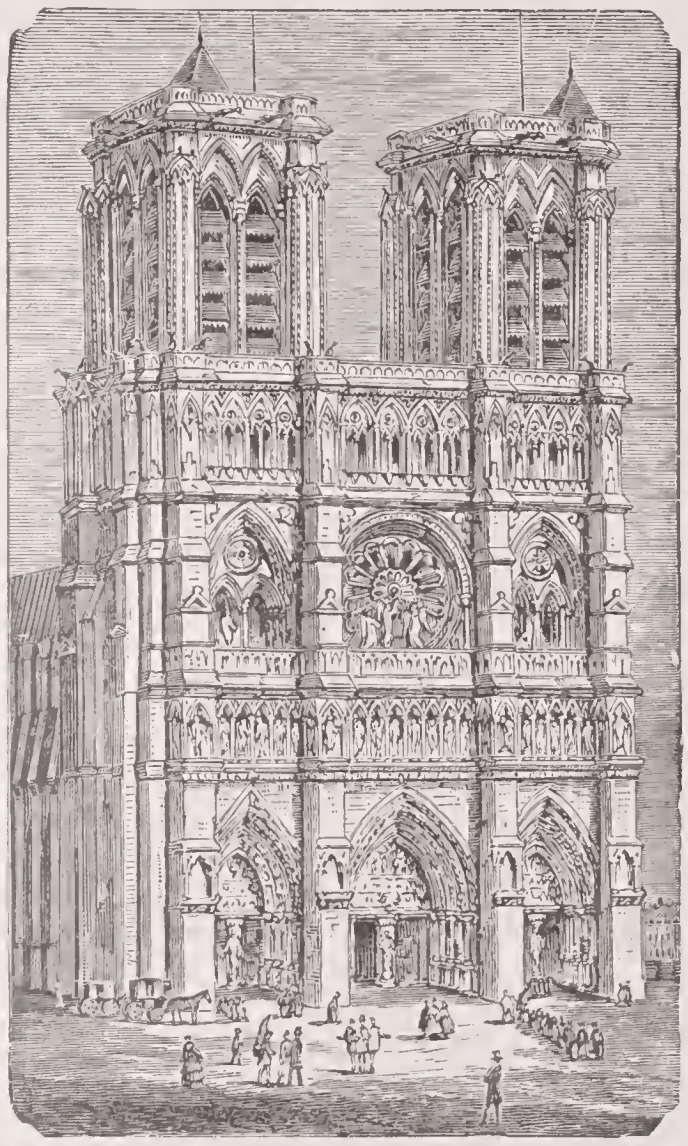
and internal dissensions enfeebled the land, and a powerful aristocracy arose who oppressed the people, reducing them almost to a condition of slavery. In the reign of Canute VI. and Valdemar II. the power of Denmark grew until its regal authority extended over Holstein, Pomerania and a large portion of North Germany. The Baltic became little more than a Danish inland sea, and heavy tolls were exacted of all foreign vessels which entered it. After the death of Valdemar, in 1241, internal disquietude possessed the country, which rapidly lost its possessions and prestige. The third Valdemar, however, retrieved the nation and regained many of its possessions. Dying in 1375, he was succeeded as regent by his daughter Margaret, who had married the King of Norway and was at this time his widow. Her rule, by the treaty of Calmar, was also extended to Sweden and Norway, and the union of the three countries lasted until 1523, when the Swedes arose in insurrection against Erick, and the two crowns were separated. Up to the year 1660 the crown was, to a large extent, elective, but in that year Frederick III., aided by the people, who arose against the nobles, assumed the supreme power, forming an absolute monarchy with right of succession. For a century the peasantry were kept in a condition of serfdom, but its abolition was accomplished by Christian VII. in the eighteenth century. Wars on her own account or in alliance with other nations kept Denmark busy until 1848, when an insurrection arose in Holstein which brought the country to the verge of ruin. Prussia lent the insurrectionists a portion of her army, but the revolution was put down and a peace was concluded in Prussia in 1850, and in 1852 a protocol was drawn up in London returning the duchies of Holstein and Schleswig to Denmark. A final settlement of the question was not yet reached, however, and when, in 1863, the King died suddenly, the Duke of Augustenberg laid claim to the throne, supported by Prussia, Austria and other German States. The duchies were occupied by their troops, and in the war which Denmark brought to expel them her armies were defeated, and in 1864 King Christian IX. surrendered Holstein, Schleswig and Lauenberg to the conquerors.

The despotic form of government which was established in 1660 lasted until 1849, when Frederick VII. signed a charter acknowledging the principle of limited monarchy, and made the future government dependent upon the Rigsdad (Congress), consisting of two elective houses, the executive power resting in the King and his Ministers. The Rigsdad consists of two houses—the Landsthing, corresponding to the United States Senate and having the privilege of discussing the budget, and the Folkething, similar to the United States House of Representatives, which administers local affairs. Certain members of the Landsthing receive their nomination from the Crown for life, the remainder being elected indirectly by the people for eight years. The members of the Folkething are elected directly for a term of three years. All male citizens over 30 years of age who are not paupers enjoy the privilege of voting. With the King as its presiding officer, the executive body comprises the President of the Council, who is also the Minister of Finance, and the Ministers of Foreign Affairs, the Interior, Public Education and Ecclesiastical Affairs, Justice, and for Iceland, War and Marine.

FRANCE.

FOUR centuries after the invasion of Julius Cæsar, which made ancient Gaul a Roman province, the country, being deserted by its conquerors, was invaded by the Franks, whose leader, Clovis, in the sixth century, established the French monarchy. The Merovingian dynasty, which he founded, was succeeded by the Carlovingian, whose greatest ruler, Charlemagne, extended his empire until it included Italy and a large portion of Germany. The House of Capet succeeded, and ruled from 987 to 1328, and that of Valois, which followed, from 1328 to 1589, and during all these years, while the power of the nobles was checked by the growing wealth and influence of the burghers, the monarchy gained in strength. In 1589 the Bourbon dynasty was founded by Henry IV., who was succeeded by Louis XIII., an indolent monarch, who left the conduct of affairs to his powerful Minister, Cardinal Richelieu. The reign of Louis XIV., which followed, was in many respects a brilliant one, but freighted with misfortunes which did not appear until after its close. The revocation of the Edict of Nantes, by which religious freedom had been secured, led to banishments and persecutions, which cost the country many of its leading industries. The court's reckless prodigality in the erection of magnificent buildings and the conduct of gorgeous spectacles, together with more or less successful wars, swelled the national debt to an enormous extent, and this burden crushed the French people during the succeeding reigns, and was a potent cause of the revolution of 1788. The reign of Louis XV. added to the national burden, and the evil influences of his mistresses led to a foreign policy which cost France her colonial possessions and the loss of her fleets and armies abroad. His successor, Louis XVI., an amiable but weak monarch, lacked the ability to cope with the difficulties of his position, and, after

he had reigned for fourteen years, in 1788 was begun a revolution by which the whole framework of society in France was overturned. The *bourgeois*, or commoners, finding their powers checked by the combined clergy and nobility, in 1789 constituted themselves as the National Assembly, and proceeded to the formation of a Constitution. Troops being ordered to oppose them, in Paris, July 12, an insurrection broke out. A national guard and revolutionary municipal boards were formed, and July 14 the Bastile was stormed. August 4 the National Assembly abolished manorial and feudal rights, whereupon the aristocracy began to emigrate. The King and Queen were taken prisoners. A Constitution was prepared by the Assembly, to which the King gave his assent, as he did also to another which was formed later. The opposition of foreign courts to the revolution aroused the popular anger, and the King and Queen were executed. The Reign of Terror succeeded, the absolute power being placed in the hands of a Committee of Public Safety, whose excesses were terrible. Worship in accordance with the Christian religion was abolished, and that of Reason substituted. This caused dissensions within the convention itself, and when the last of the Jacobin leaders, Robespierre, perished upon the scaffold to which he had sent hundreds of victims, they were without a leader. In 1795 the convention adopted a new Constitution, which placed a Directory of five in charge of the national executive. The radical Democrats, combining with the Royalists, organized an insurrection against the new Constitution which was quelled by General Napoleon Bonaparte, whose qualities had already, at the early age of 26, brought him rank and distinction. The mob of Paris was subdued, but the Directory had a difficult task before it. England, Austria and Prussia were combined against the Republic, whose armies, however, achieved victories for it in foreign countries and made its name dreaded as well as respected. At home the Royalist interest made headway, and in 1797 they gained a majority in the representation. The Directory took severe measures, surrounded the Tuileries with troops and ordnance, arrested the Royalist members, declared their election illegal, and banished them from the country. Financial difficulties also added to the burden of the Directory. The public debt was more than the nation could pay, and the State was declared bankrupt and two-thirds of its obligations repudiated. Internal dissensions among its members lessened the prospect of the Directory's accomplishing any marked improvement.



NOTRE DAME, PARIS.

In this emergency Napoleon, who had secretly left Egypt, where the English fleet had nullified his Eastern victories, appeared suddenly in Paris, and, effecting an alliance with one of the disaffected parties in the Directory, secured its overthrow November 9, 1799. December 27, a new Constitution was offered to the people, which they sanctioned, and Napoleon, as First Consul, was entrusted with the administration of civil and military affairs, with the appointment of all public officials and with the proposition of all public measures. Early in 1800 he occupied the Tuileries with his wife, Josephine, whom he had married in March, 1796, and he established a court, whose extravagance was hardly likely to incur the popular displeasure as long as his administration continued to be marked by such wise measures as were passed during the earlier part of his rule. The re-establishment of the church, in accordance with a Papal concordat; the foundation of the Bank of France, with the restoration of financial order; the return of the emigrants; the establishment of a sound system of popular education, and the codification of the laws, were hailed with joy by the people, who saw their wisdom and appreciated the good results to follow.

At the head of the Empire he aspired to the control of Europe. One after another Italy, Spain, Portugal, Switzerland and Germany came under his control. He dictated terms of peace to the Emperors of Russia and Austria and to the King of Prussia. For ten years his star ruled in the ascendant. The decline came in 1814, when Paris was entered by the allied enemies of France, and Napoleon was forced to Elba in exile. The Bourbon dynasty was restored, and a year later Napoleon reappeared and gathered around him an army of enthusiastic followers. Success attended him at first, but, June 18, 1815, he was thoroughly defeated at Waterloo, and the Bourbon restoration was finally accomplished. In 1830 war was commenced with Algeria, which country was, after some years' fighting, ceded to France. In 1848 the Bourbons were again driven out and a Republic established, with Napoleon III., a nephew of the Emperor, as President. This lasted less than three years. In December, 1851, Napoleon, by the

infamous *coup d'etat*, seized the absolute power, setting aside the Constitution, and shortly afterward was crowned Emperor. The imperial prestige was sustained by the wars with Russia and Austria, which last secured France the Italian provinces of Savoy and Nice, but the ill-fated attempt to establish an empire in Mexico, and other failing enterprises, caused it to wane. The plebiscite of 1870, which was intended to secure the popular endorsement of the Napoleonic policy, was not flattering to the Empire, which found itself in 1870 forced into a war with Prussia, the leading events and results of which will be found in the history of Germany. This last experiment of imperial government, which cost France millions of money, thousands of lives and two provinces, has, for the time being, overcome the French admiration for centralized power, and the Republic which was established after the war is still a stable and popular government.

The legislative power in France is vested in a Legislative Corps, consisting of a Senate and a House of Deputies. The Senate consists of 300 members, 225 of whom are chosen for terms of nine years by the departments and colonies, and seventy-five for life by the National Assembly. The members of the Chamber of Deputies number 532—one to every 100,000 inhabitants—and are elected by universal suffrage. The executive power is vested in a President, elected for a term of seven years by a joint vote of the Senate and the Chamber of Deputies. He has power to dissolve the Chamber of Deputies on the advice of the Senate. The Secretaries of State, or Ministry, nine in number, are responsible to the Chambers for the political conduct of the Government. The President is responsible in cases of high treason only. Every Frenchman twenty-one years of age has a right to vote.

RUSSIA.

THE Greeks and Romans, as is evidenced in the writings of some of their best known authors, had gained some knowledge of the Sarmatians and Scythians, who occupied the rivers Don and Dnieper. Shortly after the commencement of the Christian era the native inhabitants were carried before the invasion of Goths and Huns from the East. The Slavonians are recorded as having driven the scattered Finns northward and settled down to the establishment of the Russian people. The country for a long period remained subdivided into provinces, each of which was practically independent of the remainder. Centralization of power was accomplished from time to time, but only to be again broken up, until in 1462 Ivan I. began to reign, and in the forty-two years in which he held the sceptre succeeded so ably in throwing off the Tartar yoke, and in uniting the principalities under his sway, that he must be regarded as the founder of the Russian nation. His successor, Ivan II., sometimes called the Terrible, or the Cruel, on account of the massacre which he ordered, in which 60,000 inhabitants of Novgorod, suspected of treason, were slain, advanced the work which his father had inaugurated, finally broke the power of the Tartars, and cultivated commerce and the arts as well as warfare. Perhaps the greatest of his peaceful achievements was the effecting of a commercial treaty with Queen Elizabeth, by which the English merchant marine, who had discovered the sea passage to Archangel, instituted trading relations with the northernmost parts of the Russian dominions. Under Peter the Great, Russia threw off her barbarism and took her place among the civilized nations of Europe. Though lacking education commensurate with his position, he had the sense to see the shortcoming and to remedy it, and his studies taught him the lesson of his country's greatest needs. On assuming the government he had the army reorganized in accordance with European military tactics. Seeing the necessity of naval power, and lacking a seaboard, he wrested the Sea of Azof from the Turks. Travelling incognito in foreign lands, he studied their arts and sciences and learned their trades, putting his knowledge to good use when he returned home again. Upon a site located on a strip of land he took from the Swedes, he laid the foundation of the modern capital, St. Petersburg, which he passed the last years of his life in beautifying. Dying in 1725, he was succeeded by his Empress, Catherine, who continued his policy. During the reign of Catherine II. the first partition of Poland between Russia, Austria and Prussia took place. She was succeeded by her son Paul, who still further advanced the interests of his country, now acknowledged to be one of the great European powers. In the reign of Alexander I. Russia was the balance of power in Europe. He was the father of the Holy Alliance—the compact entered into at Paris September 26, 1815, by the sovereigns of Russia, Austria and Prussia, joined by most of the European powers, which bound them to exclude forever every member of the Bonaparte family from any throne in Europe; also to stand by each other in the maintenance of their royal prerogatives and the general peace. It was during his reign that the inhabitants of the city of Moscow destroyed it by fire rather than have it give shelter to the invader Napoleon. His successor, Nicholas I., saw the nation engaged in a struggle with the combined armies of Great Britain, France, Italy and Turkey. Sebastopol, the stronghold of the Russians in the Crimea, was taken, and the Russian ambition to control the whole of the Black Sea checked for the time being. Under Alexander II., who succeeded him, was accomplished the liberation of the serfs in 1861, the humane policy being dictated rather by reasons

of expediency, imperialism at the time being threatened by the progressive nobility and feeling the need of the good will of the fifty million working people. Twenty years later—years that were marked by cruel oppression and despotism—the Czar was slain by the hands of assassins, who had previously made repeated unsuccessful attempts to kill him. This occurred shortly after the war with Turkey, in which Russia overcame her foe, but without securing any distinct advantages from the victory. Notwithstanding she is jealously watched by the other powers, Russia continues to approach the accomplishment of her great aim—the possession of the Black Sea. In the East, too, her power is felt, and England's Indian border and China's western boundary are closely pressed by the Russian soldiery, and this, too, although the Government is threatened by conspiracies on every side, a majority of the peasants and laboring classes holding extreme communistic views, while the doctrine of Nihilism is said to permeate the whole Russian social fabric, and even among the nobility to possess its adherents by the thousands.

The Government of Russia is an absolute monarchy, hereditary in the house of Romanoff, which was founded in the seventeenth century, whose head rules by the title of Czar; it is the will of the Czar in whom rests the entire legislative, executive, and judicial power. The State Council, which is the highest consultative body in the State, is composed of the heads of departments and others selected by the Emperor, and is divided into the legislative, administrative, and financial departments. The promulgation and execution of the law is left with the Senate, which is the court of last appeal. There is no representative body, and the power of the ministers hardly extends beyond rendering clerical assistance to the Czar, who makes all appointments. Trial by jury has been in vogue since 1866. Established by law and partially supported by the Government, the Russo-Greek Church is almost a part of it. It has a membership of over 50,000,000 souls in European Russia. The Russians have always maintained the national credit. The main portion of the revenue comes from excise duties on beer, spirits, and salt; in addition to this there are a light poll-tax and a protective customs tariff.

Finland is the only European dependency of the Russian Empire, and the Finns strenuously resent the attempts made to bring their country under the yoke of the White Czar.

Predictions of war between Japan and Russia have been of constant occurrence during the past few years. The consensus of intelligent opinion concerning the probable causes of the war was the development of Russian policy in the Far East, and there has been a substantial agreement over the certainty that Korea would be brought within the sphere of activities. Russia is advancing steadily, steadily toward the complete control of North Asia; and unless Japan proves an effectual check, this ambitious little kingdom will be obliged to play only a trivial part in Eastern affairs and even perhaps face a struggle for national existence. However aggressive Russia has been, her mission in the East has been consistently a benevolent one; she has constructed railways through heretofore almost inaccessible but fertile regions; built in a wilderness towns, factories, and mills along the whole pathway where her encroachments led; brought order where there was no rule, efficient governments where there was no civilization.

After the Japan-China war, Russia obtained from the crippled Celestial kingdom the right to build a railroad from Siberia down through Manchuria to Port Arthur, the most valuable port in China. The methods by which she gained a hold on Manchuria by this extension of railway enterprises, and the means she has taken to strengthen and perpetuate it, was considered by Japan as clearly a preliminary step to the absorption and final extinction of the last vestige of Chinese sovereignty.

In 1900 China again had trouble with the Boxers and Russia marched thousands of her soldiers into China ostensibly to protect the railway. After the disturbances incident to the Boxer episode had subsided and the troops of the other nations had been withdrawn, Russia still retained a large force in Manchuria and gave no definite assurance when it would be withdrawn. It was at this point that Japan intervened. The proceedings of Russia meant more to the little kingdom than the loss of markets in Manchuria. It was very evident that Russian policy was to gain a foothold in Korea as she had in Manchuria and at last to bring the kingdom within the sphere of the Czar's dominion. Korea was, therefore, Japan's chief concern. Lying within gunshot of her shores (it is only 125 miles across the Korean strait) Korea had always been intimately associated with Japan's national policy. Centuries before the Russian nation came into existence Japan and Korea were in intimate relationship and the Island Kingdom regarded the neighboring peninsula as her proper field of influence. She cannot afford to surrender it to a hostile power. It is historically and of necessity the main artery of her vital connection with Asia; it is, from an economic, strategic, and commercial standpoint of incalculable value to her.

Russia's replies to Japanese proposals on the opening of negotiations were practical negations. Japan did not hesitate between war and irreparable injury to her national interests. And thus resulted the Russio-Japanese war of 1904, the first blow of which was struck during the first week of February of this year.

Viewed from the Japanese standpoint, she is fighting for the preservation of the Chinese Empire, the re-establishment of Manchuria, the protection of the commercial world at large (if we consider Russia's repudiation of the "open-door" policy), self-preservation, and national existence.

ITALY.

ITALY, the successor of the ancient Roman Empire, has a history which runs back into the ages whose events are only matters of tradition. The Virgilian poem which tells of the founding of the Roman State by a band of Trojan refugees, and the story of the wolf-suckled twins, Romulus and Remus, are delightful legends. However, the foundation of the city is generally conceded to have occurred B. C. 753, when the kingdom was established which lasted until B. C. 509, when it was overthrown in the reign of Tarquin the Proud, and a republic established which lasted for nearly five centuries. During these eventful years the kingdom of Tarquin had grown into a mighty empire, yet not

without suffering great national disasters. In the year 390 B. C. occurred the Gallic invasion, with the burning down of Rome by that terrible foe; from 343 to 290 B. C. raged the wars with the Samnites, who threatened the Roman power, but were finally subjugated; in 275 B. C. occurred the battle of Beneventum, by which the previously victorious Pyrrhus was overcome; in 216 B. C. was fought and lost the battle of Cannæ, by which the Carthaginian general, Hannibal, after destroying 80,000 of the Roman troops, came in sight of Rome's conquest, but lost his opportunity through delay; in 186 B. C. the enmity between Rome and Carthage culminated in the destruction of the latter city; in 111 B. C. began the Jugurthine war, in which the powerful Numidian was overthrown after a five years' struggle; in 88 B. C. began the Mithridatic war, which ended five years later in the overthrow of the King of Pontus, who sued for peace. Such were a few of the leading events which occurred between the regal and imperial eras of Roman history. They bring the reader to a period when Scylla, overcoming his rival, Marius, in civil war, seized the government and reigned as dictator for three years. In the year 60 B. C. was formed the first triumvirate, when Julius Cæsar, Pompey, and Crassus, were invested with the government. Cæsar's wars of discovery in Gaul and Britannia followed, and then came the battle of Pharsalia, in which he defeated Pompey. Two years later Cæsar assumed the dictatorship, and in 44 B. C. he was slain in the Senate house by the assassins, Brutus, Cassius and others. Then followed the second triumvirate, and then the battle of Philippi, in which Brutus and Cassius were defeated; then the love episode between Cleopatra and Marc Antony, who, frittering away the opportunity to win the imperial prize at Rome, suffered defeat and death at Actium. In 27 B. C. Octavius established the Empire, under the title of Augustus Cæsar, at which time the city of Rome is supposed to have had about 700,000 population, while that of the Empire is believed to have been not less than 100,000,000. Then followed a line of Emperors, some of them wise and benevolent, others of them rapacious and cruel. Of the latter was the famous Nero, who proved the most bloodthirsty of tyrants. Under him began the persecutions of the Christians. He was accused of having set the city on fire for the pleasure to be derived from witnessing the conflagration. Of the former was Trajan, under whose beneficent administration much was done to civilize the ruder portions of the Empire, while the condition of the city and its inhabitants was greatly ameliorated. In the reign of Constantine the Great the Christian religion was first acknowledged. He made himself a champion of the church by issuing the decree of Milan, in which he gave it imperial license and avowed himself a believer in its doctrines. Entering Rome in triumph in A. D. 312, he became the first Christian sovereign of the world, and after defeating the Pagans in their fortress of Byzantium he became sole Emperor of the entire Roman Empire. He transferred his capital from Rome to Constantinople, where he reigned until the year 337. His son Julian, who succeeded him, had been educated a Christian, but reverted to the old Pagan faith; but the next Emperor, Jovian, restored the Christian faith. In 383 the Roman Empire had three Emperors, who soon were at war, and the victor, Theodosius, divided the Empire into Eastern and Western at his death, in 395, putting one of his sons at the head of each. From this division resulted the Roman and the Greek churches. Roman imperialism reached its last stages in the fifth century. Alaric with his Northern hosts marched into Rome, wrought his pleasure there, and retired from it after twelve days of sack. Rome had fallen, and such events as are further mentioned may be regarded as belonging to Italian history proper. In the fifth century Venice was founded by fugitives fleeing before Attila. In the eighth century a Germanic tribe threatened Rome. In the ninth Charlemagne conquered Lombardy and assumed the title of Roman Emperor, the control of the city, however, being taken by the Pope. The German Kings conquered the northern portion of Italy, while the Byzantine Emperors and the Saracens ruled the southern portion until the uprising of the Normans. Several of the Italian cities, however, increased so in strength and riches as to be able to achieve their independence, and chief among these was Venice, which commanded the Adriatic Sea and kept back the Turks from the invasion of Western Europe. In the eighteenth century Austria obtained large portions of Italy's northern territory, while the republics of Venice and Genoa dwindled away. The remainder of the land was divided among petty sovereigns, who enjoyed life until the terrible days of the French revolution, after which Napoleon divided Italy into four republics, next establishing it as a monarchy, placing first his brother, Joseph Bonaparte, and then Murat, over it. After the battle of Waterloo the final reconstitution of Italy was decreed by the Congress of Vienna. Almost all the old boundaries and the old tyrannies were restored, followed by the outbreak of the Carbonari, whom the Austrians subdued.

In 1848, by a simultaneous insurrection in Lombardy and Venice, the great revolution was inaugurated. Supported by the Pope and the King of Sardinia, it was successful, and Lombardy was annexed to Sardinia. In the year following, however, Austria regained that territory. After an unsuccessful revolt in Milan in 1853, and in Sicily in 1856, the French effected an alliance with the Sardinians in 1859, and Austria was defeated in the great battles of Magenta and Solferino, which were followed by the hasty and inconclusive peace of Villafranca, which left Venetia to Austria, gave Lombardy to Sicily, and left unsettled the question of the Grand Duchies. Savoy and Nice were ceded to France, which still holds them, while Parma, Modena and the Sicilian provinces were incorporated with Sardinia. March 17, the law by which Victor Emmanuel assumed the title of King was promulgated. May 6, Garibaldi joined, with 1,000 men, a revolution which had broken out in Sicily. Declaring himself Dictator, he headed the revolt and speedily conquered the Two Sicilies. March 14, 1861, Victor Emmanuel was declared King of Italy by the first Italian Parliament. In the same year, on June 6, occurred the death of Cavour, who was the originator as well as the director of the Sardinian policy which resulted in Italian liberation. In 1866 Italy and Prussia united their forces against Austria, and Venetia was ceded to the Italians. In 1867 the French army began to be withdrawn from Rome, and three years later the last detachment had left the Pontifical territory. September 20, 1870, the Italian army entered Rome, and October 9, the Papal States were declared part of the Kingdom of Italy. King Victor Emmanuel strengthened and consolidated the kingdom, and, dying in 1878, was succeeded by his son Humbert. The latter was assassinated, July 29, 1900, by an anarchist, named Gaetano Bresci, and was succeeded on the throne by his son Victor Emmanuel III.

SPAIN.

RECORDED history gives the Phœnicians the credit of having first established colonies upon the shores of Spain, which at that time was occupied by Celtic tribes. Later appeared the Greeks, who called the country Iberia, which name gave way to that of Hispania, from which the modern name is derived, when the Romans took possession of the country. After them the Carthaginians appeared, conquering a stronghold upon the country and establishing cities, one of which, Cartagena, situated upon the Mediterranean coast, is now a handsome city of 80,000 inhabitants. After the Punic wars the Romans again obtained possession of Spain, which readily improved the opportunity offered of advancement in civilization. In the reign of the Emperor Constantine, Christianity, which was introduced earlier, became the general religion. In the year 409 the country was overrun by vast hordes of barbarians who crossed the Pyrenees and made a clean sweep of the country, and in 412 the Visigoths invaded it, and a Gothic monarchy was established by their King, Athaulf, in Catalonia. Its first written laws were given to Spain by one of the Gothic dynasty of kings. In 711, the Moors subjugated a large portion of the country, and held the southern part of it as a dependency of their North African dominions. From A.D. 717, their Spanish territory was governed by Emirs, appointed by the Caliph of Damascus. Under the independent dynasty which the Moors established Southern Spain flourished in agriculture, commerce, and the arts and sciences. Wars occurred constantly between the Moors and the Gothic princes, who had maintained possession of the Cantanabrian territory, but the Christian kingdoms continued to grow in power, and, uniting at last, they succeeded in driving the intruders from the country. In the Kingdom of Granada the Moors made their final stand, but at last they succumbed to the troops of Ferdinand and Isabella. Of the Christian States at this time Arragon and Castile were by far the most powerful, and in time their sway extended all over the country. Ferdinand II., the last of the Arragon sovereigns, by his marriage with Isabella, Queen of Castile, followed by the conquest of Granada in 1492, and of Navarre in 1502, accomplished thus the unification of Christian Spain, which now entered upon its most glorious epoch. Spanish discovery gave America to the civilized world, and, Spanish conquest extending her rule over Naples, a large portion of North, Central, and South America, the new Kingdom at once attained rank as one of the great powers of the world. New riches were secured by Cortez' conquests in Mexico, and Pizarro's in Chili and Peru, but in the reign of the Philips the decline of Spanish power began and accelerated. Portugal had been conquered in 1581, but in 1640 she obtained her independence, and during this period Spain suffered other serious diminishments of power and resources. The reign of Charles III. promised to bring the country back to something like its old glory, but his successor embroiled the country in inglorious wars which cost it its valuable possession of Louisiana, in America, ceded to France in 1800, while England destroyed the Spanish navies. Ferdinand VII. was removed from the throne by Napoleon, who placed his brother Joseph in his stead. England, at that time at war with Spain, acknowledged Ferdinand as King, and joined the Spaniards in their endeavors to drive out the Bonaparte, and lent the support of its armies under Wellington. Ferdinand's rule was reestablished, but his reign was marked by insurrections which cost the country very dearly. His daughter, Isabella II., succeeded him, but her political and personal misconduct brought about many rebellions, that of the Carlists in 1834–9 being the most serious. In 1868 she was driven from the throne and forced to fly to France, and two years later Prince Amadeo of Italy, the second son of King Victor Emmanuel, was elected by the Cortes and declared King. A year later he abdicated, whereupon Don Carlos, a grandnephew of Ferdinand VII., claimed the throne, and made an unsuccessful attempt to gain possession of it. A democratic federal republic was then declared and a President elected, who had two successors within three months. Castelar, who had been elected in September, 1873, resigned in 1874. The Cortes dissolved, and General Serrano was charged with the duty of forming a new ministry. He coped successfully with the Carlists, who were then making strenuous efforts to gain a foothold, and retained executive power until January, 1875, when Alfonso XII., son of the ex-Queen Isabella, who had been declared King at Santander the month previous, landed in Spain and took the field against Don Carlos. He was finally victorious. Don Carlos surrendered his claim to the throne, and the young King at once devoted his attention to the work of reorganizing the Government and the development of the country. He died in 1885.

In June, 1876, a Constitution was proclaimed, which provides that the Government shall be a constitutional monarchy, giving the executive authority to the King and placing the legislative power in the Cortes with the King. The Cortes comprises a Senate, which is divided into three classes, and a Congress, consisting of Deputies, one of whom is allowed to every 50,000 inhabitants. The present ruler, Alfonso XIII., reached his majority in 1902, and assumed charge of the Kingdom, which had been under the regency of the Queen mother, Maria Christina.

War was declared against Spain by the United States in April, 1898. Her inability to put down the revolution in Cuba, and the terrible suffering and cruelty involved in the attempt, aggravated by the destruction of the American battleship Maine in the harbor of Havana, brought about this state of affairs. In August, the same year, Spain sued for peace.

PORTUGAL.

LIKE Spain, Portugal was early inhabited by the Celts, who were succeeded in turn by Phœnicians, Carthaginians and Greeks, who built cities along the coast which formed the nuclei of colonies. Like Spain, too, it suffered from Vandal and Visigothic invasion. In the eighth century the Moors conquered the country, which they held until about the end of the eleventh century, when Alfonso VI. of Castile and Leon drove out the invaders. It was the son of Henry of Burgundy, Don Alfonso Henriques, who established the Portuguese monarchy, after defeating the Moors at the battle of Ourique in 1139. Eight years later the Moors were deprived of Lisbon, and a century later they were entirely driven from the country. Alfonso's successors proved able monarchs, and under their rule the country advanced rapidly. During the reign of King John I. began the era of Portugal's superiority in seamanship, which made Lisbon a city of such vast commercial power. In 1415 the country gained its first foothold abroad, when the sea-captain Zarco discovered the island of Madeira. Later on, Portuguese sailors discovered the Azores and Cape Verde. In 1486 Bartholomeu Dias discovered, and in the following year Vasco da Gama doubled the Cape of Good Hope, and pursuing his journey reached Malabar. Still more important for Portugal, as events turned out, was the discovery by Pedro Alvarez Cabral, in 1500, of Brazil, which was followed by the formation of a colony which has since developed into the Empire of Brazil. A dispute with Spain over a question of succession brought about a war with that power, and for sixty years thereafter Portugal remained in subjection to her neighbor on the Iberian Peninsula. In 1640, however, the Duke of Braganza headed a Portuguese revolution, was successful, and ascended the throne as John IV. In 1807, the Government having taken sides against Napoleon, the latter invaded the country, declaring it part of France, and the throne vacant. When the French soldiers arrived, the Regent, John Maria Joseph, Prince of Brazil, who ruled in the place of Queen Maria, who was insane, sailed for Brazil. At Napoleon's downfall he appointed his son, Dom Pedro, Regent of Brazil, and returned to Portugal. In 1822 Dom Pedro became Emperor of Brazil, the succession being accomplished without bloodshed, and a few years later he came into possession of the crown of Portugal also, which he surrendered to his daughter, Donna Maria, preferring to remain at Rio Janeiro. Civil war arising not long afterward, the British interfered, and since then they have held the country in a condition of semi-subjugation.

The Government is a hereditary constitutional monarchy, with the legislative power vested jointly in the sovereign and a Cortes which comprises a Chamber of Peers and a Chamber of Deputies, of which the King nominates the former for life and the people elect the latter.

SWITZERLAND.

ORIGINALLY occupied by Celts, Switzerland became a Roman province and was held as such for several centuries, until successive invasions of German tribes occurred. In the fifth century the Burgundians, Goths and Allemanians divided the province among them, but in the century following the Franks captured it. Christianity was introduced in the seventh century by Irish monks, and monastic institutions were founded. In the latter part of the ninth century Switzerland was taken from the Franks, Germany gaining the northern and Burgundy the southern portion of the land. An alliance was formed later by Zurich, Berne and Basle against the neighboring powers which held the country, and a brave endeavor in the direction of independence was made. Attempts by Austria to incorporate the Swiss Cantons with her domain were nobly opposed, and the war which followed, lasting 200 years, sundered the relations of Germany and Switzerland. Imperial power was assumed in 1273 by Rudolph of Hapsburg, a Swiss

nobleman, and in 1291 the Cantons of Uri, Unterwalden and Schwyz formed a league against foreign oppression. In 1315 this was established as a perpetual confederacy, and in the course of time other Cantons joined them. Lucerne, Zurich, Glarus, Zug and Berne by 1353 had become members of "The Perpetual League of the Old Places of the Confederacy," which was the foundation of the Swiss Confederation. In 1415 the inhabitants of the Cantons invaded and annexed parts of the Austrian territory, and three years later they annexed Ticino. In 1481 Solothurn and Freiburg were admitted, which was followed by internal dissension, lasting until 1499. Two years later Basle and Schauffhausen were admitted, as was also Appenzell in 1513. There were now thirteen Cantons, and the true independence of the State was established. In 1531 war broke out between the Catholics and the Protestants, and the former were victorious. Berne and Zurich managed to maintain the neutrality of Switzerland during the Thirty Years' War, and in the Treaty of Westphalia in 1648 Switzerland was acknowledged as an independent State. At the time of the French Revolution Switzerland was invaded by two French armies, which captured the city of Berne and proclaimed the Helvetic Republic, designating Aarau as the capital. In 1802, civil war dividing the Cantons, Napoleon undertook to reorganize the country, and the people accepted his suggestions, but in 1809 a new Constitution was formed which added three new Cantons — Geneva, Vallais and the Prussian principality of Neufchatel — to the nineteen which had been framed by Napoleon. The European powers ratified this change and declared the perpetual neutrality and inviolability of the Confederation. During the excitement aroused by the French Revolution agitations in the direction of liberty resulted in the reorganization of cantonal constitutions, which were made more liberal and democratic. Religious troubles reappeared in 1834 and lasted for some years, finally resulting, in 1847, in the expulsion of the Jesuits and the suppression of the monasteries, which excited the anger of some of the powers which attempted to intimidate Switzerland. In 1848 Neufchatel declared her independence of Prussian control, which nine years later was acknowledged. Switzerland made, in 1860, an unavailing protest against the annexation of Savoy to France. In August, 1891, Switzerland celebrated the 600th anniversary of the founding of the Confederation.

By the revised Constitution of 1874 it is provided that all the rights of sovereignty not transferred to the Confederation shall be exercised by the twenty-two Cantons. Every Canton's Constitution is guaranteed if it is republican in form, if it has been adopted by a majority of the people, and if it can be revised on a demand of the majority of the voters. There is a Federal Assembly which comprises a National Council and a Council of States. The executive authority is exercised by a Federal Council, which has seven members, each of whom has a department. The President and Vice-President of the Federal Council, also President and Vice-President of the Confederation, are chosen for one year only and are selected from the Council by its members.

TURKEY.

IN 1330 begins the Ottoman career of conquest. About that time Orcan, leader of a tribe inhabiting the Altai Mountains, led his hardy Janizaries against Nicomedia and Nicola. He called the gate of his palace the Sublime Porte, and himself Padisha, both of which expressions are still extant. His successor located his capital at Adrianople, and during his rule the Turks fell under the relentless hand of Tamerlane, who, in 1402, routed them in battle, but effected no permanent occupation of their territory. Recovering from the rude assault, the Turks, in less than a generation, greatly humiliated the Byzantine Empire, which ceased to exist later, giving way before the irresistible Mohammed II., who transferred the seat of empire from Adrianople to Constantinople. The capture of Constantinople was followed by other important cities in Eastern Europe, and during the next century the Turkish Empire constantly grew in power. Greece and Arabia were added to the domain of the Porte. The glory of Islam culminated in the reign of the third Sultan of Stamboul, Solyman the Magnificent, which lasted from 1520 to 1566. His ambition was to conquer Western Europe and establish the Crescent throughout the continent, and for many years it looked as though he would succeed. He did extend

his empire considerably, but his grand hope was destined for non-fulfilment. He died in Hungary, where he was conducting a victorious campaign, in 1481, and with his death began the decline of the Ottoman Empire. It was by no rapid national decay that the Turk fell from his high estate under Solyman to his lowly condition under Abdul Hamid, the present ruler. For centuries Turkish incursions carried terror into the lands of Russia, Hungary, Poland and Italy, while the whole of Europe felt apprehensive of Ottoman supremacy. It was not until near the close of the eighteenth century that the tide set in steadily against the Turk. Catherine of Russia was the first to bring the Crescent low, but England and France objected to the partition of the empire between Russia and Austria, and obtained for the Sultan terms of peace which secured the autonomy of the Ottoman Empire. This has been maintained since by the friendly interposition of the anti-Russian powers, who see that so long as the Sultan of a people who have lost all aggressive ambition rules at Constantinople the "balance of power" is safe. In the war with Russia in 1877–8 Turkey suffered a very serious loss of territory, the treaty of Berlin reducing her area from 1,742,874 square miles to 1,116,848 square miles, and her population from 28,165,000 to 21,000,000. Turkey in Europe was reduced more than one-half in both territory and population, the cessions under the treaty being as follows: Bulgaria, Eastern Roumelia, Bosnia and Herzegovina, Roumania, Servia, etc., and parts of Thessaly and Epirus. In the same year, too, the island of Cyprus was placed under British control. In 1893–4, owing to disturbances in Armenia, thousands of Christians were massacred by the Turks, which greatly excited foreign governments. Meanwhile an insurrectionary movement developed in Crete, which led to the intervention of the European Powers in 1896, and to a war with Greece. The war proved adverse to the Greeks, and was terminated at the bidding of the Powers. Greece sacrificing some territory, and having to pay a considerable war indemnity.

VIEW OF CONSTANTINOPLE.

As to the Government of the Ottoman Empire, it can generally be said that the precepts of the Koran are the foundation of its fundamental laws. Absolute power is vested in the Sultan, as long as his acts remain in conformity with Mohammedan doctrine. Forms of constitutional limitation upon the arbitrary authority of the Sultan have been adopted recently, but in point of fact the legislative and executive departments of the Government are in the hands of his Sublime Highness, and the functions of law are directed by two officers, the Grand Vizier, who looks after secular affairs, and the Sheik-ul-Islam, who is the head of the church. There is a body or class known as the Ulema, which comprises the "Mufti," or interpreters of the Koran, the judges and high functionaries of the law. "Bey" is a general term, applying to all important civil officers, while "Pasha" is the designation of tax-gatherers and other officers who are both military and civil in function. A ministerial council, or cabinet, called the "Divan," which is presided over by the Grand Vizier, exists, comprising eight ministerial departments, namely, War, Finance, Marine, Commerce, Public Works, Police, Justice and Education. The empire is divided into vilayets, under Governors, of which there are four in European Turkey, exclusive of the district of Constantinople. Cruelty and venality are the main qualities of the Governors, whose rule is very arbitrary.

MINOR EUROPEAN STATES.

ROUMANIA.

AMONG the minor States of Europe, those which received their autonomy at the treaty of Berlin are worthy of some attention. Roumania is the name conferred upon Moldavia and Wallachia when they became united under one prince and one administration as a province of Turkey, in December, 1861. The representatives of the people met at the capital, Bucharest, May 21, 1877, and proclaimed absolute independence of Turkey, which the treaty of Berlin confirmed in the following year. The Government is an elective and strictly limited constitutional principality. Karl I. (Prince Carol) is the present King of Roumania. Area, 50,720 square miles. Population (1904), including the Dobruja, 5,912,520.

BULGARIA.

Bulgaria, an autonomous principality tributary to Turkey, constituted previous to 1878 the Turkish Danubian vilayet. Her subjection to the Porte dates from 1392, but nearly five centuries of Moslem misrule and oppression have not deprived the people of their national pride and desire for independence. In 1876 they rose against their oppressors, but were unsuccessful, and the atrocities which the ferocious Bashi-Bazouks committed in suppressing the revolt, together with the lamentable condition of other Turkish provinces, led to the Turko-Russian war. At the treaty of Berlin, the erection of a Bulgarian principality was not permitted, but the province was granted its autonomy. Eastern Roumelia was incorporated with the principality in 1885 under the name of South Bulgaria. Area, 37,860 square miles. Population (1904), 3,744,283. The reigning ruler is Prince Ferdinand.

SERVIA.

Servia gained independence of Turkey at the same time and in the same way as Roumania. It was virtually free, however, as early as 1829. Under the present King, Peter, the first of a new dynasty, a government similar to that of Roumania is carried on. Area, 19,050 square miles; population (1895), 2,312,484.

BOSNIA and HERZEGOVINA, according to the same treaty, have their administration conducted by Austria-Hungary. Their joint area is 23,262 square miles, with a population of about 1,600,000.

ANDORRA.

In the Eastern Pyrenees, nestling among the high mountains, is the tiny European republic of Andorra, which has maintained its independence since the days of Charlemagne. Its area is 175 square miles, and the burden of its government rests lightly upon no less than twenty-four Consuls. The republic is under the joint suzerainty of France and the Spanish Bishop of Urgel. Population about 6,000.

SAN MARINO.

Of all the republics in the world that of San Marino enjoys the double distinction of being the oldest and the smallest. Situated in Eastern Central Italy, it has an area of twenty-three square miles, and a population of 9,500, an army of 950 men, with 38 officers, while the Government consists of a Council of 60 members (20 nobles, 20 townsmen, and 20 peasants), of whom two act jointly every six months as Regents.

MONACO.

Still smaller than San Marino is the principality, in the Mediterranean, of Monaco, whose ruler conducts the affairs of a population of a little over 12,000 within an area of 8 square miles. It is a favorite resort for invalids, but its chief notoriety comes from its legalized gambling-houses, which are patronized by European tourists. From this source a revenue of $250,000 per annum comes to the Prince of Monaco, who spends it in Paris, where he has his residence.

British
Territory between
JOHANNESBURG
AND
INDIAN OCEAN.
30° Longitude West 20° from Greenwich 10° 0° 10°
EQUATOR
Gulf of Guinea
ATLANTIC OCEAN
INDIAN OCEAN
Azores (Port.)
Madeira Islands (Port.)
Canary Islands (Sp.)
Cape Verde Islands (Port.)
PORTUGAL
Lisbon
SPAIN
Strait of Gibraltar
Gibraltar
Malaga
Cadiz
Tangier
Ceuta (Sp.)
Melilla (Sp.)
Algiers
Oran
Sardinia
Tunis
Malta (Br.)
Morocco
MOROCCO
ALGERIA
TUNIS
TRIPOLI
Mogador
Agadir
Suis
C. Nun
C. Juby
C. Bojador
C. Dunford
Rio d'Oro
SPANISH TERRITORY
Sta. Cruz de Tenerife
Las Palmas
W. Draa
Undefined Boundary
Desert of Igidi or Gidi
W. Saura
Insala
El-Biodh
Tasili
Ghat
Murzuk
Sebkha Oasis
FEZZAN
Gatrun
Ghadames
Misda
Ain Taiha
Hammada el Homra
Igli
El-Golea
Wargla
Guerrara
Tuggurt
Gabes
Zuara
Tripoli
Lebda
Misratah
Sfax
Sousa
Kairwan
Biskra
Bona
Philippeville
Constantine
Algiers
Oran
Tlemcen
Fez
Mogaganem
Mascara
Tiaret
Laghouat
Ouargla
Ghardaia
Shott Jerid
El-Aghuat
Tuggurt
Gabes
Zuara
Tripoli
Misratah
Misda
Ghadames
Sebkha Oasis
FEZZAN
Murzuk
Gatrun
Ghat
Idelea
In Sise
Tasili Ahaggar
AHAGGAR
Tummo Mts.
Tarso Mts.
TIBESTI
Yeggeba Oasis
AIR
Tin-tellust
(ASBEN)
Agades
Dibbela Oasis
KANEM
Lake Chad
Barrua
Kuka
Tessawa
Gerki
Kano
Kebbi
Sokoto
Wurno
Gando
Say
Nigeria
Mashena
Maseenya
Logone
BAGIRMI
Doloo
Duku
Yakoba
Kola
Gurin
Lai
Wukari
Adamawa
Kunde
Ngaumdete
Kamerun Mt.
Kamerun
Dukr Town
Rivers
Asaba
Lokoja
Epe
Abeokuta
Benin
Bight of Benin
Bight of Biafra
Mouths of the Niger
Akassa
Lagos
Dahomey
Yoruba
Ashanti
Togo
Accra
Cape Coast Castle
Elmina
Annamabo
Sekbe
Wybdah
Kumassi
Grand Bassam
Gold Coast
Grand Drewin
Harper
C. Palmas
Monrovia
Great Bassa
Liberia
Sierra Leone
Freetown
Konakry
Timbo
French Guinea
Portuguese Guinea
Bissagos Is.
C. Verga
C. Roxo
Bissao
Bathurst
Gambia
Kayes
Senegal
Dakar
Bakel
C. Verde
St. Louis
Senegal R.
Nioro
Kassambara
El Hodh
Timbuktu
Niger R.
Gao
Tiwurwurt
Walata
Arawan
Asawad
Taudeni
Wadan
Shingeti
Adrar
El-Juf Desert
C. Blanco
C. Mirik
Sansandig
Segu
Wagadugu
Bamaku
Tieba's
Sikaso
Empire
Sansding
Bissandugu
Adafudia
Yemina
Salaga
Kong
Sakala
Ashanti
Togo
Dahomey
Benue R.
Horin
Oro
Lokoja
Wukari
Adamawa
Gurin
Lai
Kola
Duku
Yakoba
Doloo
Logone
Barrua
Kuka
Tessawa
Gerki
Kano
Kebbi
Sokoto
Wurno
Gando
Say
Nigeria
Mashena
Maseenya
Lake Chad
KANEM
Dibbela Oasis
Yeggeba Oasis
AIR
Tin-tellust
(ASBEN)
Agades
Tarso Mts.
TIBESTI
Tummo Mts.
AHAGGAR
Tasili Ahaggar
Taudeni
Wadan
Shingeti
Adrar
El-Juf Desert
Arawan
Asawad
Walata
Timbuktu
Gao
Niger R.
Senegal
Kassambara
Nioro
El Hodh
Tiwurwurt
C. Mirik
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Rio d'Oro
SPANISH TERRITORY
C. Dunford
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Draa
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Tasili
Ghat
Murzuk
Sebkha Oasis
FEZZAN
Gatrun
Ghadames
Misda
Ain Taiha
Hammada el Homra
Igli
El-Golea
Wargla
Guerrara
Tuggurt
Gabes
Zuara
Tripoli

AFRICA.

Capitals thus: ⊙ Railroads { Finished —— Proposed - - - -

Canals thus: ——

Scale of Statute Miles.

0 100 200 300 400 500 600 700 800 900 1000

630 MILES TO ONE INCH.

Kilometers.

0 200 400 600 800 1000

British · French · German · Italian · Portuguese · Spanish · Turkish · Belgian · Independent States

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20° 30° 40° 50° 60° 70° 80° 30° 20° 10° 0° 10° 20° 30°

40° Longitude East 50° from Greenwich 60° 70°

GREECE.

BUT little remains to-day of the glories which once belonged to this most remarkable and interesting country. Of the early history of Greece but very little authentic knowledge is available. Hellen was claimed by the Greeks as their common ancestor, the popular belief being that from his sons, Dorus, Æolus, and his grandsons, Ion and Achæus, sprang the four different branches of the nation: the Dorians, from whom the Spartans were descended; the Ionians, from whom sprang the Athenians; the Æolians, whose dialect developed itself into the songs of Sappho; and the Achæans, who occupied Mycenæ, Argos and Sparta. Previous to the Hellenic inhabitants of Greece were the Pelasgians, who had a different language. Many indications go to show that Egyptian and Phœnician immigration had a large influence upon Grecian civilization, whose alphabet is apparently of Phœnician origin. What is known as the heroic age of Greece is a fragment of the poetic imagination of such minds as Homer and other great poets, who told the story of the great deeds of heroes, who, descended from the gods, performed deeds of supernatural valor and strength. Still, modern research has shown that much which has been gravely condemned as fiction has been actual occurrence, the persistent spade of Schliemann even establishing the fact that the siege of Troy was no myth, and that the story of Achilles' wrath may to-day be read in the ruins of the ancient city.

From first to last Greece was divided into numerous independent States, whose union was confederate rather than federal. Authentic history dates from 776 B.C., when the first Olympiad was held. Sparta at this time was the smallest and least important of the States, but the genius and valor of her citizens made her famous and strong, and by the sixth century before the Christian era foreign conquest and internal advancement had placed her in the lead as to power and wisdom of administration. Greece was at this time the acknowledged centre of European civilization. Persia now began to dispute the Hellenic advancement, and the battles of Marathon, Salamis and Thermopylæ were among the most famous encounters between these powerful nations. In B.C. 431 began the Peloponnesian war, the great civil war of Greece, which continued with hardly any cessation of hostilities for twenty-seven years. In 344 began the interference by Macedon in Peloponnesian affairs, which led to the wars which ended with the supremacy of the Macedonians, whose rule lasted until 325 B.C., when the Athenians accomplished temporarily their independence. In B.C. 214 occurred the first collision between the Greeks and the Romans, who in B.C. 200 invaded the country, and three years later conquered the Macedonians. About twenty years later war arose again between the Romans and Macedonians, who were defeated and their country made a Roman province. In B.C. 146 occurred the battle of Leucopetra, which completed the dissolution of the last of the Greek leagues, the Achæan, and henceforth Greece was under the Roman yoke. The Roman Senate, and afterward the Emperors, treated the fatherland of their own civilization with kindness, and it was not until the Byzantine Empire placed its cruel foot upon the Greek neck that all free institutions and popular rights were disregarded.

Though conquered in war, Greece still remained the leader of the world in literature and the arts. Her temples and statues, her schools of philosophy and rhetoric, still maintained her dignity among the nations. After the Byzantine invasion the adherents of the ancient religion only retained the name of the ancient Hellenes, and in the reign of Justinian, in the sixth century, the teaching of doctrines opposed to Chistianity was forbidden. From the fifth to the eighth century Slavic and other foreign people appeared in Greece, but they were finally expelled. Its ancient inhabitants regained the country, though the Slavic influence is still evident in certain parts of it, especially the Southern Peninsula. In the eleventh century, the Normans appeared from Sicily and plundered and ravaged the cities of Thebes, Athens and Corinth. In 1203 the Latin Princes appeared in the Crusade, conquered Constantinople, and divided Greece among them, establishing a number of principalities, which Frankish governments were swept away by the Turks in 1453, when they captured Constantinople and extended their conquests in a few years over the whole country, which they made a portion of the Turkish Empire. Abject misery was the condition of the country under the Turks. In 1687 the Christian League, under Venetian leadership, besieged and took Athens, but a few years later the Venetians were expelled, and the Moslem once more ruled Greece, keeping it in a most deplorable condition of subjugation. Toward the close of the eighteenth century the national spirit again began to assert itself, and secretly the preparations were begun for throwing off the Ottoman yoke. They were completed in 1821,

when the Greeks arose in insurrection against the oppressor. On their side was the sympathy of the whole civilized world, and money and men were supplied the struggling State from all directions. In 1822, the Moslems increased the execration in which they were held by massacring over 100,000 of the inhabitants of the island of Scio, reducing the population from 120,000 to 16,000. Four years of heroic war found the Greeks exhausted and at the mercy, if such existed, of the conqueror, but the diplomatic interference of England, France and Russia stayed the ferocious hand of the Turk, and proposed that Greece should be constituted as a tributary province, with the right to choose its own government. Greece was willing to accept the terms; the Ottoman Empire rejected them. War was declared by the allied powers against Turkey, whose fleet was almost destroyed, and in 1828 they decided to create Greece an independent kingdom. The crown was offered to two foreign princes and was declined by the first, while the second was assassinated. In 1833 Otto, son of the King of Bavaria, assumed the reins of government, and in 1835 the capital was established at Athens. In 1844, in recognition of a popular clamor, a Constitution was granted to the people, and after a stormy reign of nearly thirty years he was requested to abdicate, and accepted the invitation. An election by universal suffrage resulted in the choice of Prince George of Denmark, who accepted the throne on condition that England surrender the protectorate of the Ionian Islands, against which the people had rebelled, which was granted by that power. In 1863 the new King was crowned as George I., whose reign has since proved acceptable to the people. In 1866 a revolution in Crete strained the relations of Greece and Turkey, and on its renewed outbreak, in 1896, led to a war with Turkey, in which Greece was worsted.

Greece is governed in accordance with the Constitution elaborated by the constituent assembly in 1863 and adopted in 1864. A single chamber of representatives, known as the *Boule*, hold the legislative power. Annual meetings are held by the Boule, whose members are elected by manhood suffrage for a term of four years. Executive power is vested in the King and his responsible Ministers, the heads of the following departments: Presidency of the Council, Interior, Finance, Justice, Education and Ecclesiastical Affairs, War, Marine and Foreign Affairs. A Council of State is provided for, with power to review or amend bills passed by the Deputies, but of late years its services have not been employed.

ASIA.

INCLUDING

CHINA, JAPAN, BRITISH INDIA, PERSIA, ARABIA AND PALESTINE.

ALTHOUGH containing a vastly larger population than any other of the continents—its inhabitants in fact outnumbering those of the remainder of the earth—Asia, on account of her not having come to any great extent under the influences of modern civilization, is as weak in power as she is strong in numbers. In ancient days this was different: the world's history was then largely framed by its Asiatic sons, who contended successfully against Egypt and Greece, and later on helped to build up the glory of the Macedonian and Roman Empires. It was from the regions north of the Caspian Sea that the Huns came, and, following the star of empire, marched westward and settled down in various parts of Europe. Over the plains of the Slav swept the victorious armies of Timour and Genghis Khan, and later the Caliphs, at the head of their Arabian troops, carried the Koran and the sword throughout Asia, Europe and Africa, and established religious nationalities which are, to a certain extent, formidable even in this day of their decadence. Before their march the Roman Empire gave way, and the Turkish dominion raised, which for so many years held other European powers in awe. With a population of 850,000,000, as compared with that of Europe, 380,200,000, it seems as though the day must come when Asiatic supremacy will exist as a fact. Asia has a great deal to learn, however, of the modern spirit and system of government, before it can hope to cope with the more persistent, audacious and intelligent continent to the west of it.

Of recent years, the Asiatic continent has materially changed, under the influences of Western civilization, the war between China and Japan, and the opening up of much of its vast area by commerce. The Trans-Siberian railway, projected by the Russian government and now having reached its completion, must necessarily give a great impetus to interior settlement, besides affording to the colossal Muscovite Empire an important outlet, at Vladivostok, to her trade on the Pacific. Much also will be gained for civilization by the privileges China has granted to Russia in Manchuria, and by the concessions to her in such seaports as Port Arthur, as well as to Germany in Kiao-Chow and the Province of Shang-tung. What has been won or conceded to Russia and Germany is likely, ere long, to be followed by concessions to Japan, in the event of China's failure to pay the war indemnity to that neighboring power, and by further openings to the trade of Britain and France.

CHINA.

MYTHOLOGY, rather than history, must be credited with the earlier chronicles of the Chinese, whose actual record, however extends back 2,400 years previous to the Christian era, and contains the record of a great flood, which many have supposed to be identical with the deluge of the Pentateuch. Certain it is that the Great Wall, which extends 1,250 miles along the northern boundary of China, was erected 250 years before the Christian era, when the Tsin dynasty was founded by Chwang-Siang. In the thirteenth century a Mongol dynasty was formed by Genghis Khan, after his capture of Pekin. European visits began in this century, when Marco Polo reached China by the overland route. Portuguese and Dutch traders followed, and in the seventeenth century England visited the country, and after several unsuccessful negotiations the East India Company was allowed, in 1684, to trade with the natives. But little was done, however, until the opium trade set in, at the beginning of the nineteenth century, and soon attained enormous proportions. An attempt was made by the Chinese Government to exclude the pernicious drug, but the traders of the East India Company evaded the restrictions placed upon its entry, and this led to the Anglo-Chinese war, known as the opium war, which closed with the treaty of Nankin and the opening of five ports—Canton, Amoy, Foochow, Ningpo, and Shanghai—to the British in 1842. American trade with China was inaugurated in 1784, when the ship "Empress" made a successful voyage from New York to the Celestial Empire. In 1844 the first American treaty of amity and commerce between the United States and China was negotiated at Macao, and in 1867-8 a more important one was negotiated by the Hon. Anson Burlingame, which was revised in 1880, in order that an understanding might be reached with the Chinese Government in relation to the emigration of its subjects to this country, where opposition to Chinese cheap labor had been aroused in California and other sections. Such treaties as the Europeans have with China have been wrested from that country by force of arms, and during a war in 1860 the French troops captured the Emperor's summer palace, at Pekin, and carried off several millions of dollars' worth of booty. The most important event of modern domestic Chinese history was the Taeping revolution, which lasted from 1851 to 1864, and had for its object the overthrow of the Manchu or foreign dynasty. In 1894 a war broke out between China and Japan, arising from their conflicting claims in Korea. Japan proved victorious, and exacted a substantial indemnity.

An Emperor nominally rules China, aided by the Interior Council Chamber, which is mainly composed of high nobles. The provinces are governed by Imperial Governors and Executive Boards. The *de facto* ruler of the Empire is, however, the Dowager-Empress Tszu-Hszi (born in 1834), widow of the Emperor Hien-Fêng. She it is who directs the affairs of the State, and it is due to her sinister, anti-foreign influence that an insurrectionary rising of "Boxers" occurred in June, 1900, which created great alarm and anxiety in the United States and in the chief countries of the Old World. The "Boxers" are a *quasi*-military organization actively hostile to foreigners resident in China, and whose movements, in the summer of 1900, menaced the safety of the Foreign Legations at Pekin and threatened the foreign missions throughout the Empire. The inspirer of the insurrection is Prince Tuan, father to the heir to the Manchu throne, who with the despotic Empress-Dowager are known to be averse to the foreign element in the country and desirous of extruding if not massacring it. The movement began with threatening Tien-tsin, firing on the warships of the international fleet at Taku, and the practical blockade of the foreign Embassies at Pekin. For weeks no communication with the outer world was permitted to the ambassadors, and relief came only after considerable fighting on August 15, when the foreign allies captured Pekin and took possession of the capital until reparation for the indignities and losses was exacted by the foreign Powers.

JAPAN.

ORIGINALLY inhabited by a race known as the Ainos, who had a written language and were fairly advanced in civilization, the island of Japan subsequently fell into the hands of the Mongols, the present occupants being akin to the Chinese, whom they resemble in appearance. According to Japanese history, the ruling dynasty claims twenty-five centuries of unbroken succession, descent being claimed from the first Mikado, Jimmu Tenno, who was reputed to have been of divine descent. Buddhism was introduced into Japan in the sixth century. Marco Polo was the first European to write of Japan, and the first Europeans to land upon its shores were Portuguese mariners. About the middle of the sixteenth century one of the smaller islands was visited by Fernam Mendez Pinto. In 1549 St. Francis Xavier landed and introduced Christianity, and he was followed by many others. In 1615 the priests were exiled, and nine years

FALLOW DEER.

later all foreigners except the Chinese and the Dutch were expelled from the island, and the emigration of natives was prohibited. In 1637 the massacre of the Christians began, and for over two centuries Japan was left to itself. In 1854, however, Commodore Perry, of the United States Navy, effected a commercial treaty with Japan, which resulted in opening Japanese ports to American ships, and after a struggle with the old court party the civilization of the West began to grow in popular favor, liberal ideas struck root, and national progress was evidenced in a number of valuable reforms.

In 1894–9, Japan made war on China in behalf of Corea, inflicting serious losses on that huge empire.

Just now the world's interest is centered on the struggle between this ambitious little kingdom and the great power of Russia over Oriental possessions. The outcome is yet too uncertain to hazard a prediction. [See RUSSIA.]

Absolute power in temporal and spiritual affairs is vested in the Mikado. He is assisted in government by an Executive Ministry and a Privy Council; and, since 1890, by a National Parliament of two Houses. The House of Peers consists of 10 life members, 139 elected nobles, 59 imperial nominees, and 44 elected men of mark; the House of Representatives contains 300 elected members.

BRITISH INDIA.

EARLY Indian history, extending back millions of years, is composed of a confused mass of fabulous chronicles. Research by careful historians leads to the belief that the Aryan Hindoos settled the country some fifteen centuries before the Christian era, at which time the Brahminical religion and the social institution of caste are believed to have been in existence in undeveloped shape. About five centuries before Christ the northwestern provinces of the country were conquered by the Persian monarch Darius, and later Alexander the Great invaded India and conquered some of its provinces. In the eighth century the province of Scinde and the Southern Punjaub were invaded by the Mohammedans, who were later expelled by the Hindoos. In the beginning of the eleventh century they returned and conquered all Northern India. At the close of the sixteenth century occurred the invasion of Tamerlane. In 1526 Baber, the Mogul Sultan of Cabul, invaded India, and established the Mogul dynasty, whose strength culminated with Aurungzebe, who subdued almost the entire peninsula, and Mohammed Shah. In 1739 occurred the invasion of Nadir Shah, King of Persia, who overcame the empire and occupied Delhi, from which city he removed enormous stores of precious stones and metals. The restoration of the Mogul dynasty was followed by another incursion of the Mahrattas, who in the eighteenth century were entirely overthrown by the Afghans. European attention was at last called to the country, and in the sixteenth century settlements were made upon the coast by Portuguese explorers whom the Dutch expelled later. Great Britain, represented by the East India Company, effected settlements during the seventeenth century, and in the middle of the eighteenth came into conflict with the French, who had also gained a foothold, and after a hard struggle overcame them. Under Lord Clive the British troops vanquished the Emperor of Delhi and the King of Oude, and gained possession of Bengal, Berar and other provinces, which acquisitions were added to as years went by. For many years British rule was quietly submitted to by the natives, its enforcement being accomplished by the army of native troops, under English officers, armed by the East India Company.

In 1857 a revolt occurred, and the Kings of Delhi and Oude, at the head of the rebellious Sepoys, threatened for eighteen months to wrest the mastery of India from England. Frightful massacres, attended with indescribable atrocities, were perpetrated by the rebels, and the measures of reprisal adopted by the English were hardly less terrible. After the rebellion had been crushed the British Government assumed direct control of the country, the East India Company being deprived of its monopoly. Since then the British have largely advanced their Indian frontiers, though this precipitated, in 1897, a serious border war. On January 1, 1903, at Delhi, Edward VII. of England was proclaimed Emperor of India.

The Government, which regulates the affairs of about 300,000,000 people, is practically a military despotism, which is made possible by the division of the native population into Hindoos and Mohammedans. A Governor-General, appointed by the ruler of Great Britain, holds the executive authority and acts under the English Secretary of State for India, who is advised by a Council, a majority of whom are appointed by the Crown. Lieutenant-Governors of the provinces and minor officers are appointed by the Governor-General. The officials are almost all Englishmen. Self-government prevails in the villages and townships, which levy and expend their own taxes under a system which has prevailed in India for ages, and which provides the only exception to the rule that all power rests in the hands of the resident Europeans.

AFGHANISTAN AND BELOOCHISTAN.

AS a nation, Afghanistan, although only dating from 1747, when the successful soldier Amhed Khan assumed regal power, and possessing but a small territory and population, has, by her wars with foreign powers, so impressed the world with the warlike character of her people, that her history possesses a unique interest. Amhed Khan's most important war was with the Mahrattas, whom he overthrew in 1761, and when he died, twelve years later, he left to his son, Timour, an empire reaching from the Indus to the Oxus, while Khorassan, Beloochistan and Scinde acknowledged his rule as tributary provinces. After Timour came anarchy, and the Punjaub and Scinde were lost, while Persian encroachments endangered the country. Diplomatic relations with the English, who regard Afghanistan with peculiar interest, as being the "key to India," were opened in 1809, and a permanent English resident at the Ameer's court was appointed in 1837. The relations of the two countries failed to remain friendly, and in 1838 Lord Auckland, the Governor-General of British India, declared war against the Ameer, Mohammed Khan, who was defeated. Satisfied with the invasion they had accomplished, the English withdrew, leaving an army of occupation behind them. In 1841 Akbar Khan, son of the deposed Ameer, organized a conspiracy against the English occupants of the country, which resulted in the murder of the British Resident and Envoy, after which the invaders promised to leave the country, Akbar Khan agreeing to provide them with an escort. This promise was not kept, and the army, together with camp-followers, the whole amounting to about 26,000 people, while leaving the country by way of the Khyber Pass, in the depth of winter, were attacked by the fanatical tribes of the districts, who killed men, women and children. Of the whole host only one man escaped to convey the tidings to the nearest British port, Jelalabad. An expedition was immediately fitted out in India, and the country was desolated, the fortresses of Ghurzee and Cabul being taken. Notwithstanding this terrible lesson, the Afghans, in 1846, allied themselves with the Sikhs against the British, and raised a revolt in the Punjaub, which was quelled only after severe fighting. The present Ameer, Habibullah Khan, came to the throne in October, 1901, upon the death of his father, Abdur Rahman Khan. In 1879 the inhabitants of Cabul arose in revolt, and assassinated the British Resident and a large number of other foreigners, which led to a war in which the British arms, after desperate fighting, were successful, and British influence in the national policy was firmly established. The Government of the country is a monarchy. The natives are divided into clans, ruled over by chiefs. Revenue is raised by taxation, an officer collecting itin each province. Justice is administered in the towns by the Cadis.

BELOOCHISTAN, a country lying to the south of Afghanistan, is not considered of strategic value by either British or Russians. In 1839 the British stormed the capital and killed the ruler, after which they occupied the country for several years. In 1854 a treaty was formed between England and Beloochistan, and another in 1876, by which Beloochistan became a British protectorate, the Khan binding himself to oppose all the enemies of Great Britain, and to have no relations with other foreign States.

PERSIA.

AUTHENTIC Persian history begins with the revolt under Cyrus against Astyages, the Median King, which resulted in the foundation of the Persian Empire. Joining with Cambyses and Darius, Cyrus subdued Lydia and Asia Minor, and crowned his career by the capture of the city of Babylon, the metropolis of Assyria. Darius carried the Persian arms to the borders of Thrace, but was defeated at Marathon, and his son Xerxes was not less unfortunate. About 330 years before the Christian era Persia was invaded by Alexander the Great, of Macedon, who extinguished the empire, which up to his coming had ruled the world. After Alexander's successors came the Parthian dynasty, which was overthrown in the third century, when the ancient laws and religion were re-established

under a descendant of the famous Cyrus, and the Sassanidæ dynasty thus formed ruled with great energy until 628 A.D., when its last representative was slain, and the country fell a prey to the Mohammedan Arabians until 868, when a native dynasty was established. A Mongol invasion occurred in the thirteenth century, and in the fourteenth Tamerlane swept the land with his Tartar followers. Of the Suffavean dynasty which succeeded, the most famous representative was Nadir Shah, who invaded India and carried away $100,000,000 worth of spoils from the city of Delhi. Of late years Persia has not been able to do anything worthy of her ancient glories. Russian encroachments have deprived her of important provinces. In 1856-57 she engaged in war with England and was defeated, which event led to a friendly feeling towards that country which, doubtless, prompted the Shah, Nasr-ed-Din, in 1874, to visit Europe.

The Government of Persia is an unlimited despotism, the Shah being absolute in his monarchial powers. Direct taxation defrays current expenses, and the country is free from national debt. Law, as laid down in the Koran, is administered by mollahs (judges), whose decisions are given in accordance with the side of the case which possesses the greater power to bribe the court.

ARABIA.

CLAIMING descent from Ishmael, the Arabs have always been and still are a wandering, wild, uncontrolable people, whose career and present condition seem to fulfil the angelic prophecy. The aborigines of Arabia were probably the Cushites, who passed into Africa and were succeeded by a race descended from Abraham. After the destruction of Jerusalem large numbers of Jews entered Arabia, which subsequently welcomed the doctrines of Mohammed, with whose coming the history of the country really begins. Becoming united, they grew in power until in Europe, Asia and Africa empires were brought under their dominion. While producing important changes in the destinies of other nations, Arabia herself underwent no great improvement, and when her day of conquest was over the Turks found her an easy prey, and in the sixteenth century captured Yemen, which they lost a century later. The Portuguese, too, conquered Muscat, while the Russians gained some temporary advantages in Arabia. In the eighteenth century the Wahabees made their appearance, and, though Mehemet Ali checked their progress, their influence is still felt throughout the land. Hedjaz and Yemen are now under Turkish rule; while much of the remaining country is under British influence, exercised in the case of Oman through the Sultan of Muscat.

PALESTINE.

ORIGINALLY inhabited by distinct nations, of whom the Canaanites, Amorites, Jebusites, Kenites and Perizites were the principal, and whose origin is not known, the land of Palestine was invaded by the Israelites after their escape from the hands of their Egyptian masters and their wanderings in the wilderness. Acting under the divine command, as interpreted to them by their leaders, they entered upon a merciless war of extermination of the idolatrous tribes who inhabited the land, which they partitioned off as follows: The tribes of Reuben and Gad and one-half the tribe of Manasseh took the territory east of the Jordan; Judah, Simeon, Dan and Benjamin occupied the southern portion; Zebulon, Asher and Naphtali obtained the northern division; while the other half of the tribe of Manasseh, together with Issachar and Ephraim, secured the central portion. Being provided for by tithes, the Levites, in their priestly function, were not given any separate territory, but were scattered among the various cities of the other tribes. For over three centuries the tribes were ruled by Judges raised to that dignity by the people for valorous deeds in war or display of qualities of statesmanship, and during this time the nation was practically a confederation of republics, their bond of union being made up of their common origin, language and religion, and the ever-present danger of invasion by external foes. Among the most famous of the fifteen Judges who ruled the land were Gideon, Jephtha, Barak, Samson, Deborah,

Eli, and Samuel, who was the last of the Judges and the first of the Prophets, but the two latter exercised also priestly functions. Although their rule was satisfactory, the people clamored for a King, and the monarchy was established with Saul, a Benjaminite, as ruler. A great warrior, he led the hosts of Israel in a succession of victories, but his merciful treatment of a conquered people brought about the opposition of Samuel. The King's son-in-law, David, having slain the Philistine giant Goliath in battle, became suddenly popular, and, as he was taken up by the priestly party, he first aroused the jealousy and then incurred the enmity of Saul, who caused him to flee from the country. With an army of brother outlaws David made war upon the Philistines, who had befriended him in his hour of need, and on the death of Saul and his son, Jonathan, his tribe of Judah proclaimed him King. Saul's son, Ishbosheth, was acknowledged by the remainder of Israel, and a civil war followed, which was ended by the death of Ishbosheth, and the assumption of the sovereignty by David. Under King David war was actively pursued against the natives. Jerusalem was wrested from the Jebusites, and the Israelitish domain extended south and west to Egypt and north to the land of the Phœnicians. With the last-named people, who had attained a high degree of civilization and were learned in the arts and sciences, the Hebrews remained on terms of friendship. David's successor, Solomon, raised the power of Israel to its pinnacle of glory. Under his rule commerce and trade were cultivated, the country was fortified, profitable foreign alliances were made, and the beautiful Temple of Jerusalem was built. Great attention was paid to the military arm of the government; the army was enlarged and strengthened, and with its aid neighboring nations were kept in subjection and forced to pay heavy tribute. Internal disorder followed the death of Solomon, whose last days were not marked by the wise and strong government which preceded, and under the rule of his son, Rehoboam, the heavy taxation of the people induced a revolt of ten tribes, who proclaimed Jeroboam King in Israel, which comprised the land beyond Jordan and that to the north of Benjamin. Judah and Benjamin alone remained loyal. Many wars between the rival nations followed. Under licentious Kings the people of the ten tribes waxed in wickedness, until about 700 years B.C. the Assyrians swept down upon them, destroyed their capital of Samaria and carried the people into captivity. No record of their fate exists. They disappeared entirely from history, though every now and then some one or other of the nations of the earth is recognized, according to Biblical prophecy, as being the identical "ten tribes" of Israel. In Rehoboam's reign Judah was invaded by the Egyptians, who pillaged the temple. Wars with the bordering nations occurred from time to time, and civil war was frequently aroused by the misrule of wicked Kings, whom even the fierce denunciations of the great Prophets could not entirely restrain. Weakened by these causes, the country came under tributary subjection to the Babylonian Empire, and the downfall of the people was brought about by the revolt of Zedekiah, who declared the nation independent, and defended gallantly but unsuccessfully the capital, Jerusalem, against the Babylonian armies. In 588 B.C. the city was captured, its walls and temple destroyed, and its citizens carried into Babylon, where they remained captive for seventy years. Their return to their native land was permitted when the Babylonians were vanquished by the Medo-Persians, and Darius, Ahasuerus and other Kings allowed them to rebuild their city and temple, and granted them many additional privileges. Under these favorable conditions they increased in strength and numbers, and when, about two centuries before Christ, the Syrians sought to prohibit the Hebrew religion, they arose in arms and fought for their religious liberty with such courage and vigor that the period of these wars, extending from 167 B.C. to 105 B.C., is looked upon as the heroic era of Jewish history. Forty years later, however, the Romans conquered the country, and Judea became a province of that great power. Native rulers, known as tetrarchs, were given slight local power, but they were powerless to check the oppressions of the conquerors, and sixty-six years after the birth of Christ, whose earthly ministry was made while the people were in the depths of misery, the Jews rebelled and brought upon their country a scourge in the shape of Roman armies under Vespasian and Titus. After a four years' siege, during which the inhabitants endured indescribable sufferings with unparalleled fortitude, Jerusalem fell; the temple was once more abased; such of the inhabitants as survived were sold into slavery; the Hebrew nation as such passed out of existence. After the Roman rule passed away the Byzantine monarchs held the country. Christianity becoming widespread, Palestine became a centre of religious interest as the birthplace and scene of the ministry, death and resurrection of the Savior. Thousands of pilgrims visited the "Holy Land," and the rebuilding of Jerusalem was commenced. In the earlier half of the seventh century Palestine was conquered by the Mohammedan Arabs, but in 1099 the warriors of the first Crusade captured the sacred city, and made Godfrey of Bouillon King of Jerusalem, who extended his territory until it comprised the whole of Palestine. This lasted twenty years only, and after further crusades against the Saracens, in which the Christians were more or less successful, the latter were, in 1291, expelled by the Mamelukes, who ruled the land until 1517, when it fell into the hands of the Turks, who still hold it. Several efforts have been made to have the European Jews return to their fatherland, but they have declined to abandon the profitable occupations elsewhere to become the agricultural colonists of a not very fertile land. Under Turkish rule Palestine is part of the province of Syria, and comprises the sub-pashalics of Acre and Jerusalem.

SIAM

EARLY in the seventeenth century the Spanish, Portuguese, Dutch and French obtained admission to the Siamese ports, and England shared their privileges about half a century later. Each of these nations made strenuous endeavors to gain the preponderating influence over the Siamese, and the French seemed for many years the favorites; but in an outbreak which occurred several of their missionaries and traders were slaughtered, and this event was followed, on the part of Siam, by the inauguration of a policy of exclusiveness, which lasted until about fifty years ago, when Great Britain, France and the United States made treaties with Siam. The royal dignity is nominally hereditary; but each sovereign appoints his own successor; and besides, about the court is the Council of State, which, when the King dies, may defeat his will about the succession to the throne. In 1893, on a pretext of violated treaty obligations, the French made seizure of a valuable Siamese province.

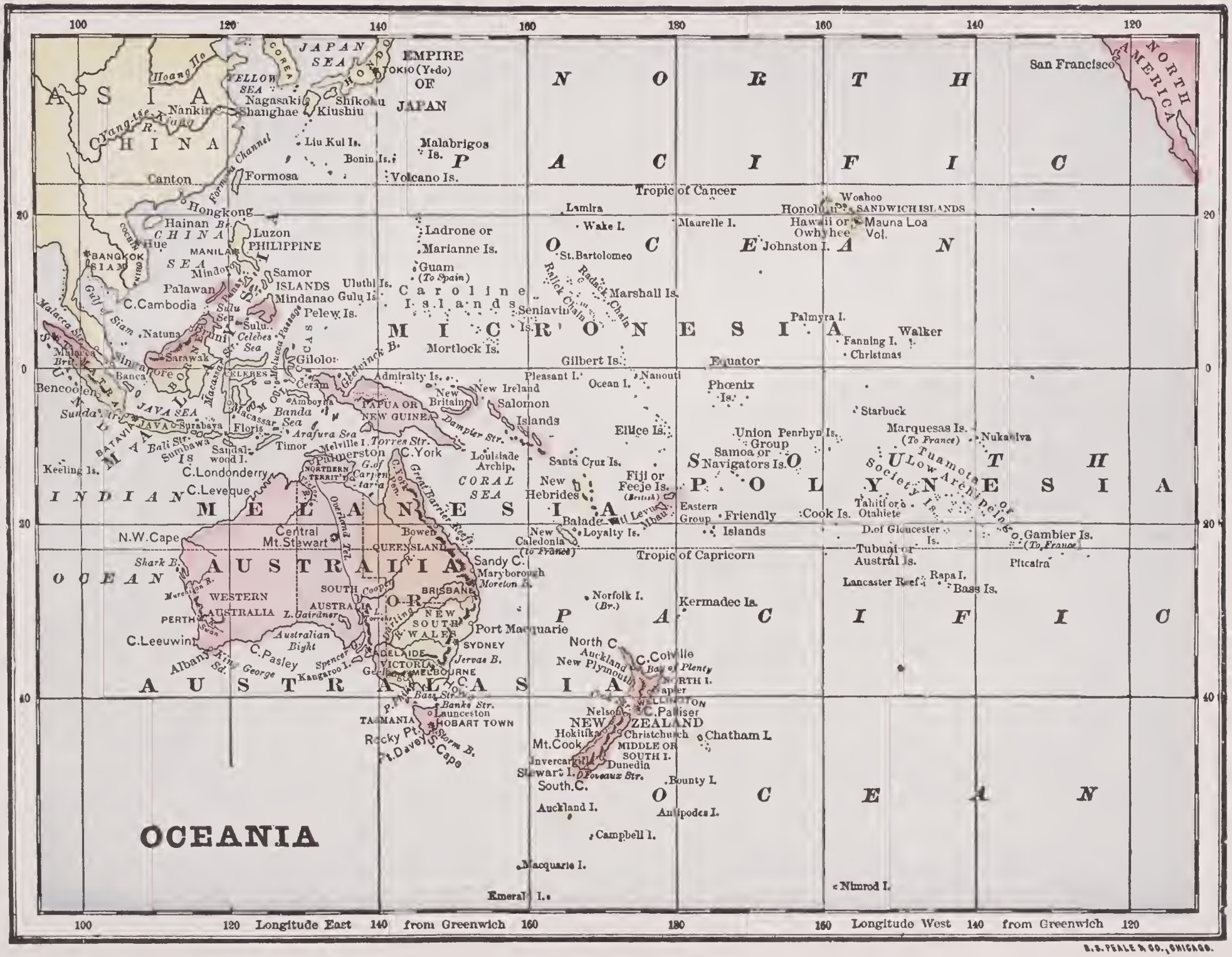
AFRICA

SECOND only to Asia in point of size, the continent of Africa, including the islands contiguous to its shores, has an area of 11,854,000 square miles, yet is the least important of all the great divisions of the globe, judged by the standard of civilization and commercial prosperity. It is only within a few years past that the true quality of the interior of Southern Africa has become known, through the researches of European and American explorers in the "dark continent." Attempts to colonize were begun by the French, on the west coast, in the seventeenth century, and at the Cape of Good Hope (the southern extremity of the continent, which was first doubled by Vasco da Gama) the Dutch established a port in 1650. An English trading company, a century later, also located here. The earliest explorers were James Bruce, who in 1772 visited Abyssinia and discovered the sources of the Blue Nile, and Mungo Park, who ascended the Niger in the earlier years of the present century, and was killed in 1806 in the kingdom of Houssa by the natives. The desire to discover the source of the Great Nile has impelled several explorers to pierce Central Africa. Up to his time, the most successful of these was Dr. David Livingstone, who travelled in 1849 through the country watered by the Zambesi, and made a vast number of important discoveries. Burton, Speke and Baker, in their hunt for the Nile's headwaters, discovered lakes Tanganyika, Victoria Nyanza and Albert Nyanza, which were also visited by Livingstone, who defined the great water system of the Lualaba or Chambeze. Henry M. Stanley, an American journalist, acting in the capacity of special correspondent of the New York *Herald*, visited Africa on a commission to find Livingstone, who had not been heard from for some years, and in 1871 he discovered him at Ujiji in great destitution, but still anxious to press forward into the continent, for which he had organized a new expedition. In 1873 Livingstone died, and in the following year his body was brought home and interred in Westminster Abbey. Stanley, after parting with Livingstone, explored the Congo, and has since made discoveries which place him in the front rank of African travellers. Commerce is following fast in the footsteps of these adventurous men, and the colonization of the fertile territories they have visited and described is only a matter of time. In 1890 France owned 2,300,248 square miles; Germany, 1,035,720; Great Britain (1897), 2,587,755; Italy, 360,000; Spain, 210,000; Portugal, 774,993; while the Congo Free State comprised 1,000,000, and Liberia about 14,300. A few changes have since been made.

The development, in recent years, in what has long been termed the "dark continent" is phenomenal, and enormous areas have been recovered from barbarism to civilization. This European conquest of Africa has already added immensely to the wealth of the world. The chief feature to be noted in the extension of European dependencies on the African continent is the large slices of it that have been secured by Britain, principally through trading companies and the energies of men like Mr. Cecil Rhodes. The result is shown, not only in the opening up of enormous tracts of rich country to settlement, but in the developing of mines of almost fabulous wealth, and the extension, most helpful to trade, of the railways. What has fallen to Britain's share is an immense extension of her territory from the Cape, northward through Bechuana Land, Matabela and Rhodesia to Lakes Nyassa and Tanganyika. A further slice extends from Mombossa, on the Indian Ocean, covering the immense area known as British East Africa, inland to the Nile, with a similar large tract on the Guinea coast, and a smaller tract (British Somaliland) on the Gulf of Aden. Germany has also made great gains in Africa, including her possessions on the east, west, and southwest coast. Her chief and richest area is that, however, on the east coast opposite Zanzibar, including the whole area covered by the explorations of Livingstone, the Missionary.

See Republics in South Africa, page 947.

EGYPT, ABYSSINIA, &c.
Scale of Miles
100 0 100 200 300
MEDITERRANEAN SEA
ASIA
PERSIAN GULF
RED SEA
GULF OF ADEN
ARABIA
EGYPT
LIBYAN DESERT
NUBIAN DESERT
SAHARA
NUBIA
ABYSSINIA
SOMALI
DARFUR
KORDOFAN
SENNAR
HABESH
GALLA
NIAM NIAM
BARI
KAFFA
INDIAN OCEAN
C. Mithr
Port Bardiah
Alexandria
Rosetta
Mouths of the Nile
Damietta
Port Said
Jerusalem
Dead Sea
El Arish
Petra
Matar
L. Mareotis
Natron Lakes
Siwah
Siwah Oasis
Wah el Belmesa
El Kasr
or Lesser Oasis
Gizeh
CAIRO
Pyramids
Memphis (Rs.)
Medinet el Fayoom
Atfeeh
Benisoef
Suez
Penin. of Sinai
Akaba
Mt. Sinai
Gulf of Suez
Gulf of Akaba
Behnesa
Aboo
Girgeh
Minieh
Manfalut
Siioot
Farafreh
Tahta
Dendera
Keneh
Thebes (Rs.)
Kosseir
Asfoon
Luxor
Esneh
Edfoo
Koom Ombo
Koobnieh
1st. Cataract
Assouan (Syene)
El Kasr Dakhel
Wah el Khargeh
or Greater Oasis
TROPIC OF CANCER
Kalabshee
Tosk
Sabooa
Ipsambol
2nd. Cataract
Derr
Sarras
Sukkot
Ammara
Sedinga
Timurkh
3rd. Cataract
Hannek
Abu Hammed
New Dongola
Sorjol
Handak
Merawe
4th. Cataract
El Bagara
5th. Cataract
Old Dongola
Bir Malha
Ambukol
El Mekheir
(Berber)
Bishareen Desert
Bir Simrie
Gummer
El Damer
El Efun
6th. Cataract
Shendy
Albara R.
Khor el Gaan
R. Barka
Farsan Archip.
Dhalac Archip
Cameran I. (Br.)
Massuah
Keren
Zoulla
Kassala
Bicha
Sana
Damar
Ain B.
Hanish Is.
Edd
Mocha
Aden (Br.)
Perim I. (Br.)
Bab-el-Mandeb
Obok
G. of Tajurrah
Tajurrah
L. Assal
Aussa
Durderi
Bender Gori or Lasgori
Ras Antafa
Mirafen
Ras Bera
C. Guardafui
Meid
Zeylah
Zeara
Berbera
Ungor
Harar or Adari
Waramo
Nogal
Negro B.
Tawali
Gerad
Bad
Ras Awath
Obbia
Ras Asuad
Dollo
Mudug
Webbe R.
Shidele
Mara
Ganana
Bardera
Warsheik
Magadoxo
Merka
Brava
Banasa
Juba R.
Suakin
Tokar
Tahab
Sea Plains
Axum
Adowa
Senafe
Takazze R.
Setit R.
Amphilla
Damar
Abu Kharraz
Sofie
Gataena
Kailub
Suene
Medwe
Khartoum
Halfaia
Kobbe
Tendelty
Bara
Dabassi I.
Elais
Abba I.
Sennar
El Obeid
Tassin
Danab
Tubeldieh
Koldaji
Kenak R.
Shegga
Hofrat
Bahr el Homr or Bahr el Arab
L. No.
Sobat R.
Market
Fazaklo
Boselres
Skerkin
Sokota
Dembea L.
Godera
Talba Waha Mts.
Magdala
Duna
Asandabo
Angolalla
Ankobar
Abai R.
Hawash R.
Didessa R.
Saka
Gera
L. Zoway
Bonga
Kaffa
Zeylah
Zeara
Berbera
Ungor
Harar or Adari
Waramo
Nogal



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EGYPT.

EGYPT is another of those countries whose prehistoric ages are wrapped in mystery as impenetrable as the sources of her Nile, whose exact location long baffled the most enterprising of explorers. Great interest attaches to the country's early annals, but the stories of the dynasties which succeeded Menes, the founder of Memphis, of the rule of the Pharaohs, and the Ptolemies and the Cleopatras, though pregnant with true historical interest, cannot here be told, and it will suffice to quote the language of a graceful historian, who wrote: "It (Egypt) attained a high position for wealth and the institutions of civilized society when all the surrounding countries dwelt in the darkness of barbarism. It had a well organized and efficient government long before the national greatness of the Hebrews." Moslem rule prevailed in the country after their conquest of it in 639. The Caliphs were expelled by the Turcomans, who gave way before the Mamelukes in 1250, whose rule continued until 1517, when Selim, Sultan of Turkey, put an end to their dominion and organized the land as a dependency of Turkey. For over two centuries the descendants of the vanquished Mameluke chieftains opposed the Turks. A descent upon Egypt was made by the French under Napoleon in 1798, but they were obliged to withdraw, and the Mamelukes were not overcome until the treacherous massacre of their leaders established the Pasha in quiet upon his viceregal throne. Mehemet Ali, from an obscure position as an Egyptian villager, rose to the position of Viceroy, after a severe conflict with the Ottoman forces, and under him the country made great advancement, and, while nominally tributary to Turkey, Egypt enjoyed nearly all the attributes of an independent nation. He died in 1849, and in 1863 Ismail came to the throne, a man of such Oriental extravagance, both in public improvements and personal expenditures, that he became bankrupt, and his abdication was brought about by the combined pressure of his English and French creditors. His son, Mehemet Tewfik, succeeded him, but the actual control of the nation was placed in the hands of an International Commission of Liquidation. The burden of paying the interest on the enormous national debt which Ismail rolled up, amounting at the close of 1890 to about $535,000,000, rests heavy upon the Egyptian people, and the rebellion against Tewfik, under Arabi Bey, and the war which England waged against the Egyptians, in support of the Khedive, are of too recent occurrence to require more than a passing mention. The reigning Khedive Abbas Hilmi, is the son of Mehemet Tewfik and succeeded to the throne January 8, 1892.

A STREET IN CAIRO, EGYPT.

Nominally Egypt is a province of the Turkish Empire, although actually it is autonomous under the Khedive, being subject only to the tribute of $3,600,000 payable annually to the Sultan; and yet at the same time it is dependent for its existence upon the will of the European Powers, Great Britain being the dominant factor in the control of its internal affairs.

Upper and Lower Nubia.

In 1820 the Egyptian Viceroy Mehemet Ali pursued the Mamelukes southward and into Nubia, where they took refuge. In the following year he conquered the country and made it an Egyptian province. By the rebellion in the Soudan, Nubia was brought under the sway of the Mahdi; it is now subject to his successor, the Khalifa.

CAPE COLONY.

IN 1486 Bartholomeu Dias, a Portuguese navigator, discovered the Cape of Good Hope, which Vasco da Gama sailed round in the following year. About the middle of the seventeenth century the Dutch planted colonies near the Cape, conquering and enslaving the natives. Increasing in numbers and growing in strength, the colonists, in 1795, rebelled against the mother country, whereupon the Prince of Orange sent an English fleet which established British rule. In 1803 the colony was restored to the Dutch, who, by 1806, had extended their domain eastward to the Great Fish River and westward nearly to the Orange River. In that year the British again took possession of the colony, which they have since retained, though not without great difficulty and expense, the native Kaffirs, a handsome and warlike race, proving a stubborn enemy, in the attempted subjugation of whom several sanguinary wars have been waged. In 1814 the colony was formally ceded to Great Britain for a monetary consideration by the Netherlands' government. In 1834 on England's emancipation of the slaves, large numbers of Dutch burghers trekked northward, though England gave them compensation for the loss of their Kaffir slaves. Government at the Cape was established, as it now exists, in 1853, when the authority was vested in a Governor and an Executive Council approved by the Crown, while a Legislative Council of twenty-three members and a House of Assembly represent the people. The colony embraces Griqualand, Pondoland, and Bechuanaland, the two latter being annexed in 1894 and 1895. In 1856, Natal, which had been a part of Cape Colony, was erected into a separate British possession. In Griqualand are the rich diamond fields of Kimberley, on the western borders of the Orange Free State. In 1894 there were in the colony 2,443 miles of railroad, which extends northward from Capetown, *via* De Aar Junction, Kimberley, Vryburg, Mafeking, to beyond Bulawayo, in the Bechuanaland protectorate. The Cape government manages the road as far north as Vryburg; beyond this it is run jointly by the Rhodesia Railways, Lt'd, and the British South African Co. In the war (1899-1900) between Great Britain and the South African Republics of the Transvaal and the Orange Free State, the railway line running north from Mafeking was torn up by the Boers. The war was brought about by difficulties occurring between the Transvaal authorities and England over the political disabilities of the Uitlanders (mainly English) in the Transvaal, Mr. Krüger's government being afraid that if the franchise, or equal electoral rights, were granted to the foreign element in the Republic, which was a condition stipulated for by England in the Conventions, the Uitlanders would be likely to outvote the Dutch burghers and menace the integrity of the State. Rather than modify their exclusive prerogatives and meet England in her reasonable demand for the aliens, Mr. Krüger issued an ultimatum which was construed as a *casus belli* and proceeded to invade Cape Colony and Natal. The war was launched Oct. 11, 1899, England meeting it by throwing into South Africa nearly 200,000 British troops, with large levies of Natal and Cape Volunteers, contingents from Canada and Australia, and portions of the British army drawn from India. The Orange Free State joined their kin in the Transvaal in the war against England, though the Dutch throughout Cape Colony remained loyal to the cause of the English Crown. The war lasted for over a year, though practically the Boer cause was lost when the British invaded the Orange Free State and the Transvaal, capturing the capitals, Bloemfontein and Pretoria, and compelling President Krüger to take flight to Lorenzo Marques, the Portuguese port at Delagoa Bay, and later on to seek safety in the Netherlands. The South African republics were, at the close of the war, re-annexed to the British Crown.

MADAGASCAR.

MADAGASCAR became known to commerce in the early part of the present century, at which time the greater part of the island was under the rule of King Radama I., with whom England formed a treaty in 1816. From the English Radama learned the European art of war, and his drilled troops easily accomplished the subjection of the whole island. Dying in 1828, he was succeeded by Ranavala I., who used her power to crush out the Christian religion, which had been readily received by the natives. Europeans were banished from the island and the missionary schools were closed. Her cruelties at last aroused the Europeans to action, and in 1845 a combined English and French force made an attack upon the port of Tamtave, but were unsuccessful. Ranavala died in 1862 and was succeeded by her son, Radama II., who ceded territory to France. He was assassinated in 1863, and his wife, Rasuaherina, succeeded him. At her death a dispute between the natives and Europeans over the succession was ended by the elevation of Rainitaiarivoy to the throne as Ranavala II. She became a Christian and was baptized, together with her husband, the Prime Minister and several of the native nobility. Kalimalaza, the chief idol, and the temple which contained it, were destroyed, and, stimulated by these acts of devotion, the people rapidly became converted to Christianity.

THE BARBARY STATES.

THE region in North Africa known as Barbary comprises the countries of Algeria, Morocco, Tunis and Tripoli. ALGERIA'S history runs back to the time of Carthage. Moors and Numidians at this time occupied it; later it became a Roman province, and after them the Vandals and Arabians held sway over the land. In the tenth century the Moors organized an independent State, but for several centuries Algeria was nothing else than a nest of pirates, whose vessels swept the seas as far as the North Sea, and forced tribute from all countries which carried on commerce by water. In 1655 the capital, Algiers, was attacked by the English, and in 1682 and 1683 by the French, but no great impression was made. A Spanish expedition against the city in 1775 was signally defeated. In 1815 Commodore Decatur, of the American navy, after defeating an Algerian squadron off Carthagena, threatened to bombard Algiers, and secured the release of American prisoners held by the Dey and his abandonment of a claim he had made for tribute. In 1816 a British Admiral bombarded the city and released all Christians held in bondage. In 1830 France sent an expedition of 100 ships-of-war and 357 transports to Algeria, and July 4 of that year Algiers surrendered, and the French took possession of it and established a military regency. A holy war was declared against the invaders, which, under the Emir Abd-el-Kader was carried on until 1847, when he surrendered to General Lemonciere. The French proclaimed Algeria a permanent possession, but the people were restless under the French yoke, the Kabyles rising in insurrection in 1851 and 1857, and several revolts having occurred since. At present the country is in quiet submission to France, where it is represented in both houses of the National Assembly. The military rule was abandoned in 1871, and a civil Governor-General and a Colonial Council administer the affairs of State.

MOROCCO, not having enjoyed the blessing of occupation by foreigners to any very great extent, does not show the same promise of advancement which Algeria at present affords. Its early history consists of a succession of wars and invasions. In the eighth century the Arabs conquered the country, and since then they have ruled it. In 1471 the seaport of Tangier was captured by the Portuguese, who ceded it to the English in the seventeenth century. They held it for only a brief period, and in 1844 it was bombarded by the French. In 1859 the Spaniards declared war against Morocco and captured Tetuan, these

visitations all resulting from the piratical habits of the maritime Moors and their enslavement of Christians who came within their power. A Sultan rules over the country.

In the palmy days of its great commercial city, Carthage, TUNIS was one of the most important countries of the world. It is now an annexed dependency of France, under the control of a French Resident. The French protectorate was established over Tunis in 1882.

TRIPOLI, the least populous of the Barbary States, is a Vilayet or Province of the Ottoman Empire; its government is administered by a Governor-General. The dominant religion of all the Barbary States is Mohammedanism.

ABYSSINIA.

EARLY tradition says that the famous Queen of Sheba included part of this country within her realm, and that its subsequent rulers were descended from her. In the middle of the fourth century Christianity was introduced and made great headway. In 1541 the Turks threatened the country, and the Portuguese assisted the Abyssinians, but were defeated; and in 1542 it was invaded by the Gallas, a race from the south, who conquered and held a great part of it. Although fairly well received at first, the Roman Catholic religion failed to gain a strong hold upon the people, who, in 1632, rose against the priests, and, after killing many of them, expelled the remainder. Theodore, who became King in 1855, proved a sagacious and energetic monarch, and under him Abyssinia was extended over several adjacent provinces, which had for years maintained their independence. A misunderstanding occurring between him and Great Britain in 1860, he imprisoned the British Consul, with some missionaries, and treated them cruelly for some years. In 1868 a British army, under Lord Napier, invaded the country, captured Theodore's stronghold, Magdala, and released the prisoners. Theodore, when the battle turned against him, committed suicide, and the country broke up into various petty States; which, however, under Menelek of Shoa, are being again brought together. For a time the country was practically an Italian protectorate; but in 1895 the Abyssinians went to war with and defeated Italy, and by the treaty of Uccialli (Nov. 1896), the absolute independence of Abyssinia was recognized. Area (estimated) 150,000 sq. miles; population 3,500,000.

REPUBLICS IN SOUTH AFRICA

PARTLY from national sentiment, but more as a matter of interest, the Dutch settlers at the Cape of Good Hope, after the acquisition of their country by Great Britain in 1806, emigrated in large numbers and, moving north and east, conquered from the warlike Zulus the country which is now known as NATAL, and settled there. More than 10,000 of the Boers, as they were called, had thus wandered away when the British colonists made claim to the territory which they had occupied, and in 1842 took possession of it. Others of the emigrant Boers settled on the table-land region to the north of the Orange River and founded the ORANGE FREE STATE, whose President, in 1848, made an attempt to drive out the British residents, but was defeated and driven from the country. In 1851 the British organized a colony of the Free State, but in 1854 they abandoned the enterprise and permitted the Boers to organize a government and guaranteed them complete independence. A third attempt by the Boers to establish a republic resulted in the colonization of the TRANSVAAL, whose independence was acknowledged in 1852. Success crowned this effort until the year 1877, when, the republic becoming bankrupt, annexation to Great Britain was suggested as a remedy. A vote was taken which resulted in the British taking possession of the country. In 1880 the Transvaal Boers, who had had enough of British rule, attempted to re-establish the republic. War ensued and an army which the British sent from Natal to quell the uprising was defeated. Further engagements with the Boers proved disastrous to the British, who finally abandoned the republic. Its external affairs were, up to 1899, controlled by the British Crown as suzerain. Swaziland is under the protection and administration of the Transvaal. In 1886 gold was discovered on the Witwatersrand, and the rich fields attracted a large immigration of British. Owing to civil disabilities under which the British and other "Uitlanders" were placed in the republic, a foolish attempt was made on the closing days of 1896 by Dr. Jameson to overthrow the republic by an armed raid from British territory. The Boers successfully resisted the invaders and handed them over to the British government for trial. The leaders of the raid were subjected to heavy fines and to brief periods of imprisonment. For the later history of the Dutch Republics in South Africa, see under Cape Colony (page 945).

SIERRE LEONE, a British colonial settlement adjacent to and north of Liberia, was settled in 1787 by a body of several hundred destitute negroes who had been removed from London by a society of philanthropists. Three years later they were joined by over a thousand negroes from Nova Scotia. Although so near to the negro republic founded under American auspices, the latter is far healthier than Sierre Leone, which, perhaps, accounts for its falling far short of the progress accomplished in Liberia.

THE CONGO FREE STATE has sprung out of the discoveries of Stanley and the explorations of the International Association, founded at Brussels for the opening up to civilization of the Congo and its tributaries. Its autonomy was recognized during 1884 and 1885 by the leading powers of Europe, and by the United States, conditioned upon its maintaining the principles of free trade. There are twelve territorial divisions, the capital being Boma. The central government is at Brussels, and consists of the King of the Belgians as sovereign, and three departmental chiefs. On the Congo there is an Administrator-General and several European administrators of stations and districts. The rest of West Africa is variously "protected" by England, France, Germany and Portugal.

OCEANICA

OCEANICA, sometimes called Oceania, is the name applied to the fifth division of the globe, which comprises the Australian Continent and a majority of the islands lying between the Indian Ocean and the China Sea on the west, and the American Continent on the east. So vast is the number of these islands that only the historical facts relating to the largest of them can be mentioned. Australia comes under its own head. New Guinea was discovered by the Portuguese in 1511. It is now divided between Holland, England and Germany; the German portion is called Kaiser Wilhelm's Land.

Borneo, which, until the naturalist Wallace's explorations proved that New Guinea had the greater area, was believed to be the largest island in the world except Australia, was discovered in 1578 by the Portuguese. In 1690 they effected a settlement, but were soon driven out from it. In 1702 and 1774 England made unsuccessful attempts to colonize the island, but of late years she has managed to acquire a controlling influence over the northwestern coast of the island.

Sumatra, Jåva, Celebes are among the larger single islands, while among the most important groups are the Malay Archipelago, in which these are included, and almost all of which have been subjugated by the Dutch, the Spaniards, the Portuguese and the British; the New Hebrides and Polynesia, which general terms include, among others, the Hawaiian, which is one of the most important in the Pacific Ocean. In 1829 the independence of these islands was acknowledged by the United States, who were followed in 1843 by the British, and in 1844 by the French. Queen Liliuokalani succeeded Kalakaua, but a revolution breaking out in 1893, the Queen was deposed and a Hawaiian Republic was proclaimed with a new Constitution, July 4, 1894. Sandford B. Dole became its first President. Since then the Hawaiian Senate has passed a resolution favoring annexation to the United States.

New Caledonia, an island lying to the east of Queensland, was taken possession of in 1853 by the French, who established there a naval station and a penal colony, which are still maintained.

New Zealand was first visited by the Dutch navigator Tasman in 1642. A British colony was established in 1840. Gold fields were discovered in 1857 which brought a large immigration. Executive authority is vested in a Governor appointed by the Crown; there is also a General Assembly consisting of a Legislative Council and a House of Representatives.

Tasmania, formerly known a Van Dieman's Land, ceased being a penal colony in 1853, since which time its population and prosperity have largely increased. In 1885 Britain gave it a Parliament. A Governor appointed by the Crown holds the executive; there are also a Legislative Council and a House of Assembly.

AUSTRALIA.

NOTHING was known of this vast island until 1606, when a Dutch sea-captain, sent from Java in the yacht Duyfen on a voyage of exploration of the New Guinea coast, viewed its northern shores. A Portuguese navigator the same year passed through Torres Strait. In 1619 the western coast was seen by a Dutch captain, who gave it the name of Endracht's Land, and in 1622 the southwest coast was discovered. Tasmania was, in 1642, visited by Tasman, who, a month afterwards, visited New Zealand. Frequent new discoveries were made from time to time, and in 1770, Captain Cook, then on his first voyage, explored nearly the whole of the eastern coast, which he called NEW SOUTH WALES. Passing through the strait which bears his name, Dr. Bass, a navy surgeon, ascertained the separation of Australia and Tasmania. In 1788 the English established a penal station at Botany Bay, New South Wales, which was afterwards removed to Sydney. The existence of a convict colony in their midst did not harmonize with the spirit of those who formed a free colony in New South Wales, and the station was removed to Tasmania, where it remained until its abolition, in 1853. Strenuous efforts were made to induce immigration to the colony, but up to 1850 only 50,000 Europeans had settled there. A year later, however, the discovery of gold in a district of New South Wales induced thousands to go to the mines, and within a year the population had increased by 200,000. All ordinary occupations were given up, the gold fever became epidemic, business was abandoned, values were inflated, and when the inevitable crash came, a large amount of suffering occurred. At last the crisis was passed, and, settling down to the development of the country, the people soon found that it had vast natural resources which outweighed in importance even the gold mines in productiveness. A Governor, nominated by the King, holds the executive power in New South Wales, and all enactments passed by the lower Legislature require royal sanction before becoming law.

QUEENSLAND, the colony which occupies the northeastern portion of the continent, was established in 1859. It has a Parliament of two houses, the Legislative Council and Legislative Assembly. A Governor appointed by the King holds the executive power.

SOUTH AUSTRALIA was first colonized in 1836 by British emigrants, who suffered greatly during the earlier years of their settlement. Copper mines of great richness were discovered in 1843, which gave impetus to the colony. Executive power is vested in a Governor appointed by the Crown, and an Executive Council composed of the responsible Ministers and members especially appointed. Legislative power is vested in a Parliament elected by the people.

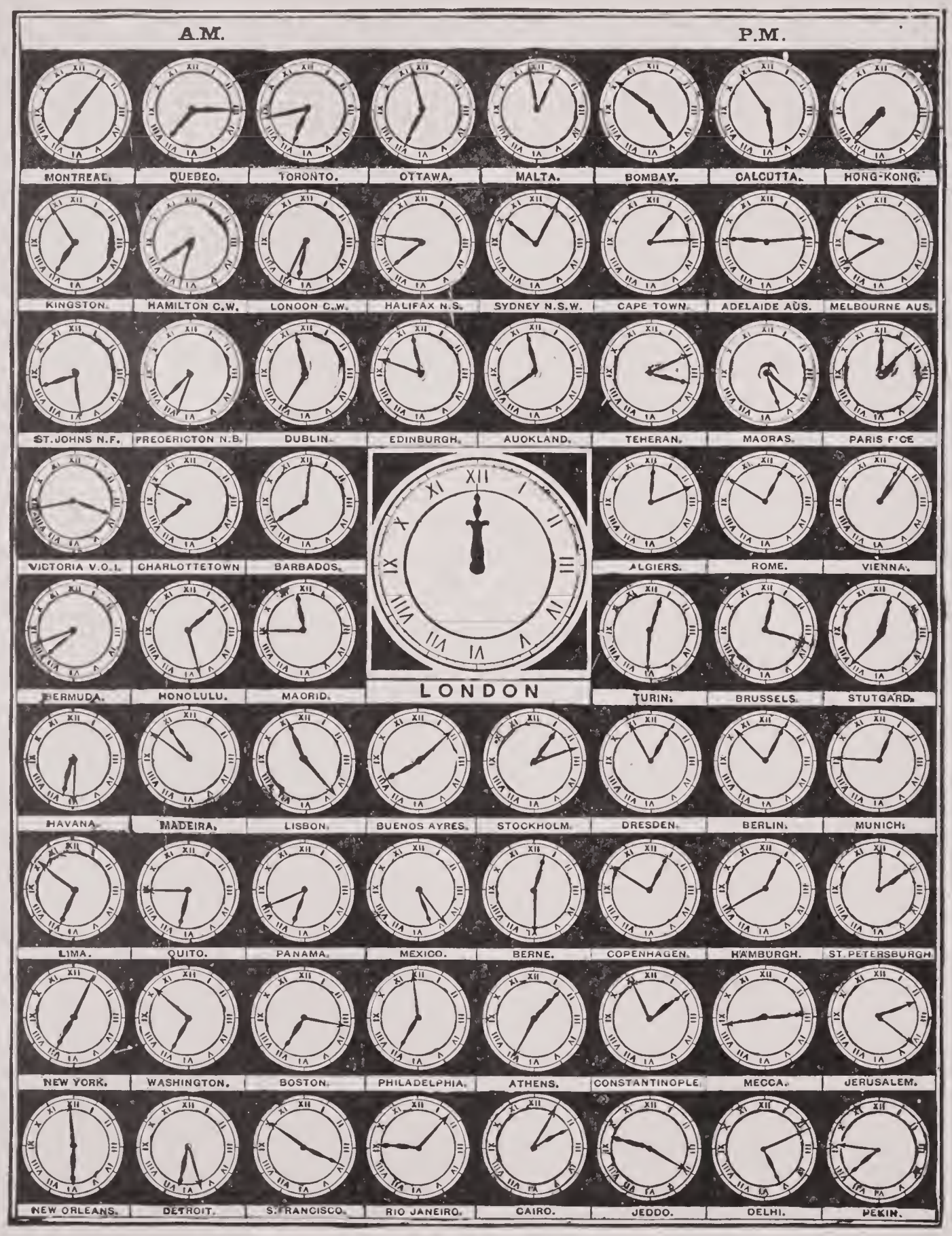
VICTORIA was settled in 1835, and in 1840 an attempt was made to form a Government distinct from that of New South Wales, which was unsuccessful. In 1851 the colony became independent, and, the rush to the mines occurring in that year, arrivals at the rate of from twenty to thirty thousand a month began to swell its population. The Government is similar to that of the other colonies.

WESTERN AUSTRALIA was first settled in 1829, and its development was slow for many years. Lately, however, there has been an increase of agricultural prosperity. The colony is ruled, since 1890, by a Governor and a Parliament.

AUSTRALASIAN FEDERATION.

In 1889 the premier of New South Wales advised "a national convention for the purpose of devising and reporting upon an adequate scheme of Federal Government." The matter was taken up by the Australasian governments and a conference met in Melbourne in 1890 and adopted an address to the Queen embodying resolutions in favor of federation. The Australasian Federal Convention, which assembled at Sidney in 1891, passed a bill by which, subject to consent of the Imperial Parliament and of the colonies themselves, a Federal Constitution comes to pass for the Commonwealth of Australia; over which a Governor-General, appointed by the Sovereign, is to hold sway; each "State" to contribute to the Commonwealth Parliament representatives from its individual Legislature—this Parliament comprising a directly elected House of Representatives and a Senate composed of delegates from all the States. The Constitution provides for seven Ministers to assist the Governor-General, to be known as "the Queen's Ministers of State for the Commonwealth of Australia;" for a Supreme Court, whose functions render unnecessary the Privy Council; and for interstate free trade.

THE CLOCKS OF THE WORLD.



UNITED STATES.

A. D.

ANTECEDENT.

1001. Icelandic discovery.
1492. Christopher Columbus discovers America.
1497. Cabot discovers Newfoundland.
1498. The Cabots on Atlantic coast.
1499. Amerigo Vespucci voyage.
1512. Florida discovered by Ponce de Leon.
1513. Balboa discovers the Pacific Ocean.
1521. Cortez conquers Mexico.
1528. Narvaëz visits Florida.
1534. Cartier explores the St. Lawrence.
1541. De Soto discovers the Mississippi.
1564. Huguenots in Florida.
1565. St. Augustine founded.
1585. Abortive settlement at Roanoke Island.

COLONIAL.

1600

7. Virginia. First settlement at Jamestown. 9. Second charter. 10. Famine. 12. Third charter. 19. First legislative assembly in America.

9. New York. Henry Hudson discovers Hudson River. 14. New Amsterdam settled by the Dutch.

20. Massachusetts. Puritans land at Plymouth. 23. Settlement at Dover, New Hampshire.

27. Delaware. Settled by Swedes and Finns. 38. Peter Minuit at Christina.

32. Maryland granted to Lord Baltimore. 34. Catholic settlement at St. Mary's.

35. Connecticut. Hartford, Windsor and Weathersfield settled.

36. Rhode Island. Settled by Roger Williams. 44. Charter.

64. New Jersey. Elizabethtown settled.

64. North Carolina settled.

70. South Carolina settled.

82. Pennsylvania settled by William Penn.

33. Georgia by Oglethorpe.

41. New Hampshire separated from Massachusetts.

1. Revised charter.

80.—Charleston founded.

2. War with Spaniards and Indians.

15. Yamasee war.

11. War with the Tuscaroras.

76. Two provinces, East and West Jersey.

2. United, but subject to New York.

38. Distinct under Gov. Morris.

1700

22. Indian massacre.

29. The grants to the Patroons.

24. Charter abrogated.

30. Boston founded.

44. Second Indian massacre.

43. Indian war.

60. Restriction of trade to English marts

55. Taken by Gov. Stuyvesant and annexed to New Amsterdam.

39. Ownership of Maine confirmed.

64. Taken by the English.

76. Bacon's rebellion.

35. Clayborne rebellion.

39. Representative legislature.

49. Toleration.

60. Civil war ends.

91. Lord Baltimore deposed.

15. Restoration of proprietary rights.

82. Part of Pennsylvania.

2. Separate.

75. King Philip's war.

92. Witches in Salem.

83. Charter of liberties.

41. Negro plot.

89. King William's war.

2. Queen Anne's war.

37. Pequot war.

39. Adopts constitution.

75. New York claims part of territory.

86. Odious and oppressive administration of Sir Edmond Andros in New England, New York, New Jersey and Pennsylvania.

44. King George's war.

54. French and Indian war.
58. Fort Du Quesne taken by Washington.
65. Stamp act.
55. Braddock's defeat.
63. Pontiac's war.
67. Tax on tea.
Colonial congress.

70. Boston massacre.
75. Revolutionary war.
Battle of Lexington.
Battle of Bunker Hill.
73. Destruction of tea in Boston Harbor.
76. Declaration of independence.
Battle of Flatbush.
74. Meeting of Congress in Philadelphia.
77. Surrender of Burgoyne.
81. Surrender of Cornwallis.
83. Treaty of peace.

A. D.	INTERNAL. *Yellow*—Federalist, Whig, Republican.	INTERNAL. *Red*—Anti-Federalist, Democrat.	Acquisition of Territory. Admission of States.	FOREIGN.
1787	Constitution adopted. 88. Ratified by eleven states.			
1789	**George Washington,** president. John Adams, vice-president. 90. Indian war in Ohio. Public debt, 1791, $75,463,470.	North Carolina ratifies the constitution. Rhode Island ratifies the constitution.	91. Vermont admitted. 92. Kentucky admitted.	
	93. **George Washington,** president. Public debt, $80,352,634. John Adams, vice-president. 94. Whiskey insurrection.	Trouble with Genet, French ambassador. Wayne's victory at Maumee.	96. Tennessee admitted.	95. Jay's treaty.
	97. **John Adams,** president. Public debt, $82,064,479. Thomas Jefferson, vice-president. 99. Death of Washington. Government removed from Philadelphia to Washington, D. C.			97. Treaty with France annulled. 98. War imminent. Treaty with France.
1800	1. **Thomas Jefferson,** president. Public debt, $83,038,050. Aaron Burr, vice-president.	4. Burr and Hamilton duel.	2. Ohio admitted. 3. Purchase of Louisiana.	1. War with Tripoli.
	5. **Thomas Jefferson,** president. Public debt, $82,312,150. George Clinton, vice-president.	7. Trial of Aaron Burr for conspiracy.		5. Treaty of peace, Tripoli. 7. Restrictions on trade by England and France.
	9. **James Madison,** president. Public debt, $57,023,192. George Clinton, vice-president.	11. Battle of Tippecanoe.	12. Louisiana admitted.	12. War with England. Invasion of Canada. Surrender of Mackinaw. Several naval battles.
	13. **James Madison,** president. Public debt, $55,962,827. Elbridge Gerry, vice-president.	14. Battle of Lundy's Lane. Washington burned. Bombardment of Fort McHenry. Key writes Star-Spangled Banner. 15. Battle of New Orleans.	16. Indiana admitted.	13. Perry's victory. Battle of the Thames. 14. Treaty of Ghent.
	17. **James Monroe,** president. Public debt, $123,491,965. Daniel Tompkins, vice-president.	18. Seminole war. 20. Missouri compromise.	17. Mississippi admitted. 18. Illinois admitted. 19. Alabama admitted. Purchase of Florida. 20. Maine admitted.	

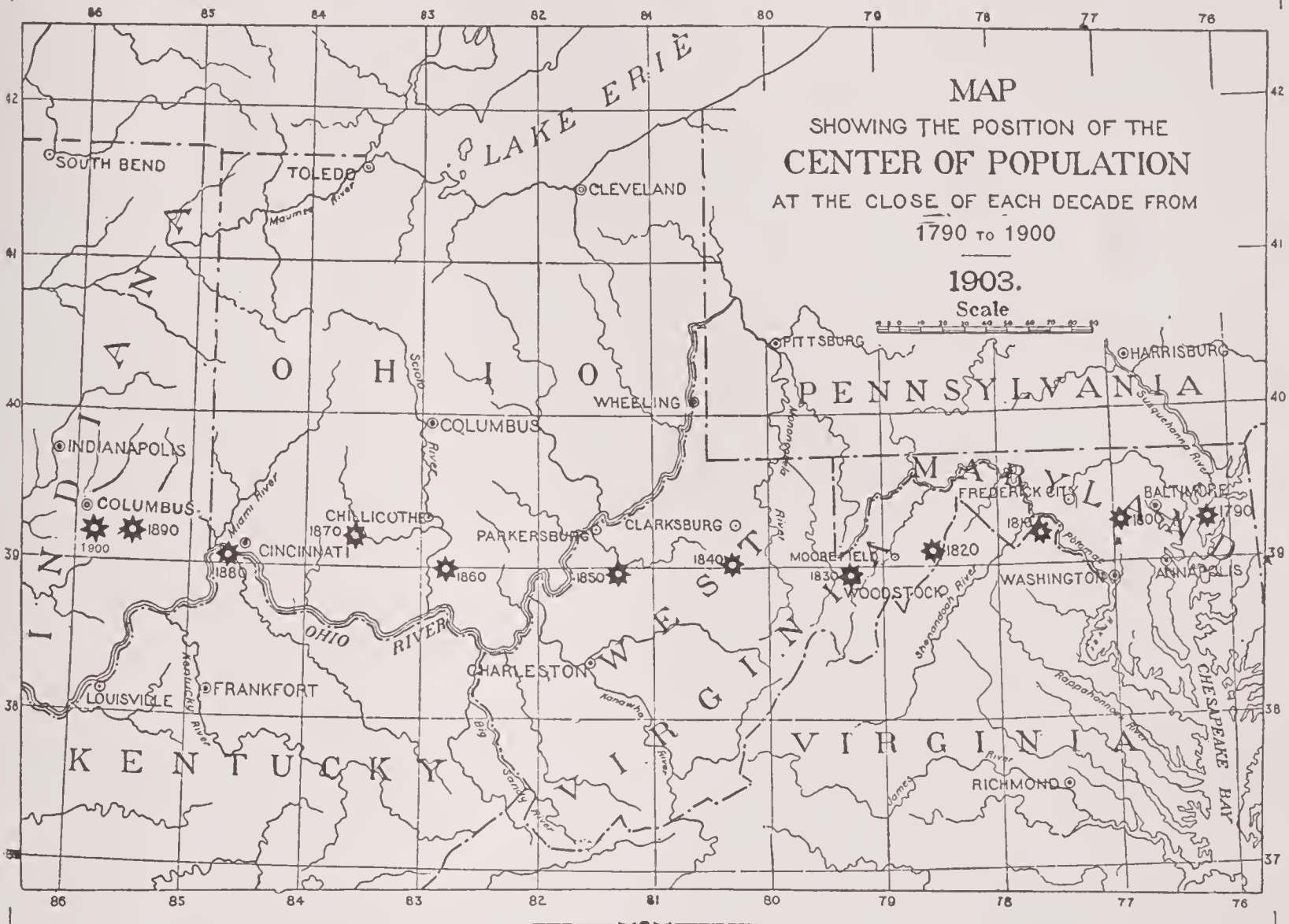
1821	**James Monroe,** president. Public debt, $89,987,427. Daniel Tompkins, vice-president.	24. Lafayette's visit.	Missouri admitted.	22. Acknowledgment South American republics.
	25. **John Quincy Adams,** president. Public debt, $83,788,432. John C. Calhoun, vice-president.	26. John Adams and Thomas Jefferson die, July 4th. 28. A protective-tariff bill passed.		26. Convention with Great Britain about indemnities.
	29. **Andrew Jackson,** president. Public debt, $58,421,413. John C. Calhoun, vice-president. 32. Black Hawk war.	32. New tariff law. 32. Nullification in South Carolina. 32. Veto of bank bill.		30. Treaty with Turkey.
	33. **Andrew Jackson,** president. Public debt, $7,001,032. Martin Van Buren, vice-president.	33. Public funds withdrawn from U. S. bank. 35. Seminole war.	36. Arkansas admitted.	
	37. **Martin Van Buren,** president. Public debt, $336,957. Richard M. Johnson, vice-president.	37. Financial crisis. 39. Banks suspend specie payments.	37. Michigan admitted.	40. North-eastern boundary disputes.
	41. **William H. Harrison,** president. Public debt, $5,250,876. John Tyler, vice-president. **John Tyler,** president. Public debt, 1842, $13,594,481.	April 4th, Harrison died. 41. Veto of bank bill. 43. Dorr rebellion in Rhode Island.		42. Ashburton treaty. 44. Texas applies for annexation.
	45. **James K. Polk,** president. Public debt, $15,925,303. George M. Dallas, viee-president.	46. Wilmot proviso. 48. Gold discovered in California.	45. Texas annexed. Florida admitted. 46. Iowa admitted. 48. Acquisition of New Mexieo and California. 48. Wisconsin admitted.	46. War with Mexico. 46. Battles of Palo Alto and Resaca de la Palma. 47. Buena Vista, Cerro Gordo, Contreras. Capture of city of Mexico. 48. Treaty of peace.
	49. **Zachary Taylor,** president. Public debt, $63,061,858. Millard Fillmore, vice-president. 50. **Millard Fillmore,** president. Public debt, $63,452,774.	50. July 9th, Taylor died. 50. Fugitive slave law.	50. California admitted. 50. Boundary of Texas established.	51. Lopez expedition to Cuba.
	53. **Franklin Pierce,** president. Public debt, $59,803,108. William Rufus King, vice-president.	54. Kansas-Nebraska bill. 55. Commotions in Kansas.		53. Martin Kossta protection. 54. Treaty with Japan.
	57. **James Buchanan,** president. Public debt, $28,699,831. John C. Breckenridge, vice-president.	57. Mormon insurrection. 57. Dred-Scott decision. 57. Financial distress. 59. John Brown's insurrection. 60. South Carolina secedes.	58. Minnesota admitted. 59. Oregon admitted.	59. San Juan occupied. Treaty with China. 60. Walker's filibusters invade Honduras.

1861	**Abraham Lincoln,** president. Public debt, $90,580,875. Hannibal Hamlin, vice-president. 61. Attack of Fort Sumter. Seizure of Harper's Ferry and Norfolk. 62. Battle of Antietam. 63. Emancipation proclamation. 63. Battle of Gettysburg.	**Southern Confederacy.** 61. Mississippi, Alabama, Florida, Georgia, Louisiana, Texas, Virginia, Arkansas, Tennessee and North Carolina secede. Jefferson Davis, president. Battles of Bull Run, Wilson's Creek. 62. Capture of Fort Donelson. Battles of Pea Ridge, Shiloh. Bull Run, Corinth, Fredericksburg. 63. Chancellorsville. Siege of Vicksburg. 64. Wilderness battles. Siege of Petersburg. Sherman's march to the sea.	Kansas admitted. 63. West Virginia admitted. 64. Nevada admitted.	Trent affair. England, France and Spain acknowledge Confederents as belligerents. Russia sympathizes with Federal government. 64. Alabama sunk by the Kearsarge.
	65. **Abraham Lincoln,** president. Public debt, $2,680,647,869 Andrew Johnson, vice-president. April 14, President Lincoln shot. **Andrew Johnson,** president. Public debt, 1866, $2,773,236,173. 68. Impeachment and acquittal of President Johnson.	65. Battle of Five Forks. Surrender of Lee, of Johnston and of Kirby Smith. War ended.	67. Nebraska admitted. 68. Re-admission of Southern States.	66. Fenian raids on Canada.
	69. **Ulysses S. Grant,** president. Public debt, $2,588,452,213. Shuyler Colfax, vice-president.	70. Fifteenth amendment. 71. Great fire in Chicago.		71. Treaty with Great Britain. 72. Genevan award.
	73. **Ulysses S. Grant,** president. Public debt, $2,234,482,933. Henry Wilson, vice-president.	73. Modoc war. 76. Centennial exhibition.	76. Custer massacre. Colorado admitted.	73. The Virginius troubles with Spain,
	77. **Rutherford B. Hayes,** president. Public debt, $2,205,301,392. William A. Wheeler, vice-president.	77. Railroad riots. 79. Resumption of specie payments.		
	81. **James A. Garfield,** president. Public debt, $2,069,013, 569. Chester A. Arthur, vice-president. 81. **Chester A. Arthur,** president. Public debt, 1882, $1,918,312,994. Public debt, 1883, $1,884.171,728.	81. President Garfield shot, July 2d; died, September 19th. 83. Apaches captured by Gen. Crook.	83. Capital of Dakota removed from Yankton to Bismark. General strike of telegraph operators.	81. Treaty with China, 87. Fisheries disputes. 88. Canadian Fishery treaty adjusted. Lord Sackville incident.
	85. **Grover Cleveland,** president. Public debt (Dec. 1, 1884) Thomas A. Henricks, vice-president, $1,417,159,862.	86. Labor riots. Haymarket Dynamite massacre, Chicago.	89. The two Dakotas, Washington and Montana admitted. Disastrous Flood in Johnstown, Pa. 93. Chicago World's Fair. 96. Utah admitted.	89. Ill feeling with Germany, about Samoa. 91, 92. Controversy with Chili. 94. New Chinese treaty. 95-6. Monroe doctrine urged against England.

89. **Benjamin Harrison,** president. Levi P. Morton, vice-president.
Public debt, Dec. 1, 1888, $1,200,724,463.
90. Passage of the McKinley Tariff bill and the Dependent Pension bill. Mormons abolish polygamy
91. Mafiisti lynched in New Orleans.
93. **Grover Cleveland,** president. Force bill repealed. 94. New Tariff law.
96. **Wm. McKinley,** president. Garrett Hobart, vice-president.
97. Dingley Tariff adopted.
98. War declared with Spain. Naval victory at Manila. Destruction of Cervera's Fleet. Surrender of Santiago. Capture of Porto Rico. Spain sued for peace.*

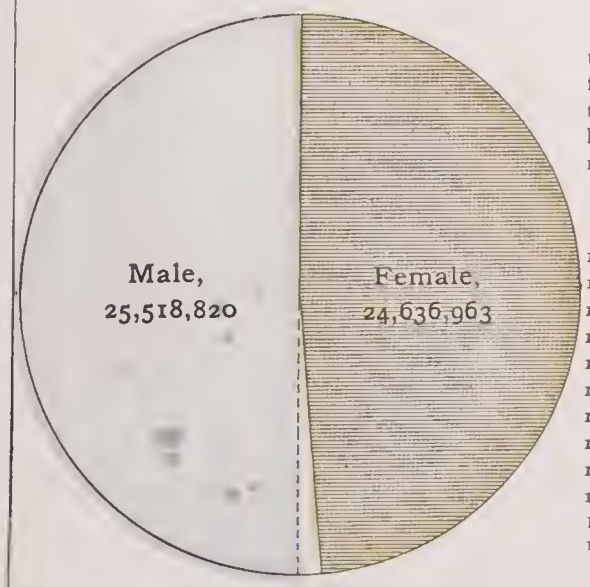
*For more recent events see article on United States History.

CURIOSITIES OF THE CENSUS.



THE CENTRE OF POPULATION.

The centre of population is defined as "the point at which equilibrium would be reached were the country taken as a plane surface itself, without weight, but capable of sustaining weight, and loaded with its inhabitants in number and position as they are found at the period under consideration, each individual being assumed to be of the same gravity as every other, and consequently to exert pressure on the pivotal point directly proportioned to his distance therefrom." In brief, it is the centre of gravity of the population of the country. It is located (1900) six miles southeast of Columbus, Indiana.



The change of centre of population each ten years in the United States is shown in the following table. The very rapid settlement of the Northwest of late would indicate that the line will move considerably northward in the next ten years.

Year.	*Centre of Population.*	*Move westward, Miles.*
1790	23 miles e. of Baltimore	
1800	18 miles w. of Baltimore	41
1810	40 miles n.-w. by w. of Washington	36
1820	16 miles n. of Woodstock, Va.	50
1830	19 miles s.-w. of Moorefield, W. Va.	39
1840	16 miles s. of Clarksburg, W. Va.	55
1850	23 miles s. of Parkersburg, W. Va.	65
1860	20 miles s. of Chillicothe, O.	81
1870	48 miles e.-by-n. of Cincinnati, O.	42
1880	8 miles w.-by-s. of Cincinnati, O.	58
1890	20 miles e. of Columbus, Ind	48
1900	6 miles s. e. of Columbus, Ind.	14

FOOD SUPPLY
OF
PRINCIPAL COUNTRIES.

NATION.	VALUE OF GRAIN AND MEAT.	TOTAL VALUE.
Belgium and The Netherlands	$ 105,000,000 / 65,725,000	$ 170,725,000
Canada	110,000,000 / 60,775,000	170,775,000
Scandinavia	170,000,000 / 87,175,000	257,175,000
Australia	65,000,000 / 215,600,000	280,600,000
Rumania	225,000,000 / 77,000,000	302,000,000
Italy Spain and Portugal	325,000,000 / 86,625,000	411,625,000
Great Britain	340,000,000 / 134,750,000	474,750,000
Austria	340,000,000 / 328,625,000	668,000,000
Germany	555,000,000 / 316,250,000	871,250,000
France	645,000,000 / 369,875,000	1,014,875,000
Russia	805,000,000 / 291,500,000	1,096,500,000
United States	1,330,000,000 / 540,375,000	1,870,375,000
	1,035,000,000 / 981,750,000	2,016,750,000

GRAIN. MEAT.

(956)

FARM WAGES,

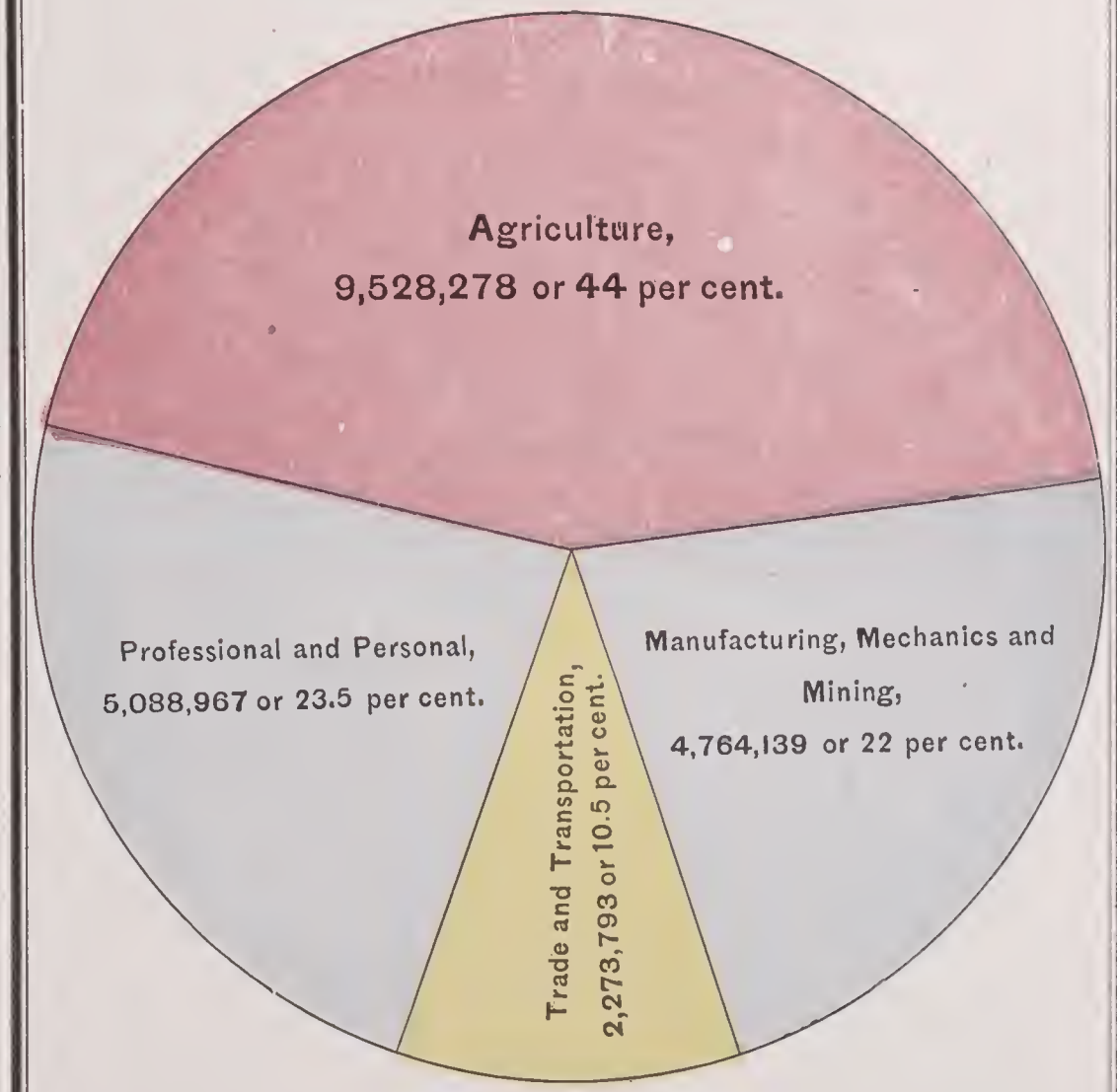
By the Month and by the Day, in Harvest.

WITHOUT BOARD.		STATES.	WITH BOARD.	
Wages during Harvest.	Monthly Wages by the Year.		Monthly Wages by the Year.	Wages during Harvest.
$1.08	$12.10	South Carolina	$ 8.10	$ .78
1.20	12.86	North Carolina	8.80	.85
1.10	12.86	Georgia	8.70	.80
1.05	13.15	Alabama	9.09	.80
1.30	13.75	Tennessee	9.49	1.00
1.27	13.96	Virginia	9.17	.99
1.23	15.10	Mississippi	10.09	.95
1.52	16.34	Maryland	9.89	1.15
1.12	16.64	Florida	10.20	.80
1.10	18.20	Louisiana	12.69	.85
1.60	18.20	Delaware	12.50	1.25
1.54	18.20	Kentucky	11.75	1.18
1.34	18.50	Arkansas	12.25	1.02
1.30	19.16	West Virginia	12.46	1.00
1.39	20.20	Texas	14.03	1.08
1.59	22.39	Missouri	13.95	1.23
1.73	22.88	Pennsylvania	14.21	1.30
1.89	23.14	Indiana	15.65	1.58
1.75	23.37	Vermont	16.00	1.35
1.89	23.63	New York	15.36	1.47
1.70	23.85	Kansas	15.87	1.35
1.91	23.91	Illinois	17.14	1.54
2.09	24.25	New Jersey	14.20	1.74
1.95	24.45	Nebraska	16.20	1.57
1.79	24.55	Ohio	16.30	1.41
1.52	24.75	Maine	16.75	1.22
1.71	25.25	New Hampshire	16.72	1.35
2.13	25.76	Michigan	17.27	1.76
2.25	26.21	Iowa	17.95	1.81
2.50	26.21	Wisconsin	17.90	2.10
2.61	26.36	Minnesota	17.75	2.16
1.60	27.75	Rhode Island	17.00	1.30
1.65	27.90	Connecticut	17.37	1.33
1.75	30.66	Massachusetts	18.25	1.35
1.92	33.50	Oregon	24.75	1.50
2.21	36.50	Colorado	27.08	1.80
2.30	38.25	California	23.45	1.86
	The general average for the United States in 1903 was $18.33.		The general average for the United States in 1903 was $12.45.	

NUMBER ENGAGED

In all Gainful Occupations, and the Relative Percentage in each.

TOTAL LABORING POPULATION, 21,655,177



(937)

DISPLACEMENT OF MANUAL LABOR BY MACHINERY,

IN VARIOUS INDUSTRIES.

INDUSTRY.	No. of Employes Required with Machinery.	PROPORTION DISPLACED.	No. of Employes Required without Machinery.
Wall Paper	1	99 in every 100	100
Silk (Weaving)	5	95 " " "	100
Paper	5 15/17	94 2/17 " " "	100
Woolen M'f'r's	5 15/17	94 2/17 " " "	100
Silk (Winding)	10	90 " " "	100
Hats (Stiff)	11 1/9	88 8/9 " " "	100
Tobacco	12 1/2	87 1/2 " " "	100
Glass Jars	16 2/3	83 1/3 " " "	100
Brooms	20	80 " " "	100
Boots and Shoes	20	80 " " "	100
Farm Labor	20	80 " " "	100
Flour	25	75 " " "	100
Cotton M'f'r's	33 1/3	66 2/3 " " "	100
Hats (Medium)	33 1/3	66 2/3 " " "	100
Wooden Ware	33 1/3	66 2/3 " " "	100
Carriages	34 2/1	65 5/1 " " "	100
Saws	40	60 " " "	100
Furniture	50	50 " " "	100
Railroad Supplies	50	50 " " "	100
Rubber Boots and Shoes	50	50 " " "	100
Soap	50	50 " " "	100
Firebrick	60	40 " " "	100
Silk (Gen'l M'f'r.)	60	40 " " "	100
Machinery	75	25 " " "	100
Brick Making	90	10 " " "	100
Trunks	95	5 " " "	100

The Eighteen Decisive Battles of the World.

(Name of Victorious Nation Appears First.)

Conquest .....
Independence .....
Invasion resisted.....
International and political.

MARATHON,
B. C. 490.
Athenians—Persians.
(MILTIADES.)
Free governments preserved.

SIEGE OF SYRACUSE, B. C. 414.
Syracusans and Spartans—Athenians.
(GYLIPPUS.)
Athenian power checked.

BLENHEIM,
A. D. 1704.
English and Austrians, French and Bavarians.
(MARLBOROUGH.)
French ascendency curbed.

VALMY, A. D. 1792
(KELLERMANN.)
French Rep. Allied Powers.
First success of Republicans against foreigners.

WINFELD-LIPPE,
A. D. 9.
Germans — Romans.
(ARMINIUS.)
Teutonic independence.

METAURUS,
B. C. 207.
Romans—Carthaginians.
(NERO AND LIVIUS.)
Beginning of decline of Carthage.

SEDAN,
A. D. 1870.
Prussians—French.
French empire crushed; German empire estab'd.

HASTINGS,
A. D. 1066.
(WILLIAM.)
Normans — Anglo-Saxons.
New Régime | in England.

TOURS, A. D. 732.
Franks — Saracens.
(CHARLES MARTEL.)
Recoil of Mohammedanism.

GETTYSBURG, A. D. 1863.
(MEADE.)
U. S.—C. S. A.
Crisis of war | for the Union.

SIEGE OF ORLEANS, A. D. 1429.
French — English.
(JOAN OF ARC.)
Redemption of France begun.

WATERLOO,
A. D. 1815.
(WELLINGTON AND BLÜCHER.)
English and Prussians — French.
Overthrow of Napoleon.

ARBELA,
B. C. 331.
Greeks — Persians.
(ALEXANDER.)
Extinction of the | Persian empire.

SARATOGA,
A. D. 1777.
Americans — English.
(GATES.)
Crisis, war of independence

SPANISH ARMADA, A. D. 1588.
English and Dutch—Spaniards.
(EFFINGHAM.)
England saved from invasion

CHALONS, A. D. 451.
Romans and Visigoths — Huns.
(AETIUS AND THEODORIC.)
Europe saved from Attila's Huns.

PULTOWA,
A. D. 1709.
Russians — Swedes.
(PETER THE GREAT.)
Slavonic triumph.

SIEGE OF SEBASTOPOL,
A. D. 1854-5.
English, French and Turks — Russians.
Delay in expansion of Russia.

POLITICAL PARTIES IN THE UNITED STATES.

Periods.	Total Elec. Vote.	Popular Vote.	Electoral Vote.	Popular Vote.
1789-1792	73		WASHINGTON, 69.	
1792-1796	135		WASHINGTON, 132,	
1796-1800	138		ADAMS, 71.	
1800-1804	138		JEFFERSON, 73,	
1804-1808	176		JEFFERSON, 162.	
1808-1812	176		MADISON, 122.	
1812-1816	218		MADISON, 128.	
1816-1820	221		MONROE, 183.	
1820-1824	235		MONROE, 231.	
1824-1828	261		J. Q. ADAMS, 84.	
1828-1832	261		JACKSON, 178.	
1832-1836	288	Anti Mason. 33,108	JACKSON, 219.	
1836-1840	294		VAN BUREN, 170.	
1840-1844	294	Liberty. 7,059	HARRISON, TYLER, 234.	
1844-1848	275		POLK, 170.	
1848-1852	290	Freesoil.	TAYLOR. FILLMORE, 163.	
1852-1856	296		PIERCE, 254.	
1856-1860	296	American.	BUCHANAN, 174.	
1860-1864	303	Constitutional Union.	LINCOLN, 180.	
1864-1868	314		LINCOLN, JOHNSON, 212.	
1868-1872	317		GRANT, 214.	
1872-1876	366		GRANT, 286.	
1876-1880	369		HAYES, 185.	
1880-1884	369		GARFIELD, ARTHUR, 214.	
1884-1888	401		CLEVELAND, 219.	
1888-1892	401		HARRISON, 233.	
1892-1896	444		CLEVELAND, 277.	
1896-1900	447		McKINLEY, 271.	
1900-1903			McKINLEY, 292 ROOSEVELT.	

Federalist. 509,097 Federal Republican. 530,189 National Republican. 730,656 Whig. 1,275,017 Republican. 1,299,068 Republican. 1,360,101 Republican. 1,380,578 Republican. 1,341,264 Republican. 1,866,352 Republican. 2,216,067 Republican. 3,015,071 Republican. 3,597,071 Republican. 4,033,295 Republican. 4,450,921 Republican. 4,851,981 Republican. 5,438,458 Republican. 5,175,202 Republican. 7,104,779 Republican. 7,207,923

Anti-Federalist. 647,231 Democratic-Republican. 687,502 Democratic. 761,549 Democratic. 1,128,702 Democratic. 1,337,243 Democratic. 1,220,544 Democratic. 1,601,474 Democratic. 1,838,169 Democratic. 1,808,725 Democratic. 2,709,613 Democratic. (and Liberal.) 2,863,487 Democratic. 4,284,265 Democratic. 4,447,888 Democratic. 4,874,486 Democratic. 5,534,368 Democratic. 5,556,918 Democratic. 6,502,925 Democratic. 6,358,133

At first the electors in many of the states were chosen by the legislatures. The earliest popular vote showing clearly-defined party lines was for Jackson's first term.

The elections for Jefferson's first term and for John Quincy Adams' term were decided in the house of representatives. That for Hayes' term by an electoral commission created by congress. The popular votes for John Quincy Adams and for Hayes were less than those cast for their chief opponents.

Minor parties and shades of the principal parties, having no presidential candidates have been ignored.

Greenback. 81,740 Temperance. 9,522 Prohibition. 307,740 Labor. 143,003 Popu. 1,042,632 Soc'l Dem. 87,814 Nat'l Dem. 133,424 Proh. 132,007 Proh. 208,914

Regular. 845,763 Independent. 1,375,157 Democratic 2,709,613 (and Liberal.) 2,863,487 5,608 10,305 150,369 175,370 249,158 262,799

AVERAGE YEARLY WAGES

OF THE

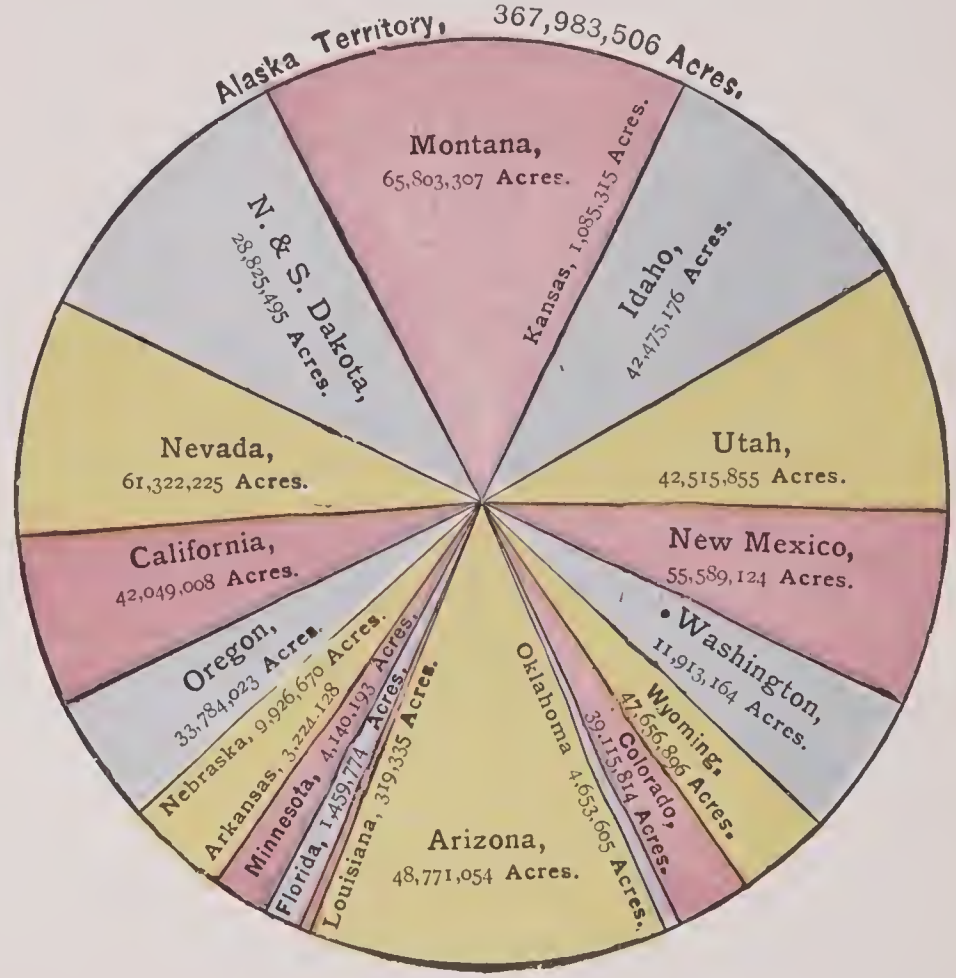
ARTISAN CLASSES.

TRADES.	NO. EMPLOYED.	AVERAGE YEARLY WAGES.	TOTAL YEARLY WAGES.
Hosiery and Knit Goods	86,196	$318	$ 27,483,425
Cotton Goods	307,763	308	94,039,951
Men's Clothing	130,952	426	55,900,000
Woolen Goods	71,621	389	27,900,000
Dyeing and Finishing Textiles	31,094	482	14,993,444
Tobacco	150,539	390	58,800,000
Paper and Wood Pulp	52,581	468	25,247,337
Flouring and Grist Mill	42,863	539	23,108,168
Glass	55,086	532	29,322,124
Boots and Shoes	150,765	443	66,933,632
Lumber and Timber	295,790	391	115,901,199
Leather — Tanned and Curried	54,551	472	25,749,933
Agricultural Implements	56,628	544	30,814,090
Cars and Shop Construction	180,748	565	102,272,576
Carriages and Wagons	66,851	506	33,888,843
Slaughtering and Meat Packing	78,761	553	43,580,260
Iron and Steel	235,705	571	134,739,004
Clay Products	110,818	402	44,565,360
Chemical Products	55,370	509	33,139,636
Women's Clothing	90,454	432	39,159,719
Alcoholic Liquors	52,575	804	42,307,128
Shipbuilding	48,188	557	26,847,700
Malt Liquors	46,685	832	38,872,751
Printing and Publishing:			
Book, Music, and Job	78,608	546	42,976,000
Newspapers and Periodicals	122,183	633	77,348,842
Musical Instruments	25,447	588	14,965,938
Silk and Silk Goods	68,073	354	24,116,546

OUR PUBLIC DOMAIN.

Unoccupied Lands (Surveyed and Unsurveyed) and Where they Lie.

JULY 1, 1903.

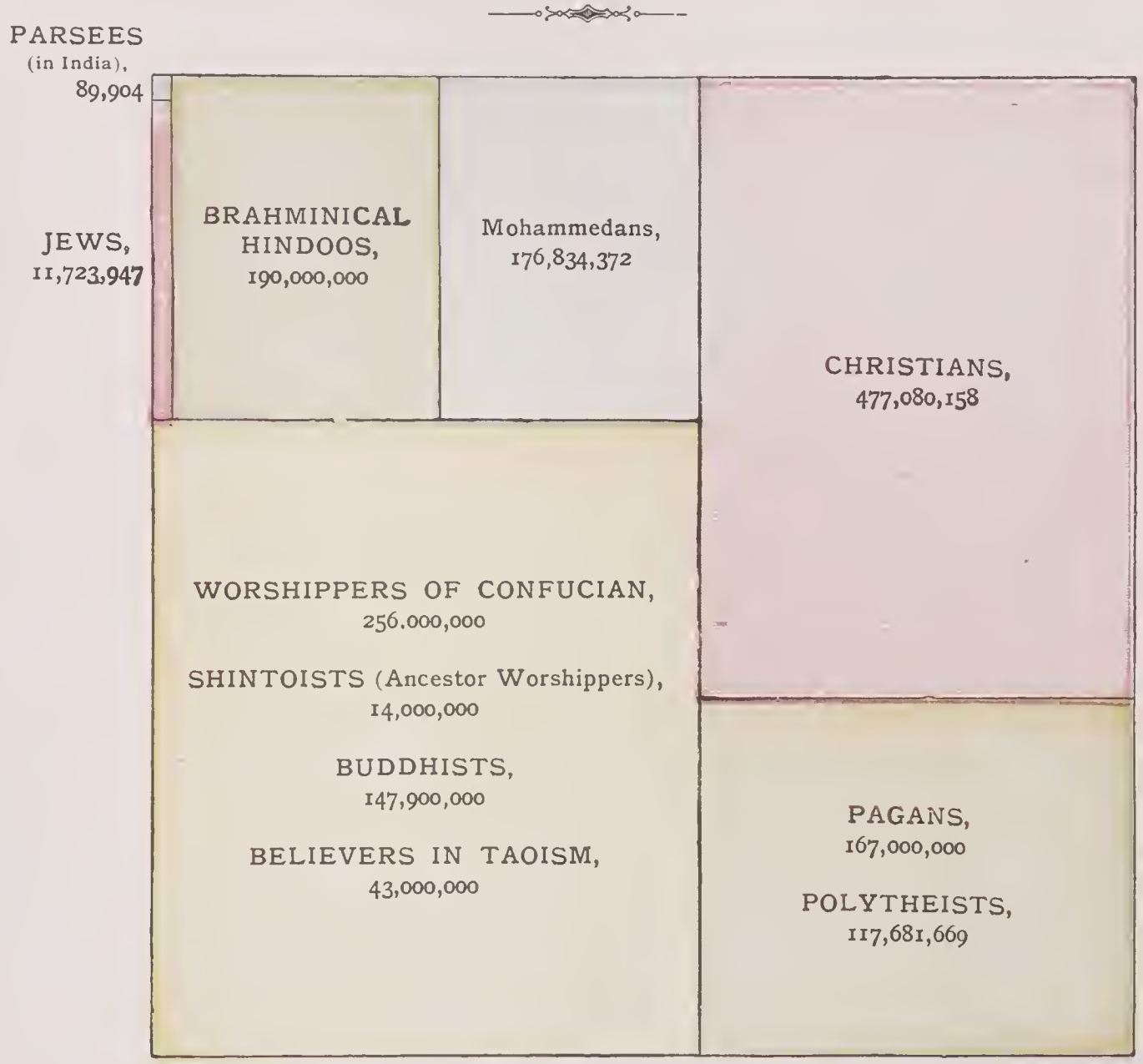


Besides the above, there are in Alabama, Michigan, Mississippi. Missouri, and Wisconsin, 1,483,307 acres; making a total, inclusive of Alaska, of 914,096,974 acres. The Cherokee Strip is embraced under Oklahoma. The aggregate includes 356,659 acres of mineral land in Nevada. In Ohio, Indiana, Illinois, and Iowa, if any public land remains, it consists of a few small isolated tracts.

(096)

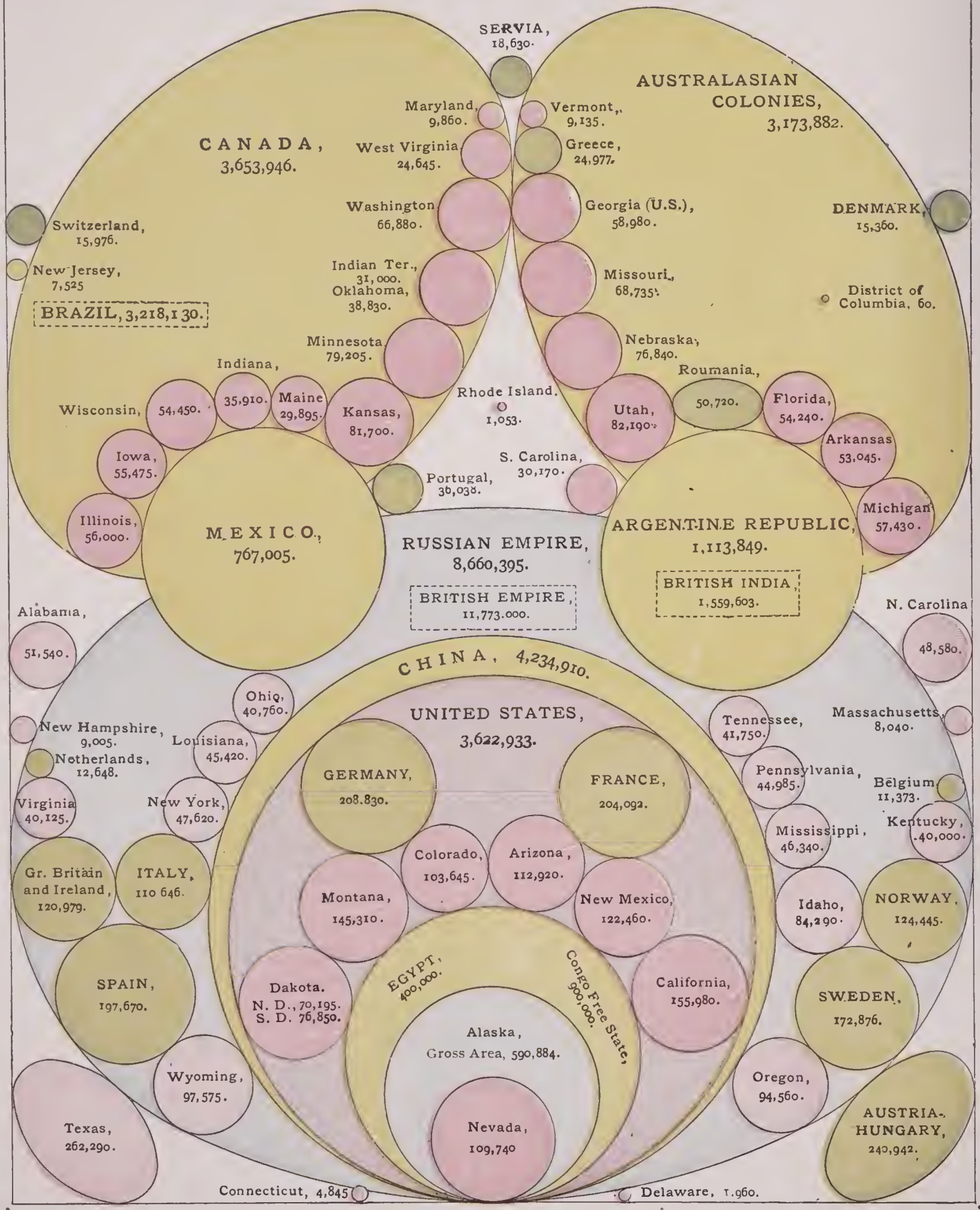
THE RELIGIONS OF THE WORLD.

(FROM THE VERY LATEST ESTIMATES.)



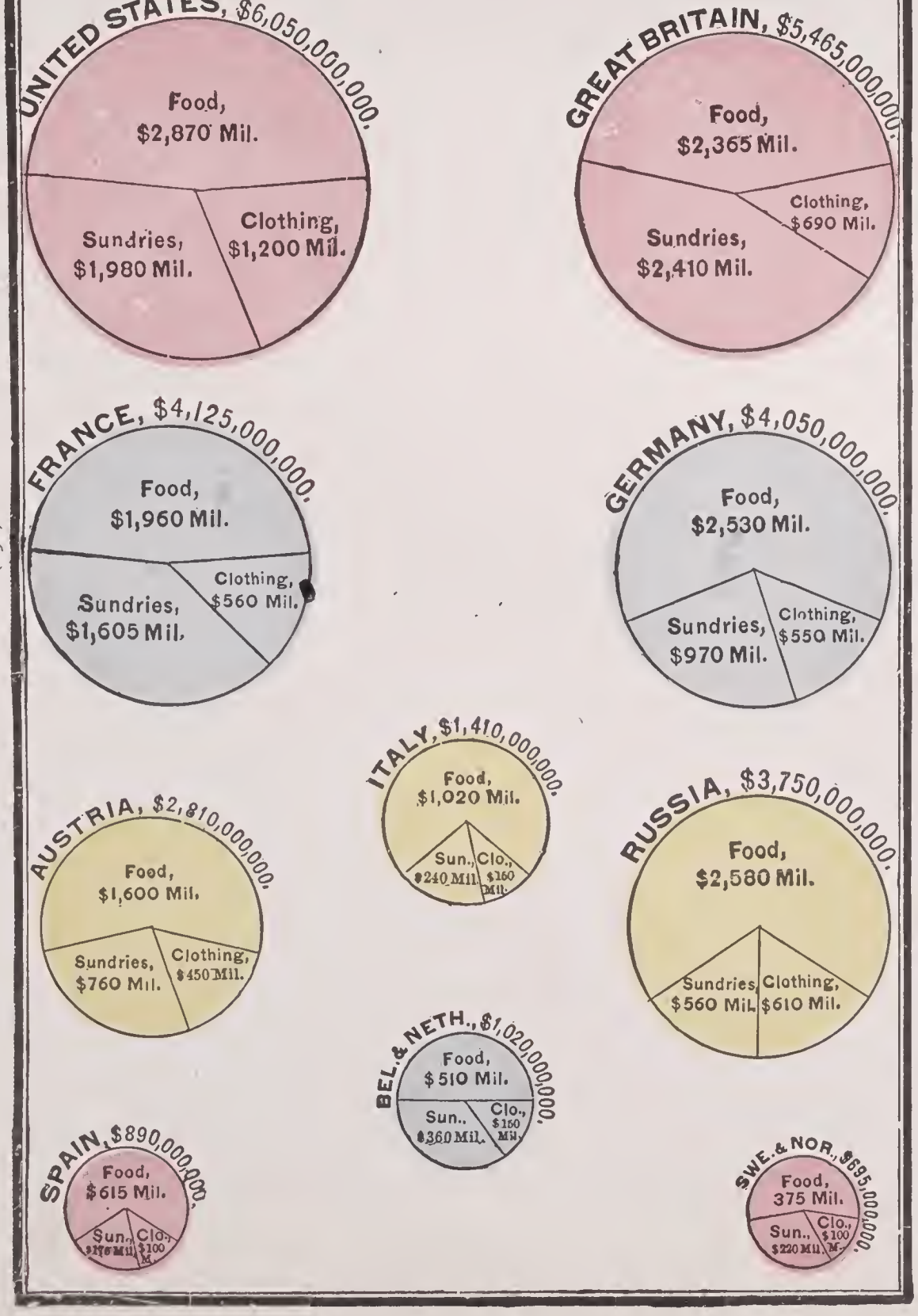
COMPARATIVE AREA IN SQUARE MILES OF THE STATES AND FOREIGN COUNTRIES.

The area of the several States of the Union is the total land surface.



Cost of Living in Various Countries.

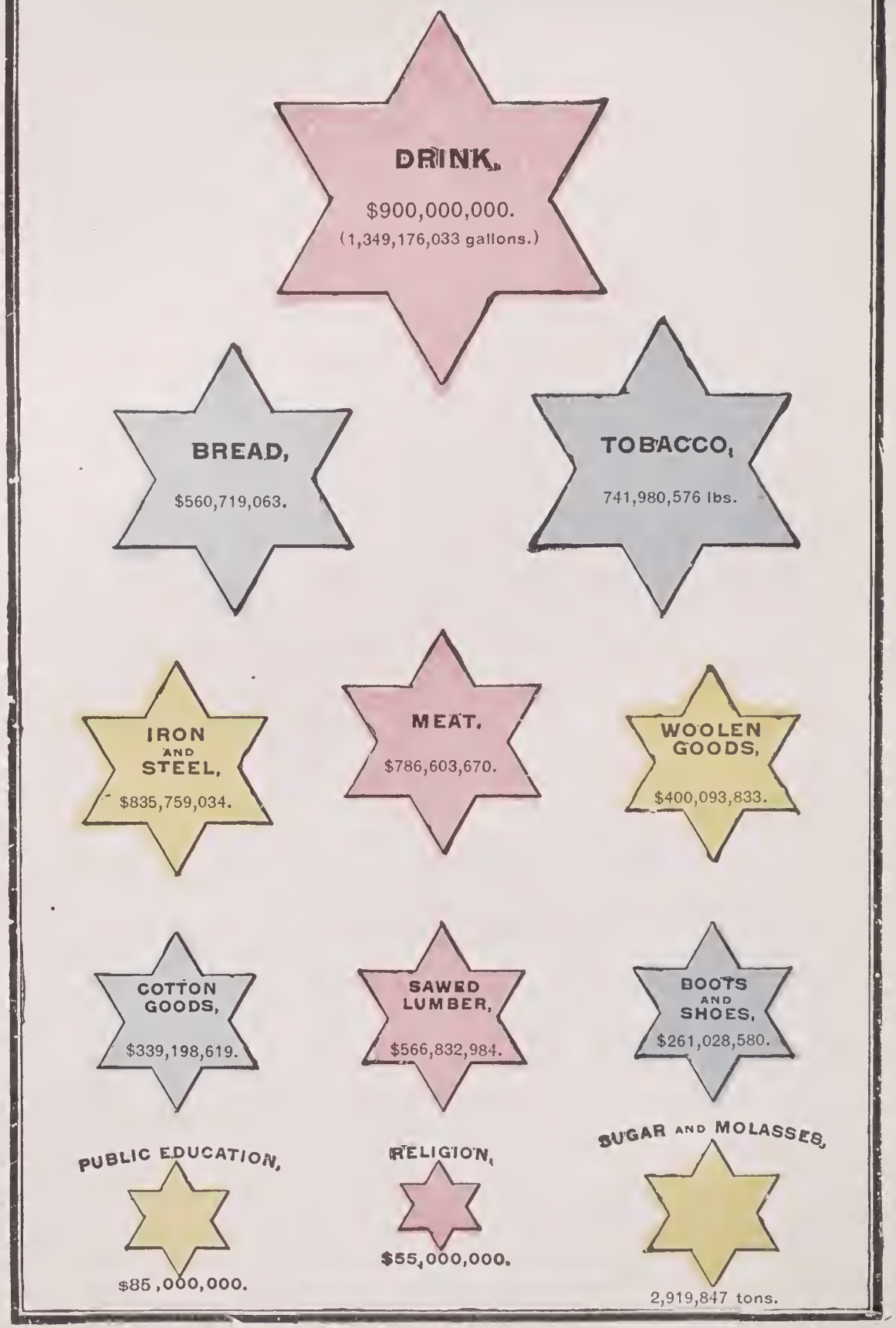
Annual Expenditure per Individual.



(963)

What We Spend Our Money For.

Consumption of the Necessaries of Life, compared with the Cost of Liquor and Tobacco in 1900.



(964)

COST OF GOVERNMENT

AS SHOWN BY

The Taxation of various Nations.

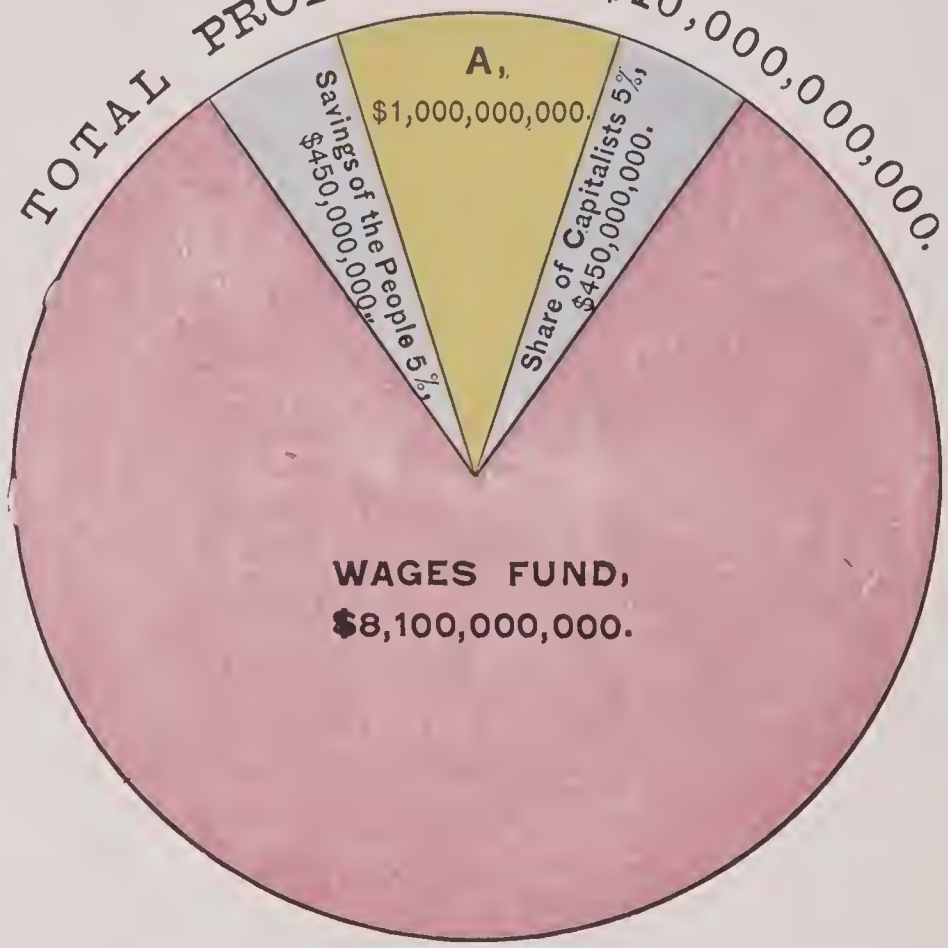
NATIONS.	Per Inhabitant.	Total Amount in Thousands.
Denmark	10.25	20,150
Portugal	9.75	41,100
Sw. and Nor.	7.50	52,400
Holland	13.00	52,500
Belgium	12.50	68,250
Spain	12.25	203,500
Austria	10.00	368,500
Italy	13.00	371,500
Russia	5.00	424,500
Germany	11.50	517,950
Great Britain	17.75	618,865
France	19.25	726,225
United States	10.00	630,000

The full colors represent Local Taxes.
The light colors represent National Taxes.

TOTAL ANNUAL PRODUCTION.

Share of Capital, Savings of the People, and Entire Annual Wage Fund.

"A"—Domestic consumption on farms and domestic product of families, which is not exchanged or does not come into the commercial product, $1,000,000,000.



In the above Tabulation the "Wages Fund" is calculated from official statistics, and may be divided as follows:

FIRST.

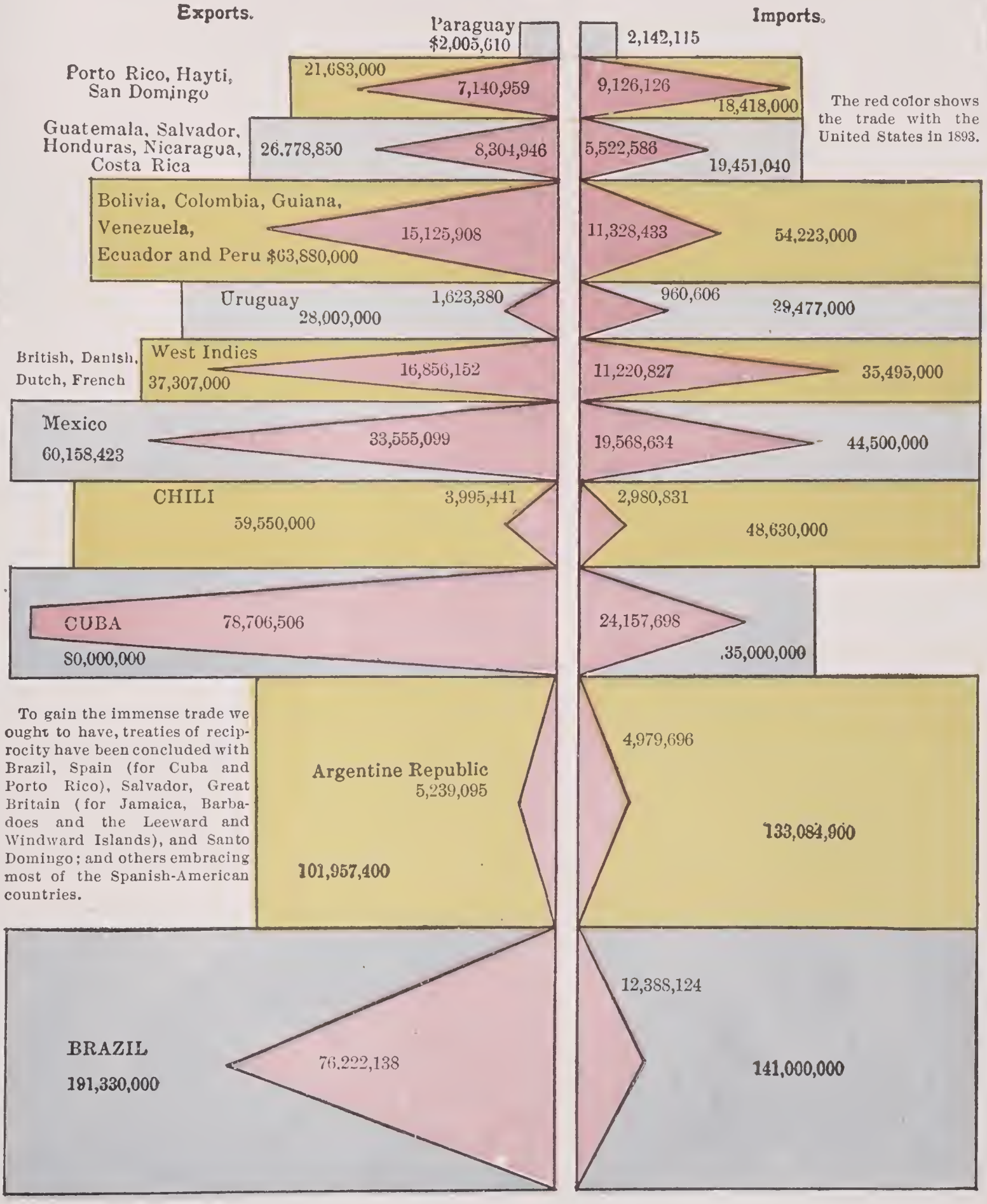
Share of 1,100,000 persons assumed to be engaged in mental and administrative work		$1,100,000,000
This class may be further subdivided: 200,000 teachers in lower grade schools, scientists, authors, artists, young lawyers, clergymen and others in similar employments, at an average of $550	$ 110,000,000	
900,000 merchants, tradesmen, officials, superintendents, etc., at an average of $1,100	990,000,000	
Total, as above	$1,100,000,000	

SECOND.

Share of 16,200,000 farmers, laborers, mechanics, artisans, operators, clerks, dressmakers and other wage-workers, at an average of $432	7,000,000,000
Grand Total, as shown in diagram	$8,100,000 000

UNITED STATES COMMERCE WITH LATIN AMERICA.

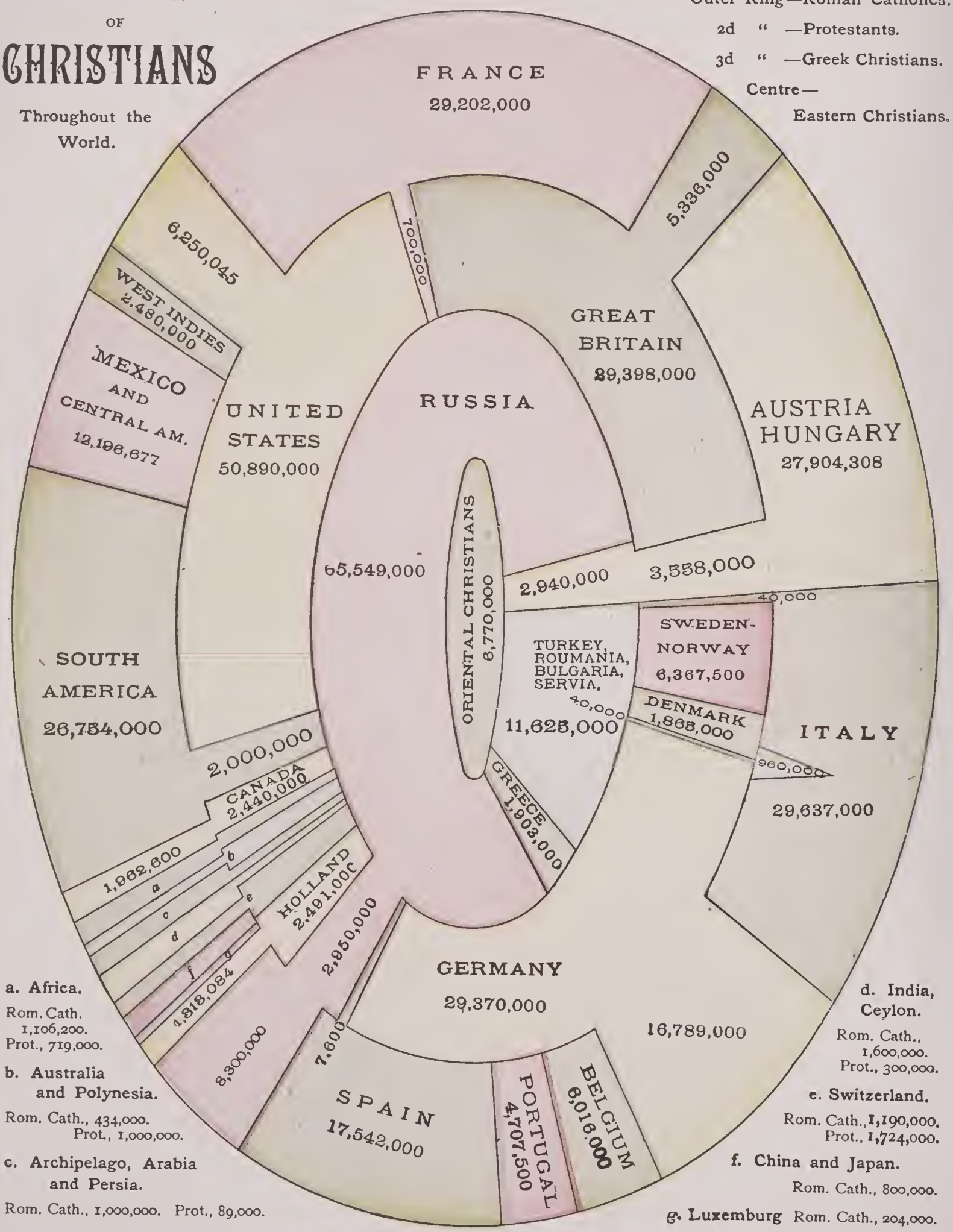
Value of One Year's Trade in Dollars.



DISTRIBUTION OF CHRISTIANS

Throughout the World.

Outer Ring—Roman Catholics.
2d " —Protestants.
3d " —Greek Christians.
Centre—
Eastern Christians.



a. Africa.
Rom. Cath. 1,106,200.
Prot., 719,000.

b. Australia and Polynesia.
Rom. Cath., 434,000.
Prot., 1,000,000.

c. Archipelago, Arabia and Persia.
Rom. Cath., 1,000,000. Prot., 89,000.

d. India, Ceylon.
Rom. Cath., 1,600,000.
Prot., 300,000.

e. Switzerland.
Rom. Cath., 1,190,000.
Prot., 1,724,000.

f. China and Japan.
Rom. Cath., 800,000.

g. Luxemburg Rom. Cath., 204,000.

THE DEPARTMENTS AT WASHINGTON.

THE EXECUTIVE DEPARTMENT.

AS PROVIDED by the Constitution, the Government of the United States performs its allotted work through three distinct channels, the Executive, the Legislative and the Judiciary.

The President, whose oath of office, duties and powers are described in the Constitution, holds office for four years. He must be thirty-five years of age, a native of the United States and a resident of the United States for fourteen years. His inauguration takes place on the fourth of March next succeeding his election; his salary is $50,000 a year, payable monthly, and he has the use of the furniture and the other effects in the "White House," a Government building in Washington, where he resides. The President's official household, selected by himself, consists of:

	SALARY.		SALARY.		SALARY.
1 secretary,	$5,000	1 clerk,	$1,400	1 usher,	$1,400
1 ass't secret'y,	3,000	1 clerk,	1,200	9 doorkeepers, e.	1,200
2 clerks, each,	2,000	1 stenographer,	1,800	1 watchman,	900
1 clerk,	1,800	1 steward,	1,800	1 fireman,	864

The patronage of the President is enormous. The appointments to every branch of public service, made by him, give him a power that would be appalling but that it is balanced by the safeguard of the consent of the Senate.

The office of President is one which has been called by European writers the highest to which humanity can aspire. The chief magistracy of the American Republic is a prize for which every eminent American statesman has struggled, and it is singular in looking back over the history of the country to note how many men peculiarly fitted by their great talents and great prominence for the Presidency have been beaten by unknown men. Two of the greatest Senators in the history of the Union were Daniel Webster and Henry Clay, neither of whom succeeded in winning the crowning honor of a political career. On the other hand, the number of comparatively unknown men who have been chosen by their parties and elected by the people, is very large.

The original intention of the Fathers of the Republic is one that the politicians of the country have departed from widely. The electoral system did not contemplate nominations and party organization; it intended that the electors, men chosen by the people of each State as safe men for this important office, should cast about for the most fit man in the Republic for the honor of the Presidency. For this man they were to vote. But under the manner in which the system is worked the electors furnish a clumsy method, often a faulty one, for expressing the direct popular will. No elector would dare to use his own judgment; he is simply chosen on a pledge to vote for a certain candidate chosen for him. In this way the people choose directly the President, and yet, owing to the fact that the electors are never in number in exact proportion to the population, it frequently happens that, while one candidate has a majority of the popular vote, the other has a majority of the electors and becomes President.

THE CAPITOL AT WASHINGTON.

The Presidential residence at Washington is a very handsome pile. It is called the White House from its color. It has been the centre of the fashion and grace of the republican court. There are regular reception days set, when any one who wishes may call upon the President. Upon private reception days admittance is only secured by card. Upon these occasions, the gay court costumes of the foreign legations, the military uniforms and the splendid dresses of the ladies form a scene not soon to be forgotten.

The grounds about the White House, taking in as they do the conservatories and nurseries of the Agricultural Department, are very pretty and well kept. The Presidential residence is furnished by the Government for the President.

The City Government of Washington.

When the District of Columbia was set off from Maryland and Virginia, and put in possession of the Government, it was decided that the whole territory should be in the hands of the Federal Union alone, so that it would be altogether independent of State influence. As the city of Washington grew up around the Capitol provision had to be made for its municipal government, which was obliged to be peculiar under the circumstances. The President appoints three Commissioners of the District of Columbia, in whose hands lie all of the functions usually performed by mayors and boards of aldermen. The residents of Washington have no votes as there are no elections. All of the city officers are appointed, and the whole machinery of local government is directly in the hands of the President and Congress.

THE CABINETS OF THE PRESIDENTS

FROM THE FOUNDING OF THE GOVERNMENT TO THE PRESENT TIME.

George Washington—First Cabinet.

Secretary of State.—Thomas Jefferson, of Va.
Secretary of the Treasury.—Alexander Hamilton, of N. Y.
Secretary of War and Navy.—Henry Knox, of Mass.
Attorney-General.—Edmund Randolph, of Va.
These were all noted for their Congressional service with the exception of the distinguished Gen. Knox.
Washington's second Cabinet was a continuation of the first.

John Adams—Third Cabinet.

Secretary of State.—Timothy Pickering, of Mass.
Secretary of the Treasury.—Oliver Wolcott, of Conn.
Secretary of War.—James McHenry, of Md.
Secretary of the Navy.—George Cabot, of Mass.
Attorney-General.—Charles Lee, of Va.

Thomas Jefferson—Fourth Cabinet.

Secretary of State.—James Madison, of Va.
Secretary of the Treasury.—Albert Gallatin, of Tenn.
Secretary of War.—Henry Dearborn, of Mass.
Secretary of the Navy.—Benjamin Stoddard, of Md.
Attorney-General.—Levi Lincoln, of Mass.

Thomas Jefferson—Fifth Cabinet.

In this Cabinet of Mr. Jefferson's second term three members were continued, and before his term was ended he had further availed himself of the services of John Breckinridge, of Ky., and Cæsar Rodney, of Del.

James Madison—Sixth Cabinet.

Secretary of State.—Robert Smith, of Md., followed by James Monroe, of Va.
Secretary of the Treasury.—Albert Gallatin.
Secretary of War.—William Eustis, of Mass.; John Armstrong, of N. Y.
Secretary of the Navy.—Paul Hamilton, of S. C.; William Jones, of Pa.
Attorney-General.—C. A. Rodney, of Del.; William Pinckney, of Md.

James Madison—Seventh Cabinet.

In this Cabinet Monroe, Gallatin, Armstrong, Jones, and Pinckney were continued. Later, George W. Campbell, of Tenn., succeeded Gallatin.

James Monroe—Eighth Cabinet.

Secretary of State.—J. Q. Adams, of Mass.
Secretary of the Treasury.—William H Crawford, of Ga.
Secretary of War.—John C. Calhoun, of S. C.
Secretary of the Navy.—B. W. Crowningshield, of Mass.
Attorney-General.—William Wirt, of Va.

James Monroe—Ninth Cabinet.

At the close of this Administration this Cabinet stood as above, except that Samuel L. Southard, a Senator from N. J., was appointed Secretary of the Navy.

John Q. Adams—Tenth Cabinet.

Secretary of State.—Henry Clay.
Secretary of the Treasury.—Richard Rush.
Secretary of War.—James Barbour, of Va.; P. B. Porter, of N. Y.
Secretary of the Navy.—S. L. Southard, of N. J.
Attorney-General.—William Wirt, of Va.

Andrew Jackson—Eleventh Cabinet.

Secretary of State.—Martin Van Buren, of N. Y.; Edward Livingston, of La.
Secretary of the Treasury.—S. D. Ingham, of Pa.; Lewis McLean, of Del.
Secretary of War.—John H. Eaton, of Tenn.; Lewis Cass, of Mich.
Secretary of the Navy.—John Branch, of N. C.; Levi Woodbury, of N. H.
Postmaster-General.—William T. Barry, of Ky.
Attorney-General.—J. M. Berrien, of Ga.; R. B. Taney, of Md.

Andrew Jackson—Twelfth Cabinet.

In this Cabinet Livingston, McLean, Woodbury, and Barry were continued, and during the term Mahlon Dickerson, of N. J., was made Secretary of the Navy.

Martin Van Buren—Thirteenth Cabinet.

Secretary of State.—John Forsythe, of Ga.
Secretary of the Treasury.—Levi Woodbury, of N. H.
Secretary of War.—J. R. Poinsett, of S. C.
Secretary of the Navy.—Mahlon Dickerson, of N. J.
Postmaster-General.—Amos Kendall, John M. Niles, of Conn.
Attorney-General.—B. F. Butler, of N. Y.; Felix Grundy, of Tenn.; H. D. Gilpin, of Pa.

W. H. Harrison—Fourteenth Cabinet.

Secretary of State.—Daniel Webster, of Mass.
Secretary of the Treasury.—Thomas Ewing, of O.
Secretary of War.—John Bell, of Tenn.
Secretary of the Navy.—George Badger, of N. C.
Postmaster-General.—Francis Granger, of N. Y.
Attorney-General.—John J. Crittenden.

John Tyler—Fifteenth Cabinet.

At first Mr. Tyler continued all the Cabinet as appointed by Mr. Harrison. His own reorganization was as follows:
Secretary of State.—H. S. Legare, of S. C.; A. P. Upshur, of Va.; John C. Calhoun, of S. C.
Secretary of the Treasury.—Walter Forward, of Pa.; George M. Bibb., of Ky.
Secretary of War.—J. C. Spencer, of N. Y.; William Wilkins, of Pa.
Secretary of the Navy.—David Henshaw, of Mass.; Thomas W. Gilmer, of Va.; John Y. Mason, of Va.
Postmaster-General.—C. A. Wickliffe, of Ky.
Attorney-General.—John Nelson, of Md.

James K. Polk—Sixteenth Cabinet.

Secretary of State.—James Buchanan, of Pa.
Secretary of the Treasury.—R. J. Walker, of Miss.
Secretary of War.—W. L. Marcy, of N. Y.
Secretary of the Navy.—George Bancroft, of Mass.; John Y. Mason, of Va.
Postmaster-General.—Cave Johnson, of Tenn.
Attorney-General.—John Y. Mason, of Va.; Nathan Clifford, of Me.; Isaac Toucey, of Conn.

Zachary Taylor—Seventeenth Cabinet.

Secretary of State.—John M. Clayton, of Del.
Secretary of the Treasury.—William M. Meredith, of Pa.
Secretary of War.—George W. Crawford, of Ga.
Secretary of the Navy.—William B. Preston, of Va.
Secretary of the Interior.—Thomas Ewing, of O.
Postmaster-General.—Jacob Collamar, of Vt.
Attorney-General.—Reverdy Johnson, of Md.

Millard Fillmore—Eighteenth Cabinet.

The Cabinet of Mr. Taylor was continued by Mr. Fillmore until he reorganized it as follows:

Secretary of State.—Daniel Webster, of Mass.; Edward Everett, of Mass.

Secretary of the Treasury.—Thomas Corwin, of O.

Secretary of War.—Charles M. Conrad, of La.

Secretary of the Navy.—William A. Graham, of N. C.; John P. Kennedy, of Md.

Secretary of the Interior.—A. H. H. Stuart, of Va.

Postmaster-General.—Nathan K. Hall, of N. Y.; S. D. Hubbard, of Conn.

Attorney-General.—John J. Crittenden, of Ky.

Franklin Pierce—Nineteenth Cabinet.

Secretary of State.—William L. Marcy, of N. Y.

Secretary of the Treasury.—James Guthrie, of Ky.

Secretary of War.—Jefferson Davis, of Miss.

Secretary of the Navy.—J. C. Dobbin, of N. C.

Secretary of the Interior.—Robert McClelland, of Mich.

Postmaster-General.—James Campbell, of Pa.

Attorney-General.—Caleb Cushing, of Mass.

James Buchanan—Twentieth Cabinet.

Secretary of State.—Lewis Cass, of Mich.; J. S. Black, of Pa.

Secretary of the Treasury.—Howell Cobb, of Ga.; B. F. Thomas, of Md.; John A. Dix, of N. Y.

Secretary of War.—J. B. Floyd, of Va.; Joseph Holt, of Ky.

Secretary of the Navy.—Isaac Toucey, of Conn

Secretary of the Interior.—Jacob Thompson, of Miss.

Postmaster-General.—A. V. Brown, of Tenn.; Joseph Holt, of Ky.; Horatio King, of Me.

Attorney-General.—J. S. Black, of Pa.; E. M. Stanton, of O.

Abraham Lincoln—Twenty-first Cabinet.

Secretary of State.—William H. Seward, of N. Y.

Secretary of the Treasury.—S. P. Chase, of O.; W. P. Fessenden, of Me.

Secretary of War.—Simon Cameron, of Pa.; E. M. Stanton, of Pa.

Secretary of the Navy.—Gideon Welles, of Conn.

Secretary of the Interior.—Caleb B. Smith, of Ind.; John P. Usher, of Ind.

Postmaster-General.—Montgomery Blair, of Md.; William Dennison, of O.

Attorney-General.—Edward Bates, of Mo.; James Speed, of Ky.

Abraham Lincoln—Twenty-second Cabinet.

This Cabinet, at the beginning of Mr. Lincoln's second term, remained as above, except that Hugh McCulloch, of Ind., became Secretary of the Treasury.

Andrew Johnson—Twenty-third Cabinet.

Mr. Lincoln's second Cabinet was continued by Mr. Johnson until reorganized by the appointment of Gen. Schofield as Secretary of War; James Harlan, of Ia., and after him Orville H. Browning, of Ill., Secretaries of the Interior; Alexander W. Randall, Postmaster-General, and Henry Stanberry, of Ky., and after him William M. Evarts, of N. Y., Attorneys-General.

U. S. Grant—Twenty-fourth Cabinet.

Secretary of State.—E. B. Washburne, of Ill.; Hamilton Fish, of N. Y.

Secretary of the Treasury.—George S. Boutwell, of Mass.

Secretary of War.—John A. Rawlins, of Ill.; W. W. Belknap, of Ia.

Secretary of the Navy.—A. E. Borie, of Pa.; George M. Robeson, of N. J.

Secretary of the Interior.—J. D. Cox, of O.; Columbus Delano, of O.

Postmaster-General.—J. A. J. Creswell, of Md.

Attorney-General.—E. R. Hoar, of Mass.; A. T. Ackerman, of Ga.; G. H. Williams, of Ore.

U. S. Grant—Twenty-fifth Cabinet.

Secretary of State.—Hamilton Fish, of N. Y.

Secretary of the Treasury.—William A. Richardson, of Mass.; B. H. Bristow, of Ky.

Secretary of War.—W. W. Belknap, of Ia.; Alphonso Taft, of O.; J. D. Cameron, of Pa.

Secretary of the Navy.—G. M. Robeson, of N. J.

Secretary of the Interior.—Columbus Delano, of O.; Zachariah Chandler, of Mich.

Postmaster-General.—J. A. J. Creswell, of Md.; J. W. Marshall, of Va.; M. Jewell, of Conn.; J. W. Tyner, of Ind.

Attorney-General.—G. H. Williams, of Ore.; Edwards Pierrepont, of N. Y.; Alphonso Taft, of O.

R. B. Hayes—Twenty-sixth Cabinet.

Secretary of State.—William M. Evarts, of N. Y.

Secretary of the Treasury.—John Sherman, of O.

Secretary of War.—George W. McCrary, of Ia.

Secretary of the Navy.—Richard W. Thompson, of Ind.; Nathan Goff, of W. Va.

Secretary of the Interior.—Carl Schurz, of Mo.

Postmaster-General.—D. M. Key, of Tenn.

Attorney-General.—Charles Devens, of Mass.

James A. Garfield—Twenty-seventh Cabinet.

Secretary of State.—James G. Blaine, of Me.

Secretary of the Treasury.—William Windom, of Minn.

Secretary of War.—Robert T. Lincoln, of Ill.

Secretary of the Navy.—William H. Hunt, of La.

Secretary of the Interior.—S. J. Kirkwood, of Ia.

Postmaster-General.—Thomas L. James, of N. Y.

Attorney-General.—Wayne MacVeagh, of Pa.

Chester A. Arthur—Twenty-eighth Cabinet.

Secretary of State.—F. T. Frelinghuysen, of N. J.

Secretary of the Treasury.—Charles J. Folger, of N. Y.; Walter Q. Gresham, of Ind.; Hugh McCulloch, of N. Y.

Secretary of War.—Robert T. Lincoln, of Ill.

Secretary of the Navy.—William E. Chandler, of N. H.

Secretary of the Interior.—H. M. Teller, of Colo.

Postmaster-General.—Timothy O. Howe, of Wis.; Walter Q. Gresham, of Ind.; Frank Hatton, of Ia.

Attorney-General.—Benjamin H. Brewster, of Pa.

Grover Cleveland—Twenty-ninth Cabinet.

Secretary of State.—Thomas F. Bayard, of Del.

Secretary of the Treasury.—Daniel Manning, of N. Y.; Charles S. Fairchild, of N. Y.

Secretary of War.—William C. Endicott, of Mass.

Secretary of the Navy.—William C. Whitney, of N. Y.

Secretary of the Interior.—Lucius Q. C. Lamar, of Miss.

Postmaster-General.—William F. Vilas, of Wis.

Attorney-General.—Augustus H. Garland, of Ark.

Secretary of Agriculture.—Norman J. Coleman, of Mo.

Benjamin Harrison—Thirtieth Cabinet.

Secretary of State.—James G. Blaine, of Me.; J. W. Foster, of Ind.

Secretary of the Treasury.—William Windom, of Minn.; Charles Foster, of O.

Secretary of War.—Redfield Proctor, of Vt.; Stephen B. Elkins, of W. Va.

Secretary of the Navy.—Benjamin F. Tracy, of N. Y.

Secretary of the Interior.—John W. Noble, of Mo.

Postmaster-General.—John Wanamaker, of Pa.

Attorney-General.—William H. H. Miller, of Ind.

Secretary of Agriculture.—Jeremiah Rusk, of Wis.

Grover Cleveland—Thirty-first Cabinet.

Secretary of State.—Walter Q. Gresham, of Ill.; Richard Olney, of Mass.

Secretary of the Treasury.—John G. Carlisle, of Ky.

Secretary of War.—Daniel S. Lamont, of N. Y.

Secretary of the Navy.—Hilary A. Herbert, of Ala.

Secretary of the Interior.—Hoke Smith, of Ga.

Postmaster-General.—W. S. Bissell, of N. Y.; W. L. Wilson, of W. Va.

Attorney-General.—R. Olney, of Mass.; Judson Harmon, of O.

Secretary of Agriculture.—J. Sterling Morton, of Neb.

William McKinley—Thirty-second Cabinet.

Secretary of State.—John Sherman, of O.; William R. Day, of O.; John Hay, of O.

Secretary of the Treasury.—Lyman J. Gage, of Ill.

Secretary of War.—Russell A. Alger, of Mich.; Elihu Root, of N. Y.

Secretary of the Navy.—John D. Long, of Mass.

Secretary of the Interior.—Cornelius N. Bliss, of N. Y.; Ethan A. Hitchcock, of Mo.

Postmaster-General.—James A. Gary, of Md.; Charles Emory Smith, of Pa.

Attorney-General.—Joseph McKenna, of Cal.; John W. Griggs, of N. J.; P. C. Knox, of Pa.

Secretary of Agriculture.—James Wilson, of Ia.

Theodore Roosevelt—Thirty-third Cabinet.

Secretary of State.—John Hay, of Ohio.

Secretary of the Treasury.—Lyman J. Gage, of Ill.; Leslie M. Shaw, of Iowa.

Secretary of War.—Elihu Root, of N. Y.; William H. Taft, of O.

Secretary of the Navy.—John D. Long, of Mass.; Wm. H. Moody, of Mass.

Secretary of the Interior.—Ethan A. Hitchcock, of Mo.

Postmaster-General.—Henry C. Payne, of Wis.

Attorney-General.—Philander C. Knox, of Pa.

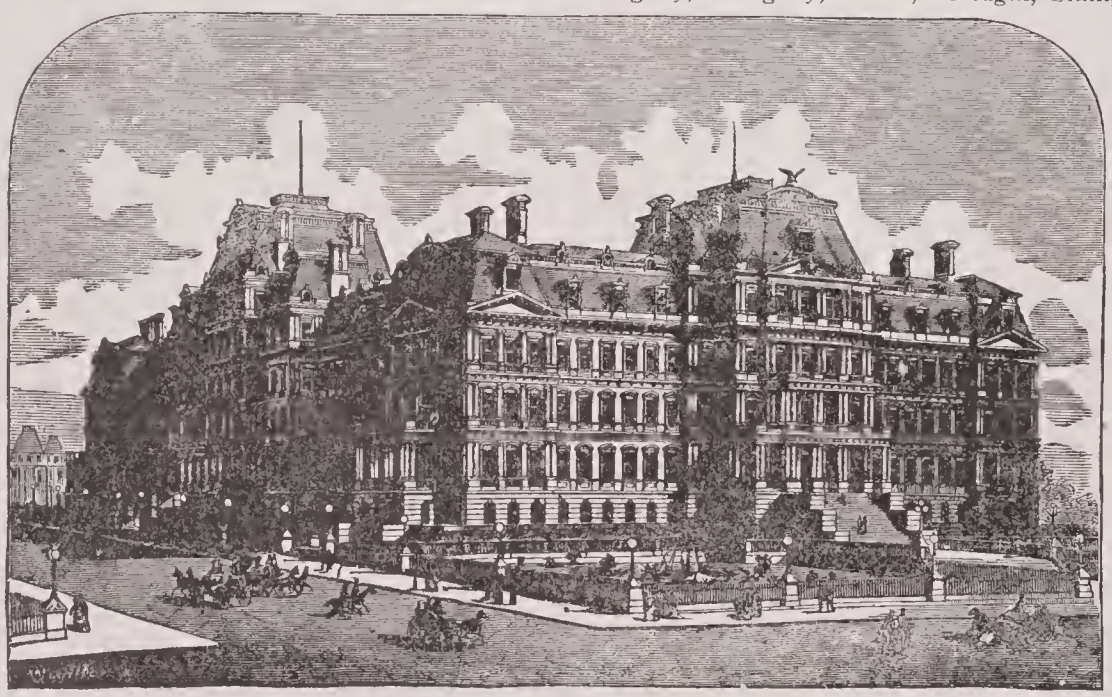
Secretary of Agriculture.—James Wilson, of Iowa.

Secretary of Commerce and Labor.—George B. Cortelyou, of N. Y.

DEPARTMENT OF STATE.

THE duties of the Secretary of this Department are prescribed by law and relate chiefly to correspondence with public Ministers or Consuls from the United States, to negotiations with public Ministers of foreign States and to memorials or other applications from foreigners. Through his hands all the business of the Government with other Powers passes. Any bill passed by Congress and signed by the President, or that becomes a law in any other lawful manner, is received by the Secretary and made public by him.

It is his duty to report annually to Congress all the information that should naturally come through his office. Any new amendment to the Constitution, any act of Congress that becomes a law, any foreign treaty, postal convention or Congressional joint resolution is sent to the Public Printer by the Secretary of State for legal publication; he must also publish in some newspaper the commercial information he may deem of public importance. Passports when rendered are free of charge. Copies of records in this Department when applied for are furnished by the Clerk at a cost to applicant of ten cents for every hundred words.



DEPARTMENTS OF STATE, ARMY AND NAVY.

The salaries paid in the Department of State are:

Secretary, - -	$8,000	4 clerks, each -	$1,600
3 ass't secretaries, each	4,500	2 clerks, each - -	1,400
1 chief clerk, -	3,000	10 clerks, each -	1,200
1 translator, - -	2,100	2 clerks, each - -	1,000
6 chiefs of Bureaus, each	2,100	10 clerks, each -	900
11 clerks, each - -	1,800	1 engineer, - -	1,200
		1 assistant engineer, -	$1,000

With watchmen, firemen, laborers, etc., the total amount is about $100,000 a year.

The Examiner of Claims, an officer appointed by the Attorney-General, has charge of the legal business of the Department of State. There are a number of Bureaus in the Department, the most important, the Consular, has lately been transferred to the new Department of Commerce and Labor.

The Diplomatic Service.

The diplomatic service of the United States consists of Ambassadors Extraordinary and Plenipotentiary, Envoys Extraordinary and Ministers Plenipotentiary, Ministers Resident and Consuls-General, Consuls-General, Consuls, Vice-Consuls, Deputy Consuls, Commercial Agents, and Consular Agents.

The highest class of Ministers are those sent to France, Germany, Russia, Great Britain, and Mexico; they are paid $17,500 a year. The second class are paid $12,000 a year and are sent to Austria-Hungary, Brazil, China, Italy, Japan, Spain, and Cuba. The third class ($10,000 per year) go to Chile, Peru, Argentine Republic, Colombia, The Netherlands, Turkey, Venezuela, and the Central American states. The fourth class ($7,500) go to Bolivia, Denmark, Ecuador, Hayti, Korea, Uruguay, Paraguay, Persia, Portugal, Siam, Sweden and Norway, Switzerland. The Envoys Extraordinary and Ministers Plenipotentiary sent to Greece, Bulgaria, Servia, and Roumania, receive respectively $6,500.

There are about 750 consular representatives of the United States of the several grades abroad, their salaries ranging from $5,000 to $1,000. Those receiving $5,000 are at Rio de Janeiro, Brazil; Shanghai and Hong Kong, China; Havana, Cuba; Paris, France; Calcutta, India; London and Liverpool, England. The Consul at Melbourne receives $4,500; those at Canton, Berlin, Ottawa, Montreal, Yokohama, Mexico City, and Monravia (Liberia) receive a salary of $4,000.

All Consuls receiving a fixed salary pay into the Treasury all fees received by virtue of their office; but there are many Consuls and Agents whose only compensation comes from fees. Such officers are usually allowed to go into business.

Secretaries of State.

Thomas Jefferson, Va.	1789	Edward Everett, Mass.	1852
Edmund Randolph, Va.	1794	William L. Marcy, N. Y.	1854
Timothy Pickering, Mass.	1795	Lewis Cass, Mich.	1857
John Marshall, Va.	1800	Jeremiah S. Black, Pa.	1860
James Madison, Va.	1801	William H. Seward, N. Y.	1861
Robert Smith, Md.	1809	Elihu B. Washburn, Ill.	1869
James Monroe, Va.	1811	Hamilton Fish, N. Y.	1869
John Q. Adams, Mass.	1817	William M. Evarts, N. Y.	1877
Henry Clay, Ky.	1825	James G. Blaine, Maine.	1881
Martin Van Buren, N. Y.	1829	F. T. Frelinghuysen, N. Y.	1881
Edward Livingston, La.	1831	Thomas F. Bayard, Del.	1885
Louis McLane, Del.	1833	James G. Blaine, Maine.	1889
John Forsyth, Ga.	1834	John W. Foster, Ind.	1892
Daniel Webster, Mass.	1841	Walter Q. Gresham, Ill.	1893
Hugh S. Legaré, S. C.	1841	Richard Olney, Mass.	1895
Abel P. Upshur, Va.	1843	John Sherman, Ohio.	1897
John C. Calhoun, S. C.	1844	Wm. R. Day, Ohio.	1897
James Buchanan, Pa.	1845	John Hay, Ohio.	1898
John M. Clayton, Del.	1849	John Hay, Ohio.	1901
Daniel Webster, Mass.	1850		

THE TREASURY DEPARTMENT.

ALL of the moneys of the United States, all matters relating to the collection and payment of the accounts of the Government, and, in a word, all of the duties appertaining to the finances of the nation, fall naturally to the Secretary of the Treasury. He is assisted by a numerous corps, the Treasury Department requiring naturally more clerical detail than any other in the Government. There are three Assistant Secretaries, having charge of appointments, public money, revenue marine, loans and currency, engraving and printing, the mints, and the signature of documents; they also attend to customs, special agents, internal revenue and navigation, and the general supervision of accounts.

There are two Comptrollers. The first countersigns warrants, attends to the pay of the diplomatic service, and examines requisitions and claims. The second has charge of the accounts of the Army, Soldiers' Homes, Pensions, Marine Corps and Navy Yards, Disbursing Agents, and of the Financial Agency of the Government at London.

The Commissioner of Customs examines, revises and passes all accounts concerning duties, tonnage, marine hospitals, fines, penalties and forfeitures under the navigation laws, and approves bonds of customs officers.

UNITED STATES TREASURY BUILDING.

The Six Auditors.

There are six Auditors in the Treasury Department, among whom the work is divided as follows:

First Auditor: Customs, Judiciary, Public Debt, Warehouse and Bonded Goods, Miscellaneous Accounts.

Second Auditor: Army Paymaster, Miscellaneous Claims, Indian Affairs, Bounties, Frauds, Book-keeping.

Third Auditor: Book-keeper, Quartermasters, Subsistence and Engineering, State War Claims, Miscellaneous Collections.

Fourth Auditor: Prize Money, Navy Agents, Paymasters.

Fifth Auditor: Diplomatic and Consular division, Internal Revenue.

Sixth Auditor: Post-office accounts.

Other Treasury Officers.

The Treasurer of the United States has custody of all the public money; he pays warrants, issues and redeems Treasury Notes, redeems National bank notes, pays the interest on the public debt, and is custodian of the Indian trust funds.

The Comptroller of the Currency supervises and controls the National banks throughout the country, under the Secretary of the Treasury.

The Solicitor of the Treasury examines all revenue frauds and oversees the legal measures for their prevention and punishment. All of the legal business of the department goes through his hands, and the secret service operations are directed by him. When required he must give his opinion on any legal question. The Solicitor of the Treasury

is really an officer of the Department of Justice, as will be seen on another page.

The Commissioner of Internal Revenue makes assessments and apportions taxes. The bureau is divided into seven departments: 1. Appointments. 2. Laws. 3. Accounts. 4. Tobacco. 5. Distilled Spirits. 6. Stamps. 7. Assessments. Special agents are appointed by the Commissioner to watch the manufacture and handling of whisky.

The Superintendent of the Coast Survey has charge of all the surveys of the ocean and coast and the making of maps, charts, etc.*

The Bureau of Statistics collects and publishes information in regard to trade and commerce, shipping, imports and exports, emigration, etc. Its reports are published quarterly and distributed gratuitously.*

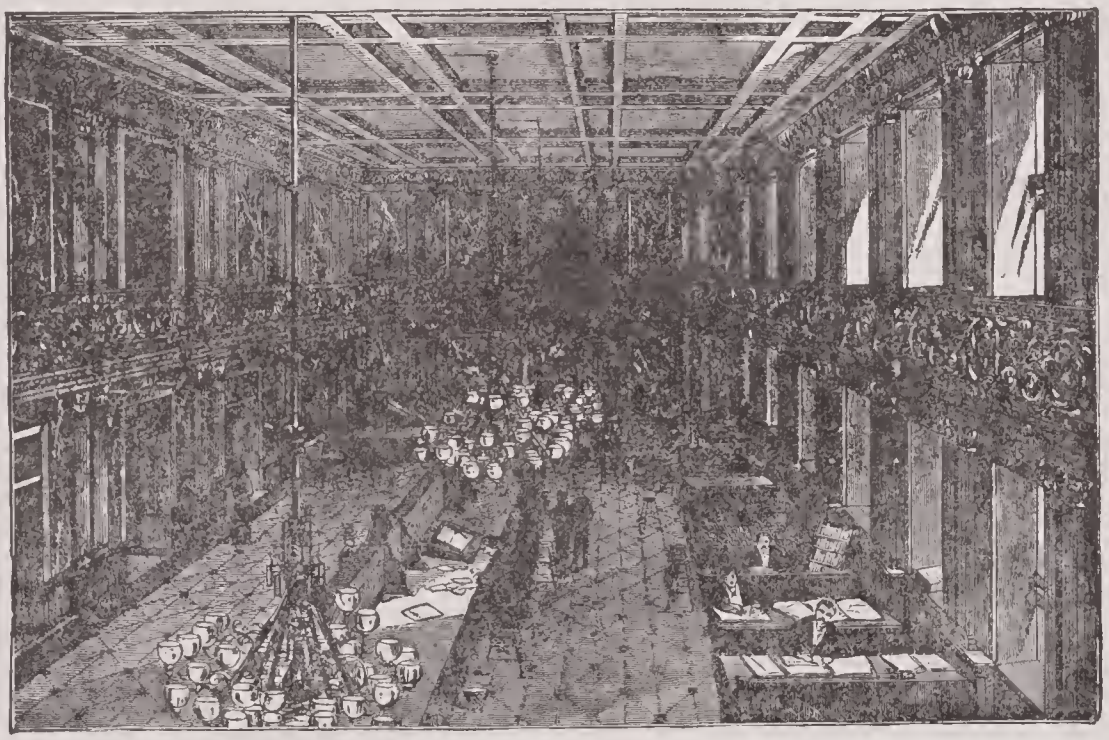
The Mint in Philadelphia is the one to which the Mints at New Orleans, Carson and Denver must send their reports. Each Mint has a superintendent, assayer, teller, refiner, coiner and assistants, and the one at Philadelphia has also an engraver. The Director of the Philadelphia Mint makes an annual report of the minting done in the country.

Quarantine.

The Secretary of the Treasury executes the laws which restrain, stop and govern vessels arriving at United States ports from places afflicted with infectious diseases. The officers of the customs revenue are required to see to the execution of the public health laws of the General Government and of the several States in this regard.

The Light-House Board.

The Light-House Board, which is appointed by the President, is attached to the Treasury Department.* It consists of two officers of the Navy of high rank, two officers of the Corps of Engineers and two citizens of high scientific attainments. This Board has general charge of the light-house service of the United States.



CASH-ROOM IN THE TREASURY BUILDING.

The Life-Saving Service.

The life-saving service is divided into seven ocean districts and three lake districts. The various stations are supplied with such apparatus as may, in the judgment of the Secretary of the Treasury, be best adapted to the purpose of each station, such as life-boats, ropes, mortars for sending ropes on board wrecked vessels, contrivances for getting passengers safely on shore, etc. Each district is in charge of a superintendent, who possesses the powers and performs the duties of an inspector of the customs for each of the coasts on which stations are established. These districts number seven on the Atlantic coast, and three on the great lakes, and each superintendent receives from the Secretary of the Treasury the proper instructions relative to the duties required of him.

Each station is in charge of a keeper, who is instructed in his duties by the Secretary of the Treasury. At some stations experienced surfmen are engaged to assist in aiding wrecked vessels.

*The Bureau of Immigration, the Bureau of Statistics, the Light-house Service, the National Bureau of Standards, the Steamboat Inspection Service, the Bureau of Navigation, the United States Shipping Commissioners, and the Coast and Geodetic Survey have lately been transferred to the new Department of Commerce and Labor.

Secretaries of the Treasury.

Alexander Hamilton, N. Y.	1789	James Guthrie, Ky.	1853
Oliver Wolcott, Conn.	1795	Howell Cobb, Ga.	1857
Samuel Dexter, Mass.	1800	Philip F. Thomas, Md.	1860
Albert Gallatin, Penn.	1802	John A. Dix, N. Y.	1861
George W. Campbell, Tenn.	1814	Salmon P. Chase, Ohio.	1861
Alexander J. Dallas, Penn.	1814	William Pitt Fessenden, Me	1864
William H. Crawford, Ga.	1817	Hugh McCulloch, Ind.	1865
Richard Rush, Penn.	1825	George S. Boutwell.	1870
Samuel D. Ingham, Penn.	1829	William A. Richardson.	1873
Louis McLane, Del.	1831	Benjamin H. Bristow.	1874
William J. Duane, Penn.	1833	Lot M. Morrill.	1876
Roger B. Taney, Md. Appointed during recess; not confirmed by Senate.	1833	John Sherman.	1877
		William Windom.	1881
		Charles J. Folger.	1881
Levi Woodbury, N. H.	1834	Hugh McCulloch, Ind.	1884
Thomas Ewing, Ohio.	1841	Daniel Manning, N. Y.	1885
Walter Forward, Penn.	1841	Charles S. Fairchild, N. Y	1887
John C. Spencer, N. Y.	1843	W. Windom, Minn.	1889
Geo. M. Bible, Ky.	1844	Charles Foster, Ohio.	1891
Robert J. Walker, Miss.	1845	John G. Carlisle, Ky.	1893
William M. Meredith, Penn.	1849	Lyman J. Gage, Ill.	1897
Thomas Corwin, Ohio.	1850	Leslie M. Shaw, Iowa.	1902

Navy Department

NAVY DEPARTMENT, a state department presided over by a Secretary, who is a member of the Cabinet, appointed by the President and confirmed by the Senate for a term of four years, or at the pleasure of the President. The Secretary is assisted by an Assistant Secretary, similarly appointed and under the same rule as regards tenure of office. The technical work of the department is distributed among eight bureaus, as follows, the chief of each having the relative rank of Commodore while holding the office. Salary of Secretary of Navy is $8,000; that of his assistant $4,500.

Yards and Docks, presided over by a line officer. Duties: Construction and maintenance of docks, wharves, cranes, etc., buildings, except hospitals and magazines, and generally all civil-engineering work in the navy-yards.

Navigation, presided over by a line officer. Duties: Personnel of the navy, including the education of officers and men, enlistment of men and apprentices, movements of ships and fleets, and hydrographic work.

Equipment, presided over by a line officer. Duties: Manufacture of ropes, anchors and cables, rigging and cooking utensils, installation and repair of electric-lighting apparatus on board ship, purchase of coal, control of Naval Observatory and *Nautical Almanac* office.

Ordnance, presided over by a line officer. Duties: Manufacture and charge of guns, torpedoes, and ammunition; charge of torpedo stations and magazines; design of turrets and distribution of armor and armament on board ship.

Construction and Repair, presided over by a naval constructor, with the title of Chief Constructor. Duties: Design, building, and repair of hulls of ships and small boats, securing armor and turrets, ventilation of ships, etc.

Steam-Engineering, presided over by a chief engineer, with the title of Engineer-in-Chief. Duties: Design, building, and repair of machinery for the propulsion of ships and for auxiliary purposes, turret machinery, etc.

Medicine and Surgery, presided over by a naval surgeon, with the title of Surgeon-General. Duties: Design, erection, and maintenance of hospitals, management of them and of laboratories and dispensaries; purchase of medicine.

Supplies and Accounts, presided over by a pay-officer, with the title of Paymaster-General. Duties: Purchase and supply of all provisions and stores, except medicine, and the accounts relating thereto.

The chiefs of the bureaus of yards and docks, ordnance, equipment, construction and repair, and steam-engineering, and the chief intelligence officer constitute a Board on Construction, to which is referred questions relating to the general design of ships.

The office of *Naval Intelligence* is a branch of the Secretary's office, and is presided over by a line officer. Its duties are the collection of information regarding foreign navies.

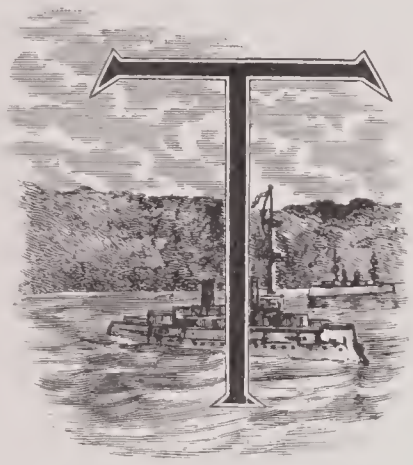
A Judge Advocate-General is attached to the Secretary's office, and to him are referred all questions involving law and regulations, and especially those relating to courts-martial and to the promotion and retirement of officers. The office may be held by any officer of the navy or marine corps.

A list of the Secretaries of the Navy follows: George Cabot, 1798; Benjamin Stoddert, 1798; Benjamin Stoddert, 1801; Robert Smith, 1801; Jacob Crowninshield, 1805; Paul Hamilton, 1809; William Jones, 1813; B. W. Crowninshield, 1814; B. W. Crowninshield, 1817; Smith Thompson, 1818; Samuel L. Southard, 1823; Samuel L. Southard, 1825; John Branch, 1829; Levi Woodbury, 1831; Mahlon Dickerson, 1834; Mahlon Dickerson, 1837; James K. Paulding, 1838; George E. Badger, 1841; Abel P. Upshur, 1841; David Henshaw, 1843; Thomas W. Gilmer, 1844; John Y. Mason, 1844; George Bancroft, 1845; John Y. Mason, 1846; William B. Preston, 1849; William A. Graham, 1850; John P. Kennedy, 1852; James C. Dobbin, 1853; Isaac Toucey, 1857; Gideon Welles, 1861; Gideon Welles, 1865; Adolph E. Borie, 1869; George M. Robeson, 1869; Richard W. Thompson, 1877; Nathan Goff, Jr., 1881; William H. Hunt, 1881; William E. Chandler, 1882; William C. Whitney, 1885; Benjamin F. Tracy, 1889; Hilary A. Herbert, 1893; John D. Long, 1897; William H. Moody, 1902.

NAVY

OF THE

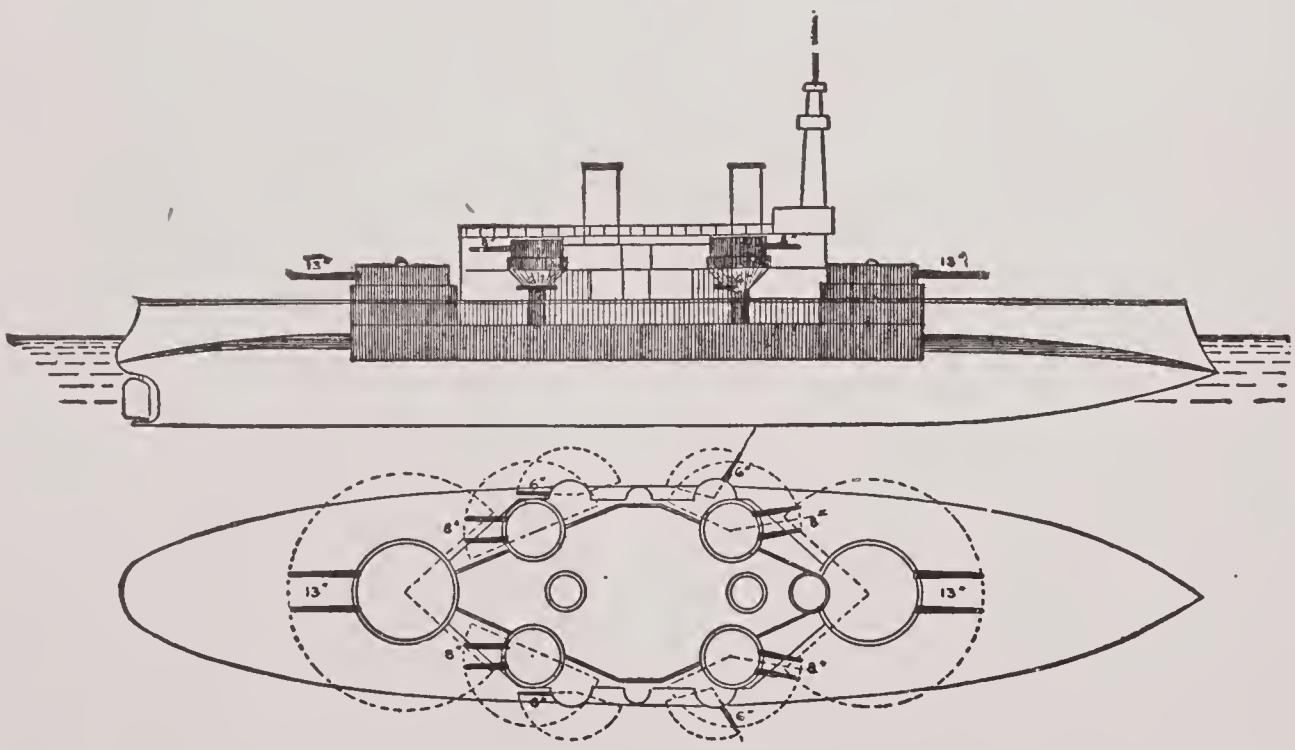
UNITED STATES



THE past ten years have witnessed the transformation of our Navy from a fleet of slow-steaming wooden vessels, with sail-power and antiquated batteries, into a fleet of sailless, rapid steel steamers, whose construction is in all respects not only equal to that of the vessels of any other nation, but is, in many cases, superior. Our first efforts were in the cruiser line, but of late we have gone into the construction of battle-ships, and the same success that attended the construction of the cruisers has followed in the new line. Our battle-ships *Indiana*, *Massachusetts*, and *Oregon*, completed during the latter part of 1895 and early 1896, are model fighting-ships, while the *Kearsarge* and *Kentucky*, completed in 1900 at a combined cost of $4,500,000, possess qualities of attack and defense in a superior degree.

All homogeneous fleets are composed of battle-ships, armored and protected cruisers, scouts, torpedo-vessels and torpedo-boats, while monitors and rams are essential for harbor-defense, and gunboats for cruising and police duties in time of peace.

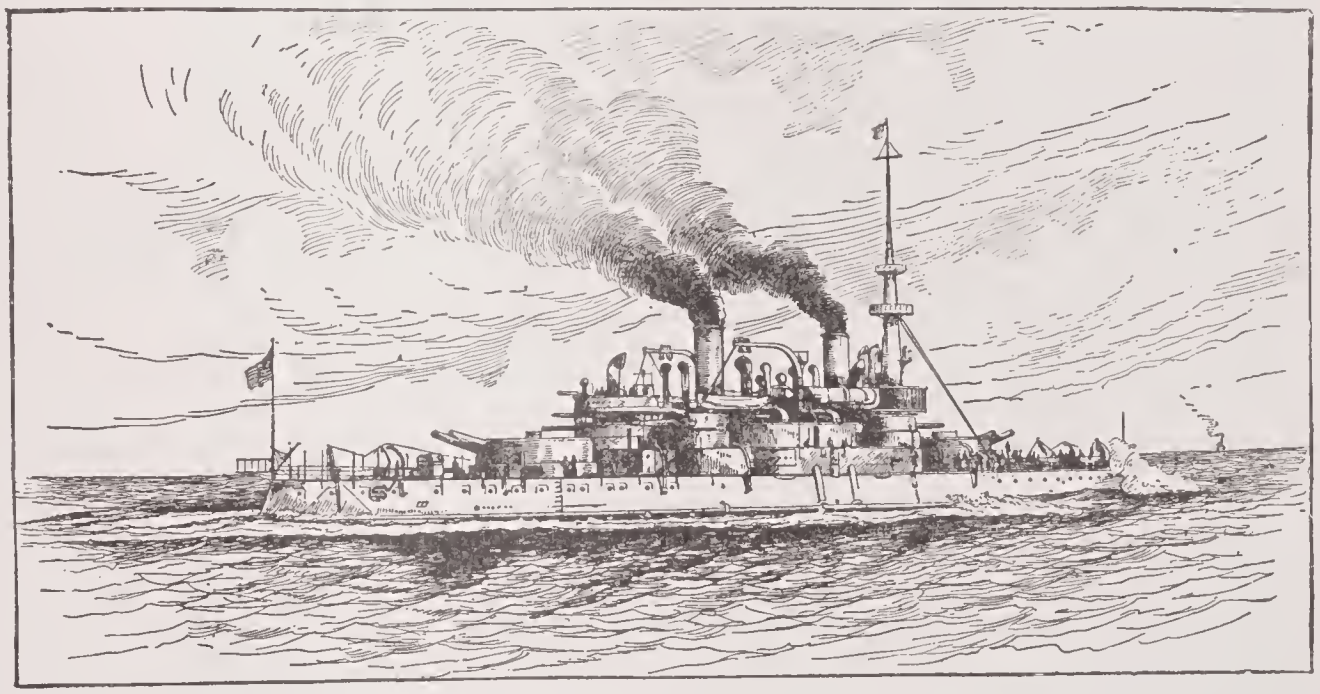
A battle-ship is practically a locomotive fort, and in its accepted form consists of a twin-screw steel hull minutely subdivided below the water-line by transverse and longitudinal bulkheads, with heavy steel armor along the water-line for about two-thirds the length of the ship, forward and aft of which there is worked a heavy curved protective deck, which terminates forward in a powerful ram bow, and aft in the stern-post or the rudder-post. Below this deck are located the magazines, the boilers and engines, the steering-gear, the machinery for working the turrets, and all parts of the operating mechanism which might be disabled if placed above the water-line, and whose disablement would impair the fighting efficiency of the ship. The machinery occupies the central portion of this space below the protective deck, the engines side by side in a separate water-tight compartment, and separated from the boilers, which are also in separate compartments, by transverse coal-bunkers. Between the engines and the side of the ship are coal-bunkers, which, also, are fitted alongside the boilers, and generally in two subdivisions, in order to afford protection and to increase the stability of the ship in case of injury. In addition to these bunkers, there are others above the protective deck, so arranged that they feed into the lower ones, the capacity of all being generally between 1,000 and 2,000 tons. Be-



BATTLE-SHIP MASSACHUSETTS—SIDE ELEVATION AND DECK PLAN.

neath the engines and boilers an inner skin is worked, generally inclosing a space from four to five feet in depth, known as the double bottom, between it and the outer skin. This space is subdivided. so that if, through grounding or other cause, the ship's bottom were punctured, the damage would be localized, and there would be no danger of the loss of the ship. Forward and aft of the machinery space are magazines, store-rooms for provisions, clothing, and other necessary articles, torpedo-rooms, water-tanks, chain-lockers, and spare gear. Above the armored belt at the water-line there is a stretch of thin armor extending to the battery deck, where the heaviest guns are mounted, usually in pairs, at the center line of the ship, and at a point about in line with ends of the armor belt; between these heavy guns are lighter ones, in an inclosed superstructure or casemate having armor protection. Still higher, and usually on each side of the ship, are mounted armor-piercing-guns intermediate in caliber between the two sizes mentioned. On the same deck, and at the ends of the casemate, utilized for firing torpedoes, though their true value in war would probably be very small, as their size is such that little could be expected of them. The ship is lighted by electricity and artificially ventilated, is heated by steam, has apparatus for distilling sea-water for drinking purposes and for making ice, has a workshop supplied with machine-tools capable of doing almost any work that would be required, engines for hoisting boats and operating the heavy guns, and is fitted generally with mechanical appliances for doing almost anything necessary to make the ship self-sustaining. One of the important lessons learned from the Japan-China war was that the presence of so much woodwork as formerly found a place in our ships is a source of great danger during an engagement, from the fact that it is set afire so easily, and so all recent designs provide for little or no woodwork, its place being taken by light sheet-metal, or by some kind of incombustible wood.

Until 1894 the prevailing practise with most foreign coun-



BATTLE-SHIP MASSACHUSETTS—AT FULL SPEED.

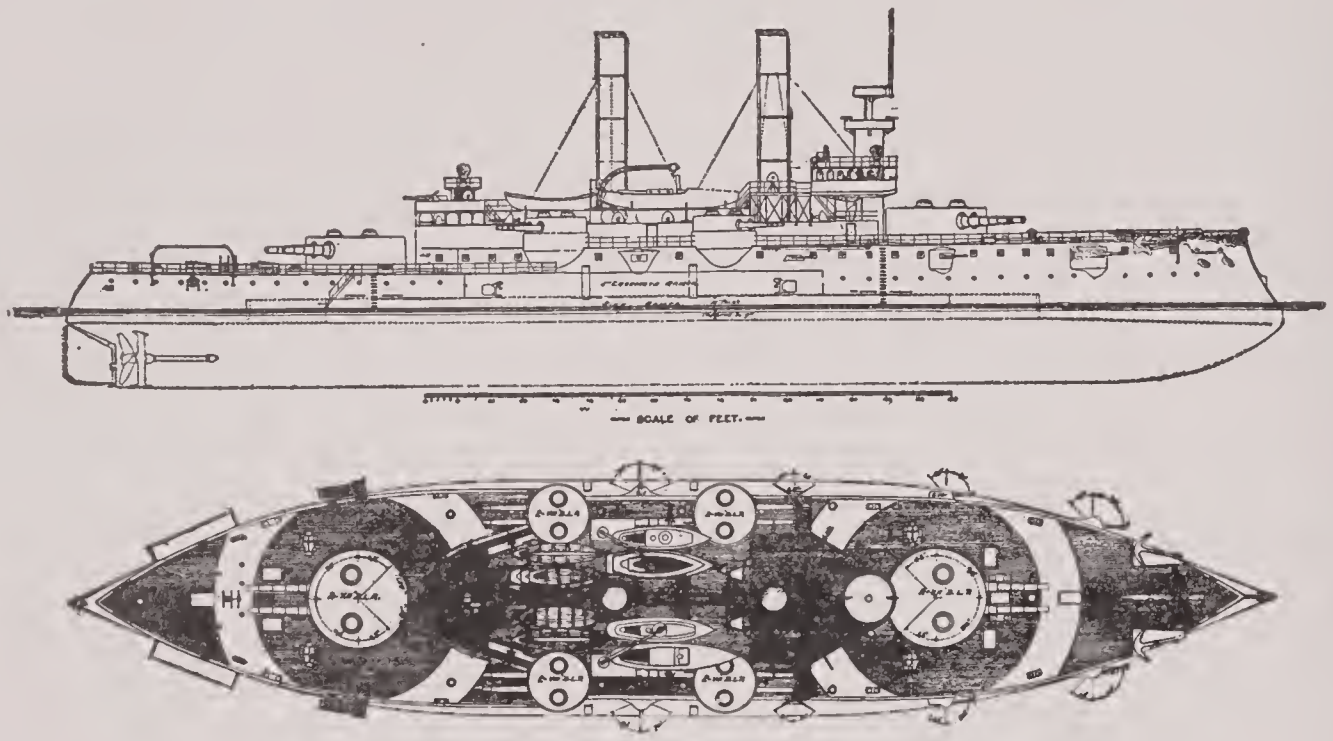
are placed the conning or fighting towers, which are generally six or seven feet in diameter, and heavily armored, and from which the movements of the ship are directed in action. In these towers are placed steering-wheels, communicating by wire rope with the steering-engines below the protective deck, telegraphs to and from the engine-rooms, with reply-connections to show that the signals have been understood, other telegraphs which show the direction of revolution of the main engines and the speed at which they are running, speaking-tubes and call-bells to all important stations in the ship, telephone connections, etc. There are usually one or two military masts, without yards or sails, save light yards for signal purposes, and fitted to them are tops, in which are mounted small rapid-fire and machine guns for the purpose of raking the deck of an adversary during action. On the upper deck are mounted a number of small rapid-fire guns, and search-lights are disposed so as to command the approach to the ship from all directions. Besides the usual complement of small boats, a battle-ship usually carries one or two small torpedo-boats, which, in addition to the service of the ship, are tries in the construction of battle-ships was to fit a small amount of very heavy armor for a certain distance along the water-line, and leave the remainder of the side almost unprotected, save by thin armor. A change, however, has taken place, and the latest designs for British battle-ships provide for a much greater area of heavy armor, with a corresponding reduction in its thickness. The French have long insisted upon the importance of a complete water-line belt; but, as its weight entails certain sacrifices in other directions, other countries have not gone to the extent that the French have in this direction.

All war-ships owned by the United States are built under the requirements of law within the country and of home materials. At the outbreak of the Spanish-American War, however, the *Abreu* and the *Amazonas* were authorized to be bought in England from Brazil, their names being changed, to the *Albany* and *New Orleans*. A few other vessels were acquired in the same way.

The commerce destroyers, *Columbia* and *Minneapolis*, on their official trials developed an average speed of 22.81 and

23.07 knots respectively. Each is 412 feet long with 58 feet beam, and a displacement of 7,375 tons. There is a double bottom and protective deck which rises from 4½ feet below the water-line to 1 foot above amidships, except at the bow and stern where it slopes down below the water-line. A wall of patent fuel 5 feet thick protects the boilers. There are 3 sets of engines each set in a separate tight compartment.

heavy guns in turrets, a pair of each caliber in a separate turret, those of medium caliber in rear of, above and outboard of the heaviest ones; but in the *Kearsarge* and *Kentucky* the turrets are superposed or "two-story," the 8-inch ones being on top of the 13-inch, and revolving with them. This arrangement gives the greatest concentration of fire, and it is believed that there is not a battle-ship afloat that can withstand the



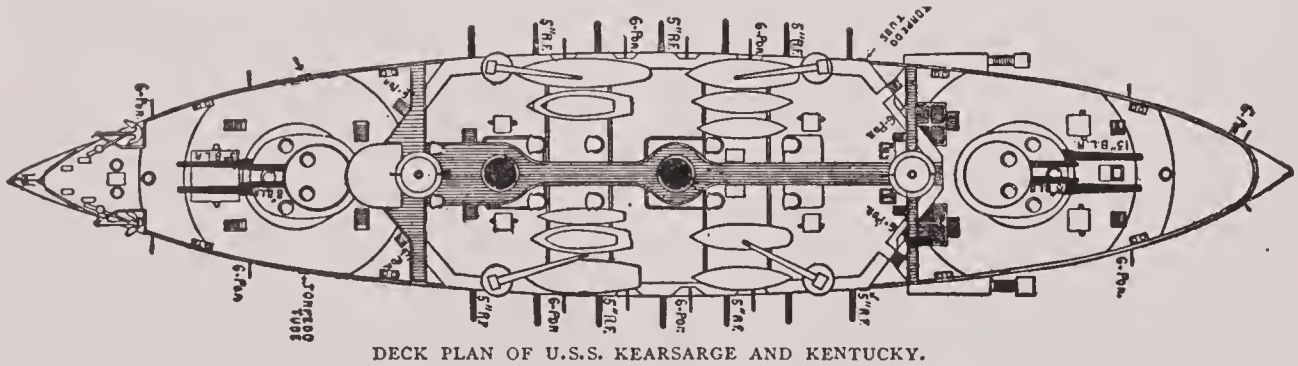
SHEER AND DECK PLAN OF U. S. S. IOWA.

The *Indiana*, *Oregon*, and *Massachusetts* are practically identical. The armor belt is 17 inches thick and 7½ feet wide, extending over 56 per cent. of the whole length, from 4½ feet below the water-line to 3 feet above. Above this belt is another 5 inches thick. These are of the same type as the *Iowa* except that they carry larger guns.

The *Kearsarge* may be taken as a typical battle-ship, and a description of her will serve for that of other battle-ships, and, with certain modifications, which will be stated, for that of

fire from the guns as arranged in the *Kearsarge*. The main battery consists of four 13-inch, and four 8-inch rifles, and fourteen 5-inch rapid-fire guns; and the secondary battery of twenty 6-pounder, four 1-pounder, four Gatlings, and one field gun. The 5-inch guns are placed in the citadel between the turrets, and the rapid-fire and machine guns on the deck above, in the military tops, and on the deck below the main deck.

The armor belt extends along the water-line from the bow to the after barbette, and is 3.5 feet above and 4 feet below the



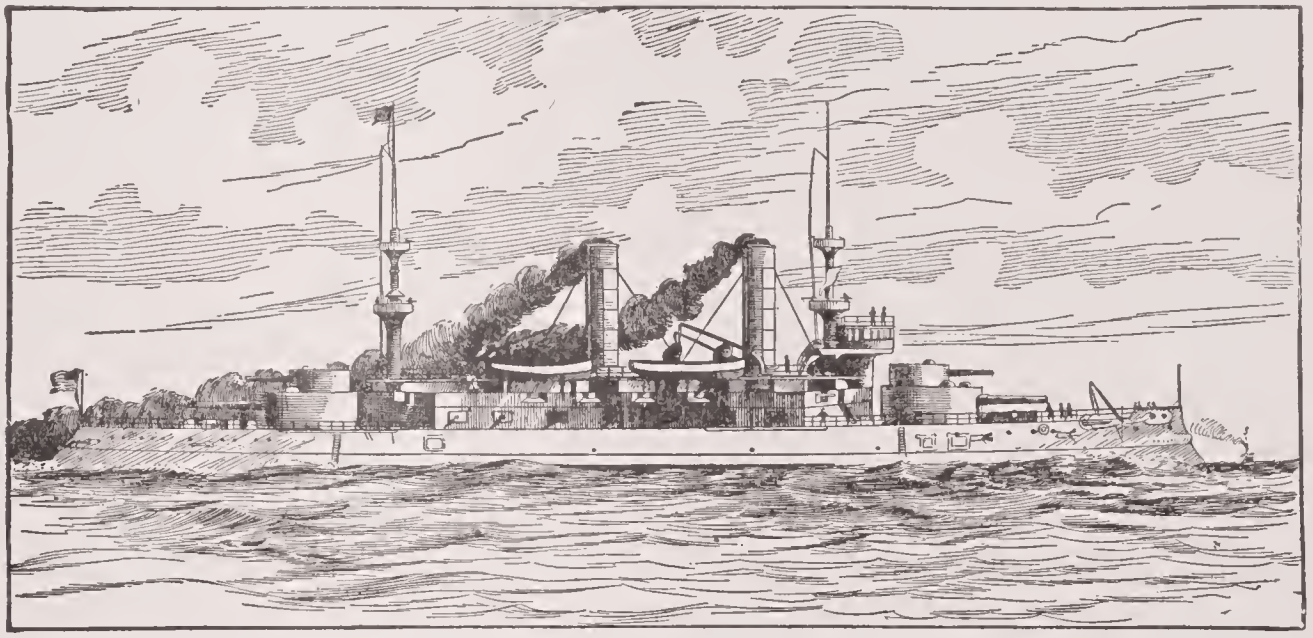
DECK PLAN OF U.S.S. KEARSARGE AND KENTUCKY.

other types of naval vessels. She is built entirely of steel, is 368 feet long on the water-line, 72.2 feet beam, 23.5 feet mean draft, and of 11,500 tons displacement. She has engines of 10,000 horse-power, and will steam at a speed of 16 knots an hour. In outward appearance she resembles the *Indiana*, except in the arrangement of the turrets for the 8-inch guns, and in that she has two military masts instead of one. In previous battle-ships the practise had been to mount the very

water-line; it is 15 inches thick at the top, and tapers to 9½ at the bottom, along the machinery spaces, forward of which it tapers to 4 inches at the bow, where it meets the ram. The protective deck, which extends from the ends of the armor belt to the bow and stern respectively, varies in thickness from 2¾ to 5 inches. Above the belt, to the height of the main deck, the armor is 5 inches thick, and that of the citadel containing the 5-inch guns, 6 inches. The armor on the

THE UNSEEN HEROES ON A WAR-SHIP

13-inch turrets is 17 and 15 inches, on the 8-inch turrets 11 and 9 inches, on the barbettes 15, and on the conning-towers 10 inches. All the armor is Harveyized nickel steel. Each 13-inch gun throws a projectile weighing 600 pounds, and each 8-inch gun one weighing 290 pounds. There are two military masts, with fighting tops, in which will be mounted rapid-fire guns. Five torpedo-tubes, one in the stem, and the others in broadside on the lower deck, complete the armament. The supply of torpedoes, which are of the automobile type, is eight. The engines are of the triple-expansion type, and have been designed to develop 10,000 horse-power at full speed; they have three cylinders each, and are placed in separate water-tight compartments, each operating its own screw. The boilers are designed to work at a pressure of 160 pounds per square inch, and to furnish all the steam that the engines



A BATTLE-SHIP OF THE KEARSARGE TYPE.

can work off at that pressure; when working at full power the draft is forced by steam-fans, delivering air under pressure into an air-tight fire-room, in which each boiler is placed. When fully equipped and ready for sea, she carries 1,210 tons of coal, and draws 25 feet of water. The contract price for her construction, exclusive of the cost of her armor and guns, was $2,250,000, and when completed and ready for sea, she cost about $3,500,000.

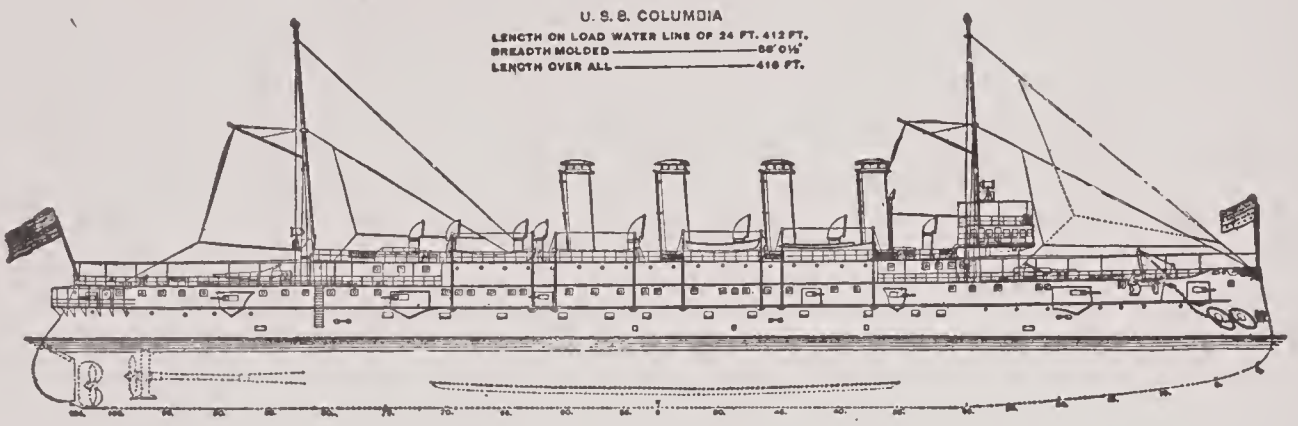
The *Alabama*, *Wisconsin*, and *Illinois* differ from the *Kearsarge* and the *Kentucky* in that the latter have superimposed turrets carrying 8-inch guns over the larger turrets carrying 13-inch guns.

A good idea of the distribution of weights in a modern battle-ship will be obtained from the following table, which is for the British battle-ship, *Majestic*:

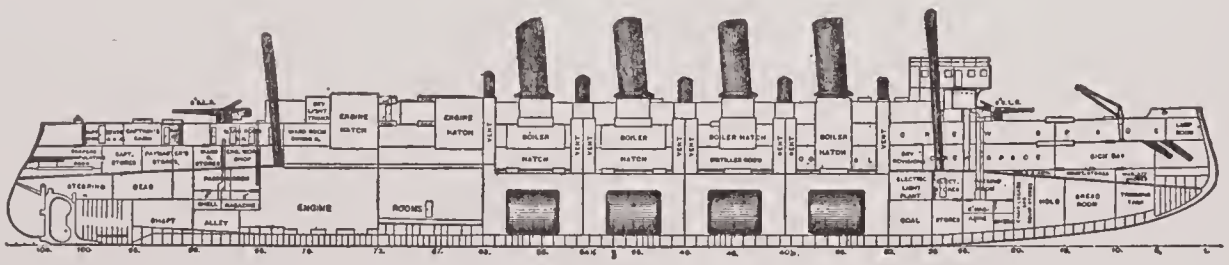
	Tons.
Steel in hull	4,340
Protective material	1,410
Armor	2,850
Backing	160
Wooden decks, etc.	570
Fittings	850
Hull complete	10,180
Equipment	600
Armament	1,500
Machinery	1,300
Coal	900
Total	14,480

The most important vessels after the battle-ships in our navy are the cruisers, which are built primarily for speed, and which differ in construction from the battle-ships principally in having little or no vertical armor along the water-line, the protection to the vitals of the ship being afforded by a thick protective deck, and in having lighter protection for the guns than the battle-ships have. The vessels are smaller than the battle-ships, and also carry a lighter battery. In them, offensive and defensive qualities have been sacrificed for speed and for coal-carrying capacity, in order that they may be able to remain at sea a considerable length of time, and overtake a merchantman once he is sighted; that they may act as scouts for a fleet, and perform those duties, in peace, necessary for the protection of our commerce and the maintenance of our position amongst the great nations of the earth. Two of our cruisers, the *New York* and the *Brooklyn*, have a small amount of light side-armor, three inches thick in the former and four in the latter. The *New York* mounts six 8-inch and twelve 4-inch, and the *Brooklyn* eight 8-inch and twelve 5-inch guns. These vessels are regarded justly as the finest vessels of their class afloat, and the former, on her trial in 1892, maintained for four hours a speed of 21 knots an hour. Her engines are of 17,400 horse-power, and have been designed so that the ship may cruise economically at low speed. For this reason there are four engines of the same size in the ship, two on each shaft, and so arranged that the forward ones, which, like the after ones, are each in a separate water-tight compartment, may be disconnected when cruising at low speed. The operation of disconnecting or connecting takes only about 20 minutes, as compared with 36 hours on the English cruiser *Blake*, of similar construction. Two others of our cruisers which have been the subject of universal commendation, and of no little amazement, are the *Columbia* and the *Minneapolis*, of 7,375 tons displacement, which, on trial, made the unparalleled speed of 22.81 and 23.07 knots respectively. These vessels are intended as "commerce-destroyers," and in them much of the offensive power of previous cruisers has been sacrificed to speed and endurance, their battery comprising but one 8-inch, two 6-inch and eight 4-inch guns. To get such speed as these vessels at-

tained, and at the same time to make them fairly economical cruisers in time of peace, the power was divided among three screws, one in the center and one on either side, as is usual in twin-screw steamers, each screw operated by an engine of equal power. While this system of propulsion had previously been tried on a few small vessels, the *Columbia* marked its first successful application to vessels of considerable power, and since her advent a number of similar designs have been projected abroad. Up to 1896 there was not a vessel of their size in any navy with a speed equal to theirs, and there was not in any navy a vessel of any size which had maintained such a speed over a measured course for so long a time as they did. In July, 1895, the *Columbia* made the run from the Needles to Sandy Hook, a distance of 3,090 miles, in 6 days, 23 hours, and 49 minutes, thus maintaining an average speed of 18.41 knots for the distance,—a performance which no other man-of-war afloat, except the *Minneapolis* could approach, and one which has never been equaled by any vessel of her size, naval or merchant. That she did not make greater speed is due entirely to the fact that she does not carry coal enough to enable her to cross the ocean at a much higher rate.



Next in importance comes the *Olympia*, a vessel of 5,600 tons, which made a speed of 21.69 knots on her acceptance trial. Her battery is a very formidable one for a vessel of her size, comprising four 8-inch and ten 5-inch guns, and makes her a most valuable addition to our list of fast cruisers. Following her come the vessels of the *Baltimore* class, including the *Newark*, *Philadelphia*, and *San Francisco*, whose displacements range from 4,100 to 4,500 tons, and speed from 19 to 20 knots. They mount a heavy battery, are well protected, and are much more economical to maintain than large cruisers of corresponding speed. At the same time they are quite up to the standard of cruisers of similar class in foreign navies. Coming down to the other cruisers, the most important one is the *Chicago*, whose original design was completed in 1883, since which time so many improvements have been made that her machinery is to be removed and entirely new machinery of modern design substituted, which will result in increasing her speed from 15 to about 19 knots, and, with the modifications in her battery which will be made at the same time, in making her a vessel equal in all respects to the other vessels of her class. The *Charleston*, *Atlanta*, and *Boston* come next, the two latter having been built at the same time as the *Chicago*, and the latter from plans purchased in England, and modified by the Navy Department. The cruisers following in order are vessels which, with the exception of the *Cincinnati* and *Raleigh*, would be of little use during war, except for scouting duties near the coast, but are very useful in time of peace. They have not a double bottom, and carry only light fore-and-aft sail.



Of late years foreign governments have built a number of torpedo-cruisers or gunboats, whose *rôle* is the destruction of torpedo-boats, torpedo-attack on a battle-ship, and scouting for a fleet. They range in size from 500 to 1,000 tons, and in speed from 18.5 to 21.5 knots, and carry a powerful armament of torpedoes, and a sufficient number of rapid-fire guns to protect themselves from an attack by torpedo-boats. We have no vessels of this character, the only one approaching them being the dynamite cruiser *Vesuvius*, which could be converted into a torpedo-gunboat at moderate cost.

Experience of foreign governments with torpedo-boats of about 120 feet length and smaller has demonstrated that they cannot be depended upon to render that assistance to a fleet which might be expected of such vessels; and so, during 1895 and 1896, a large number of similar boats, called "torpedo-destroyers," were built in Great Britain, whose length is 200 feet and upward, displacement from 200 to 300 tons, and speed from 27 to 30 knots. To get this phenomenal speed, it is necessary to use the lightest kind of construction, both in hull and machinery, to supply steam from water-tube boilers and to reduce the stores and outfit to a minimum. As completed, they are marvels of the skill of the naval architect and marine engineer; but they are little more than racing-machines, whose life depends upon the exercise of unceasing care and the greatest possible amount of attention. Their battery consists of one 12-pounder, five 6-pounders,

and two torpedo tubes or guns mounted on deck. Their *rôle* is the same as that of torpedo-boats, and, in addition, the destruction of the latter, which they are able to accomplish, on account of their greater size and speed and their more powerful battery. As yet we have no boats as large as these, but our latest designs of torpedo-boats are for vessels of considerable size and speed.

The development of our torpedo-boats is illustrated in the table, where they are given in order of their design.

There is another vessel in our navy whose *rôle* will be unique in time of war. That is the ram *Katahdin*, constructed on the general idea of Admiral Ammen of the navy. She carries no heavy guns at all,— only a few rapid-fire ones, intended to repel attacks of torpedo-boats,— and her sole weapon of offense is a ram. While all our ships are built with a ram bow, none of them have been designed with a view specially to ramming, as has the *Katahdin*. She is very strongly built, has exceptional maneuvering power, on account of her keel being somewhat like an ellipse in contour, and when under way is scarcely visible, except for her smoke-pipe and wheel house. Her deck is curved "turtle-back," and is armored heavily, so that she can withstand considerable attack. Her speed is something over 16 knots, which is well above the speed of most foreign battle-ships when in seagoing condition.

Of the old wooden vessels of the navy with steam-power, only a few remain in service, and they will probably not be of use for more than three or four years longer.

The battle-ship *Texas* possesses turret guns so placed that they can be trained through an arc of 270 degrees. The guns may be loaded in any position for training.

Ships of the new type like the *Vermont*, carry 12-inch and 8-inch guns for their heavier armament. The cruisers are second-class battle-ships in all but name.

NAVY-YARDS.

1. Brooklyn Navy-Yard, Brooklyn, N. Y.
2. Charleston Navy-Yard, Boston, Mass.
3. Portsmouth Navy-Yard, near Norfolk, Va.
4. Kittery Navy-Yard, opposite Portsmouth, N. H.
5. League Island Navy-Yard, Philadelphia, Pa.
6. Mare Island Navy-Yard, near San Francisco, Cal.
7. Pensacola Navy-Yard, Pensacola, Florida.
8. Washington City Navy-Yard, Washington, D. C.
9. New Orleans Naval Station, Algiers, La.
10. Puget Sound Navy-Yard, Bremerton, Wash.

There are naval stations at New London, Conn.; Port Royal, S. C.; Charleston, S. C.; Key West, Fla.; a torpedo and training station at Newport, R. I., and a training station at Yerba Buena Island, Cal., and the naval war college, Newport, R. I. Naval stations have been established at San Juan, Porto Rico; Havana, Cuba; Honolulu, H. I.; and Cavite, Philippine Islands. The latter has become an important naval base for the Asiatic squadron.

On June 7, 1901, President McKinley, in accordance with an Act of Congress of March 3, 1901, issued an order setting forth a new classification of the vessels of the United States Navy, on the basis of tons of displacement. According to this order the rating became as follows:

Vessels of First Rate.— This rate embraces men-of-war only, and of 8,000 tons displacement and over.

Vessels of Second Rate.— All men-of-war of 4,000 and under 8,000 tons displacement; and all converted auxiliary vessels of 6,000 tons displacement and over, except colliers, refrigerating ships, distilling ships, tank steamers, repair ships, hospital ships, and other ships built for special purposes.

Vessels of Third Rate.— All men-of-war from 1,000 to 4,000 tons displacement; all converted and auxiliary vessels from 1,000 to 6,000 tons displacement; and all the vessels excepted above, under the heading "Vessels of Second Rate," provided they are of 4,000 tons displacement and over.

Vessels of Fourth Rate.— This rate to include all other vessels that fall under a rated heading.

Unrated Vessels.— Vessels without rate are torpedo boats, torpedo-boat destroyers, receiving-ships, and sailing-ships.

Command of Vessels.

The same order of June 7, 1901, regulated the assignments of commands afloat as follows:

Admiral.— An admiral to the command of the fleet.

Rear-Admiral.— A rear-admiral to command a fleet or squadron.

Captain.— A captain to command a division, or a ship of the first or second rate, or an unrated ship.

Commander.— A commander to command a division, a ship of the second or third rate, or an unrated ship.

Lieutenant-Commander.— A lieutenant-commander to command a ship of the third or fourth rate, or an unrated ship.

Lieutenant.— A lieutenant to command a ship of the fourth rate, a torpedo-boat destroyer, torpedo boat, tug, tender, or unrated ship.

Junior Lieutenant.— A lieutenant of Junior grade to command a torpedo boat, tug, tender, or unrated ship.

Ensign.— An ensign to command a torpedo boat, tug, or unrated ship.

Comparative Rank of Army and Navy Officers:

General ranks with Admiral.
Lieutenant-General ranks with Vice-Admiral.
Major-General ranks with Rear-Admiral. (First nine.)
Brigadier-General ranks with Commodore and Rear-Admiral. (After first nine.)
Colonel ranks with Captain.
Lieutenant-Colonel ranks with Commander.
Major ranks with Lieutenant-Commander.
Captain ranks with Lieutenant.
First Lieutenant ranks with Lieutenant. Junior Grade.
Second Lieutenant ranks with Ensign.
Cadets rank with Midshipmen.

Pay Table of the United States Navy.

Official Rank.	Sea and Foreign Shore Duty.	Home Shore Duty.	On Wait or Leave.
Admiral	$13,500	$13.500	
Rear-Admirals (highest nine)	7,500	6,375	
Rear-Admirals (second nine)	5,500	4,675	
Brigadier-General, Commandant Marine Corps		5,500	
Captain	3,500	2,975	
Commander	3,000	2,550	
Lieutenant Commander	2,500	2,125	
Lieutenant	1,800	1,530	
Lieutenant (juuior grade)	1,500	1,275	
Ensign	1,400	1,190	
Chief Boatswain	1,400	1,400	
Chief Gunner	1,400	1,400	
Chief Carpenter	1,400	1,400	
Chief Sailmaker	1,400	1,400	
Naval Cadet	500	500	$500
Mate	900	700	500
Medical and Pay Director	4,400		
Surgeon and Paymasters of fleets	4,400		
Surgeon and Paymaster	2,800 to 4,200	2,400 to 4,000	2,000 to 3,000
Chaplain	2,500 to 2,800	2,000 to 2,300	1,600 to 1,900
Civil Engineer	2,400 to 3,500	2,400 to 3,500	1,500 to 2,600
Naval Constructor	3,200	3,200 to 4,200	2,200 to 3,200

Enlistment in the Navy.

Applicants for enlistment in the United States Navy cannot be under 18 years of age, unless they have consent of guardian or parent; must be an American citizen and capable of reading and writing English; and no person will be admitted unless he passes the regulation medical examination. The term of enlistment is four years.

NAVAL MILITIA OF THE UNITED STATES.

Militia Bodies of the Various States and of the District of Columbia.

State.	Officers.	Petty Officers and Enlisted Men.
California	36	380
Connecticut	20	185
District of Columbia	10	162
Florida	4	48
Georgia	17	111
Illinois	56	575
Louisiana	23	327
Maine	3	46
Maryland	18	221
Massachusetts	39	497
Michigan	17	183
New Jersey	32	322
New York	57	585
North Carolina	27	219
Ohio	22	234
Oregon	9	115
Pennsylvania	9	64
Rhode Island	12	181
South Carolina	24	224
Total	435	4,679

United States Naval Academy.

A school for the training of young men to serve as officers in the United States Navy was opened in 1845, during President Polk's administration. A reorganization of the institution was made in 1850, the name then becoming the United States Naval Academy, and its management being placed under the supervision of the Bureau of Ordnance and Hydrography. In 1861 the academy was transferred to Newport and returned to Annapolis at the close of the Civil War, in 1865. In 1851 the three years' sea service was abandoned, and the course made four years, to be changed to six years in 1873, when the administration of the school was placed directly under the Navy Department.

As at present arranged the curriculum includes seamanship, ordnance and gunnery, navigation, marine engineering, naval construction, mathematics, physics, chemistry, mechanics, English, modern languages, physiology and hygiene, and law.

The Allotment to Each State, in Conformity with the Regulations of the Department.

State.	Allotment.
California	$4,846.90
Connecticut	2,359.68
District of Columbia	2,066.31
Florida	612.24
Georgia	1,415.81
Illinois	7,334.12
Louisiana	4,170.88
Maine	586.73
Maryland	2,818.85
Massachusetts	6,339.23
Michigan	2,334.17
New Jersey	4,107.11
New York	7,461.67
North Carolina	2,793.34
Ohio	2,984.67
Oregon	1,466.83
Pennsylvania	816.32
Rhode Island	2,308.66
South Carolina	2,857.12
Total	$59,680.64

VESSELS OF THE UNITED STATES NAVY.

NAME.	Type or Rig.	Officers.	Men.	Date of Commission.	Cost or Contract Price.	Horse-Power.	Speed Knots.	Tons Displacement.
ARMORED STEEL VESSELS, *First Class:*								
Alabama	B. S.	40	552	1900	$2,650,000	11,366	17 10	11,565
Connecticut	B. S.	42	761	.....	.....	16,500	18	16,000
Georgia	B. S.	44	768	.....	3,590,000	19,000	19	14,948
Idaho	B. S.	.....	.....	.....	.....	10,000	17	13,000
Illinois	B. S.	35	625	1901	2,595,000	12,898	17.44	11,540
Indiana	B. S.	32	459	1895	3,063,000	9,738	15.54	10,225
Iowa	B. S.	36	484	1897	3,010,000	12,105	17.08	11,363
Kansas	B. S.	42	814	.....	4,165,000	16,500	18	16,000
Kearsarge	B. S.	38	612	1900	2,250,000	11,954	16.82	11,550
Kentucky	B. S.	38	575	1900	2,250,000	12,318	16.90	11,538
Louisiana	B. S.	42	761	.....	3,990,000	16,500	18	16,000
Maine	B. S.	40	521	1902	2,885,000	15,840	18	12,500
Massachusetts	B. S.	32	477	1896	3,063,000	10,415	16.21	10,265
Minnesota	B. S.	42	814	.....	4,110,000	16,500	18	16,000
Mississippi	B. S.	.....	.....	.....	.....	10,000	17	13,000
Missouri	B. S.	40	521	.....	2,885,000	16,000	18	12,500
Nebraska	B. S.	44	668	.....	3,733,600	19,000	19	14,948
New Jersey	B. S.	44	668	.....	3,405,000	19,000	19	14,948
Ohio	B. S.	40	521	.....	2,899,000	16,000	18	12,000
Oregon	B. S.	32	468	1896	3,222,810	11,111	16.79	10,250
Rhode Island	B. S.	44	668	.....	3,405,000	19,000	19	14,948
Vermont	B. S.	42	814	.....	4,179,000	16,500	18	16,000
Virginia	B. S.	44	668	.....	3,590,000	19,000	19	14,948
Wisconsin	B. S.	34	549	1901	2,674,950	12,609	17.17	11,500
Second Class:								
Texas	B. S.	30	398	1895	2,500,000	8,610	17.8	6,315
CRUISERS:								
Brooklyn	A. C.	46	513	1896	2,986,000	18,769	21.91	8,150
California	A. C.	47	698	.....	3,800,000	23,000	22	13,440
Colorado	A. C.	47	698	.....	3,780,000	23,000	22	13,680
Maryland	A. C.	47	698	.....	3,775,000	23,000	22	13,680
New York	A. C.	41	698	.....	3,885,000	23,000	22	8,200
Pennsylvania	A. C.	47	698	.....	3,890,000	23,000	22	13,680
South Dakota	A. C.	47	698	.....	3,750,000	23,000	22	13,680
Tennessee	A. C.	44	770	.....	4,035,000	23,000	22	14,500
Washington	A. C.	44	770	.....	4,035,000	23,000	22	14,518
West Virginia	A. C.	47	698	.....	3,885,000	23,000	22	13,680
Albany	P. C.	24	332	1900	Purchased.	7,400	20.5	3,767
Atlanta	P. C.	19	280	1886	617,000	4,030	15.60	3,000
Baltimore	P. C.	36	353	1890	1,325,000	10,064	20.09	4,413
Boston	P. C.	22	259	1887	619,000	4,300	15.60	3,035
Charleston	P. C.	.....	631	.....	2,740,000	21,000	22	9,700
Chattanooga	P. C.	21	281	.....	1,039,966	4,700	16.5	3,200
Chicago	P. C.	33	438	1889	889,000	9,000	18	5,000
Cincinnati	P. C.	20	341	1894	1,100,000	8,490	19	3,213
Cleveland	P. C.	30	281	.....	1,041,650	4,700	16.5	3,200
Columbia	P. C.	30	447	1894	2,725,000	18,500	22.8	7,375
Denver	P. C.	30	281	.....	1,080,000	4,700	16.5	3,200
Des Moines	P. C.	27	281	.....	1,065,000	4,700	16.5	3,200
Galveston	P. C.	30	281	.....	1,027,000	4,700	16.5	3,200
Milwaukee	P. C.	.....	631	.....	2,825,000	21,000	22	9,700
Minneapolis	P. C.	30	447	1894	2,690,000	20,862	23.07	7,375
Newark	P. C.	34	400	1891	1,248,000	8,869	19	4,098
New Orleans	P. C.	24	342	1898	Purchased.	7,500	20	3,769
Olympia	P. C.	32	417	1895	1,796,000	17,313	21.69	5,870
Philadelphia	P. C.	34	359	1890	1,350,000	8,815	19.68	4,410
Raleigh	P. C.	20	297	1894	1,100,000	8,500	19	3,273
San Francisco	P. C.	24	319	1890	1,428,000	9,913	19.52	4,868
St. Louis	P. C.	.....	631	.....	2,740,000	21,000	22	9,700
Tacoma	P. C.	30	281	.....	1,041,900	4,700	16.5	3,200
Detroit	U. P. C.	16	252	1893	612,500	5,227	18.71	2,089
Marblehead	U. P. C.	14	257	1894	674,000	5,451	18.44	2,089
Montgomery	U. P. C.	20	232	1894	612,500	5,580	19.05	2,089
Reina Mercedes	U. P. C.	.....	.....	.....	Captured.	3,700	17.05	3,090
RAM:								
Katahdin	A.	7	90	1896	930,000	5,068	16.11	2,125
MONITORS:								
Arkansas	S. T.	13	135	1903	960,000	2,400	12.03	3,235
Florida	S. T.	13	158	1903	925,000	2,395	12.4	3,225
Nevada	S. T.	13	135	1903	962,000	2,400	13.04	3,218
Wyoming	S. T.	13	158	1903	975,000	2,811	12.37	3,218
Amphitrite	D. T.	19	172	1895	.....	1,600	10.5	3,990
Miantonomoh	D. T.	13	150	1891	.....	1,426	10.5	3,990
Monadnock	D. T.	26	202	1896	.....	3,000	12	4,005
Monterey	D. T.	19	199	1893	1,628,950	5,244	13.6	4,084
Puritan	D. T.	22	248	1898	.....	3,700	12.4	6,060
Terror	D. T.	26	151	1896	.....	1,600	10.5	3,990
Canonicus	S. T.	.....	.....	1862	622,963	340	6	2,100
Jason	S. T.	.....	.....	1862	422,766	340	5.6	1,875

NAME.	Type or Rig.	Officers.	Men.	Date of Commission.	Cost or Contract Price.	Horse-Power.	Speed Knots.	Tons Displacement.
MONITORS — *Continued.*								
Lehigh	S. T.	.....	.....	1862	$422,726	340	5.6	1,875
Montauk	S. T.	.....	.....	1862	423,027	340	5.6	1,875
Nahant	S. T.	.....	.....	1862	413,515	340	5.6	1,875
GUNBOATS:								
Bancroft	Sch.	10	138	1893	250,000	1,213	14.37	839
Bennington	Sch.	10	191	1891	490,000	3,436	17.5	1,710
Castine	Sch.	11	143	1894	318,500	2,199	16.03	1,177
Concord	Sch.	10	181	1891	490,000	3,405	16.8	1,710
Don Juan de Austria	.....	.....	129	.....	Captured.	1,600	14	1,130
General Alava	.....	8	80	1900	.....	770	10.5	1,390
Isla de Cuba	Sch.	8	134	1900	Captured.	1,000	14	1,125
Isla de Luzon	Sch.	8	134	1900	Captured.	1,000	14	1,125
Machias	Sch.	10	143	1893	318,500	2,046	15.46	1,177
Petrel	Bkt.	8	126	1880	247,000	1,095	11.79	892
Topeka	Brig.	21	131	.....	.....	2,200	16	2,300
Yorktown	Sch.	14	182	1899	455,000	3,392	16.14	1,710
Gunboat No. 16	.....	.....	.....	.....	.....	.....	.....	.....
Helena	L. D.	10	173	1897	280,000	1,988	15.5	1,340
Nashville	L. D.	11	167	1897	280,000	2,536	16.3	1,364
Wilmington	L. D.	10	189	1897	280,000	1,894	15.08	1,342
Annapolis	Bark.	11	136	1897	227,700	1,277	13.17	1,060
Dubuque	Sch.	.....	.....	.....	295,000	.....	12.5	1,050
Marietta	Sch.	11	134	1897	223,000	1,054	13.02	1,000
Newport	Com.	11	108	1897	229,400	1,008	12.29	1,000
Paducah	Sch.	.....	.....	.....	355,000	.....	12.5	1,050
Princeton	Com.	11	130	1898	230,050	923	13	1,100
Vicksburg	Com.	11	128	1897	229,400	1,118	12.71	1,000
Wheeling	Sch.	9	129	1897	219,000	1,081	12.88	1,000
Under 500 Tons:								
Albay	.....	2	25	1899	Purchased.	125	8	151
Albarado	.....	.....	21	1898	Captured.	.....	19	106
Arayat	.....	2	28	1900	.....	.....	10	243
Basco	.....	1	14	1899	Purchased.	44	7	42
Calamianes	.....	2	25	1899	Purchased.	125	8	151
Callao	.....	2	28	1898	Captured.	250	10	208
El Cano	.....	6	95	1902	Captured.	600	11	560
Gardoqui	.....	1	14	1899	Purchased.	44	7	42
Leyte	.....	2	25	1900	Captured.	120	8	151
Manileno	.....	2	25	1899	Purchased.	125	7	142
Mariveles	.....	2	25	1899	Purchased.	125	7	142
Mindanao	.....	2	28	.....	Purchased.	100	7	174
Mindoro	.....	2	25	1899	Purchased.	125	7	142
Pampanga	.....	2	28	1899	Purchased.	250	10	201
Panay	.....	2	25	1899	Purchased.	125	8	142
Paraguay	.....	2	28	1899	Purchased.	250	10	201
Quiros	Com.	3	41	1900	.....	550	11	350
Samar	.....	2	28	1899	Purchased.	250	10	210
Sandoval	.....	.....	23	1898	Captured.	.....	19	106
Urdaneta	.....	1	14	1899	Purchased.	44	7	42
Villalobos	Com.	3	41	1900	.....	500	11	347
TRAINING VESSELS:								
Chesapeake	Ship	.....	256	1900	112,600	.....	.....	1,175
Boxer	Brig.	.....	.....	.....	50,000	.....	.....	.....
Cumberland	Ship	.....	.....	.....	370,000	.....	.....	1,800
Intrepid	Ship	.....	.....	.....	370,000	.....	.....	1,800
SPECIAL CLASS:								
Dolphin	Des.	7	125	1885	315,000	2,253	15.50	1,413
Vesuvius	Dy.	6	63	1890	350,000	3,795	21.42	703
TORPEDO CRAFT:								
Bagley	U. A.	3	26	1900	161,000	3,920	29.2	175
Bailey	U. A.	3	53	1899	210,000	5,600	30.2	280
Barney	U. A.	2	26	1900	161,000	3,920	29.1	175
Biddle	U. A.	2	26	1901	161,000	3,910	28.57	175
Blakeley	U. A.	2	26	1900	159,400	3,000	26	196
Cushing	U. A.	2	20	1890	82,750	1,720	22.5	105
Davis	U. A.	2	21	1899	81,546	1,750	23.41	154
Dahlgren	U. A.	2	26	1898	194,000	4,200	30.5	146.4
De Long	U. A.	2	26	1903	159,400	3,000	25.52	196
Du Pont	U. A.	2	28	1897	144,000	.....	28.58	165
Ericsson	U. A.	2	20	1897	113,500	1,875	22.62	120
Farragut	U. A.	2	60	1899	227,500	5,878	30.13	279
Fox	U. A.	2	21	.....	81,546	1,750	23.13	154
Foote	U. A.	2	21	1897	97,500	2,000	24.53	142
Goldsborough	U. A.	2	53	1899	214,500	5,850	30	255
Gwin	U. A.	2	13	1898	39,000	850	20.88	45.78
Mackenzie	U. A.	2	13	1899	48,500	1,192	20.11	65
Manly	U. A.	.....	.....	.....	Purchased.	.....	.....	.....
McKee	U. A.	.....	13	1898	45,000	850	19.82	65
Morris	U. A.	2	23	1898	85,000	1,750	24	104.75

NAME.	Type or Rig.	Officers.	Men.	Date of Commission.	Cost or Contract Price.	Horse-Power.	Speed Knots.	Tons Displacement.
TORPEDO CRAFT—*Continued.*								
Nicholson	U. A.	2	26	1901	$165,000	3,500	25.72	178
O'Brien	U. A.	2	26	1901	165,000	3,500	25	178
Porter	U. A.	2	28	1897	144,000	.....	28.63	165
Rodgers	U. A.	2	21	1898	97 500	2,295	24.49	142
Rowan	U. A.	2	28	1899	160,000	3,200	27.07	210
Schubrick	U. A.	2	26	1901	120,750	3,375	26.07	200
Somers	U. A.	.....	.....	.....	Purchased.	1,960	23.5	150
Stockton	U. A.	2	26	1899	129,750	3,000	26.03	146.4
Stringham	U. A.	3	56	1899	23,600	7,200	30	340
T. A. M. Craven	U. A.	2	26	1900	194,000	4,200	30.5	146.4
Talbot	U. A.	2	13	1898	39,000	850	21.15	46.5
Thornton	U. A	2	26	1900	129,750	3,000	27.57	200
Tingey	U. A.	2	26	1901	168,000	3,000	26	165
Wilkes	U. A.	2	26	1901	140,000	3,495	25.99	165
Winslow	U. A.	2	21	1897	97,500	2,000	24.82	142
Stilletto	U. A.	.....	5	.....	25,000	359	18.22	31
SUBMARINE:								
Adder	U. A.	.....	5	1903	170,000	160	8.73	122.55
Grampus	U. A.	.....	5	1903	170,000	160	8.45	120
Holland	U. A.	.....	5	1900	150,000	45	8	74
Maccasin	U. A.	.....	5	1903	170,000	160	8.41	122.55
Pike	U. A.	.....	5	1903	170,000	160	8.51	120
Plunger	U. A.	.....	5	1903	170,000	160	8.87	122.55
Porpoise	U. A.	.....	5	1903	170,000	160	8.41	122.55
Shark	U. A.	.....	5	1903	170,000	160	8.27	122.55
DESTROYERS:								
Baiubridge	U. A.	3	69	1903	283,000	8,000	28.45	420
Barry	U. A.	3	69	1903	283,000	8,000	28.12	420
Chauncey	U. A.	3	69	1903	283,000	8,000	28.64	420
Dale	U. A.	3	69	1903	260,000	8,000	28.1	420
Decatur	U. A.	3	69	1902	260,000	8,000	28.1	420
Hopkins	U. A.	3	69	1903	291,000	7,200	29.2	408
Hull	U. A.	3	69	1903	291,000	7,200	28.3	408
Lawrence	U. A.	3	69	1903	291,000	6,375	28.4	446
Macdonough	U. A.	3	69	1903	283,000	6,125	28.3	430
Paul Joues	U. A.	3	69	1903	285,000	8,000	28.9	480
Perry	U. A.	3	69	1903	285,000	9,100	28.3	480
Preble	U. A.	3	69	1003	285,000	7,600	28.3	480
Stewart	U. A.	3	69	1903	282,000	8,000	29.7	420
Truxton	U. A.	3	69	1903	286,000	8,300	29.58	433
Whipple	U. A.	3	69	1903	286,000	8,300	28.52	433
Worden	U. A.	3	69	1903	286,000	8,300	29.86	433
STEAM VESSELS:								
Alert	Bkt.	10	233	1875	.....	500	10	1,110
Michigan	Sch.	.....	89	1844	.....	365	10.5	685
Pinta	Sch.	8	77	1865	.....	310	8.5	550
Ranger	Bkt.	9	139	1876	.....	500	10	1,261
Adams	Bark	.....	282	1876	.....	800	9.8	1,400
Enterprise	Bark	.....	.....	1876	.....	800	11.4	1,375
Essex	Bark	15	172	1876	.....	800	10.4	1,375
Hartford	Bark	14	462	1858	.....	2,000	12	2,790
Lancaster	Ship	.....	483	1858	.....	1,000	9.6	3,250
Mohican	Bark	18	386	1883	.....	1,000	10.65	1,900
SAILING VESSELS:								
Alliance	Bark	18	325	1876	.....	.....	.....	1,375
Constellation	Ship	15	173	1854	.....	.....	.....	1,970
Jamestown	Ship	.....	.....	1845	.....	.....	.....	1,156
Monongahela	Ship	21	387	1862	.....	.....	.....	2,100
Portsmouth	Ship	15	.....	1843	.....	.....	.....	1,025
Saratoga	Ship	.....	.....	1842	.....	.....	.....	1,025
St. Mary's	Ship	.....	.....	1844	.....	.....	.....	1,025

Vessels in the Auxiliary Navy.

CRUISERS:								
Buffalo	Sch.	29	677	1898	.....	3,600	14.5	6,000
Dixie	Brig.	21	639	1898	.....	3,800	16	6,114
Panther	Brig.	31	482	1898	.....	.....	13	3,380
Prairie	Brig.	24	689	1898	.....	3,800	14.5	6,530
Yankee	Brig.	30	680	1898	.....	3,800	14	6,000
CONVERTED YACHTS:								
Aileen	Sch.	3	30	1898	.....	500	14	192
Dorothea	Sch.	6	64	1898	.....	1,558	15	594
Eagle	O. M.	4	48	1898	.....	850	15.5	434

NAME.	Type or Rig.	Officers.	Men.	Date of Commission.	Cost or Contract Price.	Horse-Power.	Speed Knots.	Tons Displacement.
CONVERTED YACHTS—*Contin'd.*								
Elfrida	Sch.	4	15	1898		200	10.5	173
Frolic	Sch.	7	65	1898		550	11	607
Gloucester	Sch.	9	13	1898		2,000	17	786
Hawk	O. M.	4	46	1898		1,000	14.5	375
Hist	Sch.	6	58	1898		500	14 5	472
Hornet	O. M.	4	51	1898		800	15	425
Huntress	Sch.	4	16	1898			14	81.76
Inca	Sch.	3	18	1898		400	14	120
Mayflower	Sch.	8	160			4,600	16.8	2,690
Oneida	Sch.	2	22	1898		350	12	150
Restless	O. M.	3	30	1898		500	12	158
Scorpion	Sch.	8	83	1898		2,800	17.85	850
Shearwater	Sch.		4				12	122
Siren	O. M.	5	37	1898			13	315
Strauger	O. M.	8	49	1898			14	546
Sylph	Sch.	3	25			550	15	152
Sylvia	Sch.	5	31	1898			9	302
Vixen	Sch.	6	74	1898		1,250	16	806
Wasp	Sch.	4	47	1898		1,800	16.5	630
Yankton	Sch.	8	79	1898		750	14	975
COLLIERS:								
Abarenda	Sch.	9	87	1898		1,050	9.5	4,670
Ajax	Sch.	10	98	1898		3,000	12	7,500
Alexander	Sch.	8	60	1898		1,026	8.75	6,181
Brutus	2 P. M.	9	60	1898		1,200	10	6,600
Cæsar	Sch.	6	48	1898		1,500	11	5,016
Hannibal	Sch.	8	42	1898		1,100	10	4,291
Justin	Sch.	6	47	1898			10.9	3,300
Lebanon	Sch.	5	53	1898			12.5	3,375
Leonidas	Sch.	7	45	1898		1,100	9.5	4,242
Marcellus	Sch.	6	62			1,200	11	4,400
Naushan	2 P. M.	7	44			1,400	11	4,950
Nero	Sch.	9	71	1898		1,000	9	4,925
Pompey	Sch.	5	38	1898			10.5	3,085
Saturn	Sch.	7	67	1898		1,500	11	6,220
Southery	Sch.	6	53	1898			10.5	3,100
Sterling	Sch.	8	52	1898		1,000	11	5,663
SPECIAL CLASS:								
Arethusa	T. S.	5	79				10	6,200
Celtic	R. S.	9	107	1898		1,690	10 5	8,000
Culgoa	R. S.	10	121	1898		2,350	13.5	6,300
Glacier	R. S.	8	108	1898		1,750	12.5	7,000
Iris	D. S.	10	102	1898		1,320	10	6,100
Manila	Tr.	10	92	1898	Captured.	750	10.11	1,750
Peoria	P. B.	6	46	1898				487.5
Rainbow	St. & D. S.	3	52	1898		1,800	12	4,360
Solace	H. S.	12	190	1898		3,200	15	5,700
Supply	St. S.	10	104			1,069	9 66	4,460
Zafiro	S. S.	8	37	1898		850	12.5	1,200

Meaning of Abbreviations.

B S.--Battle-ship.
A. C.—Armored Cruiser.
P. C.—Protected Cruiser.
U. P. C.—Unprotected Cruiser.
A.—Armored.
S. T.—Single Turret.
D. T.—Double Turret.
Sch.—Schooner.
Bkt.—Barkentine.
L. D.—Light Draught.
Com.—Composite Vessel.
Dis.—Dispatch.
Dy.—Dynamite.
U. A.—Unarmored.
O. M.—One Mast.
P. M.—Pole Mast.
T. S.—Tank Steamer.
R. S.—Refrigerator Ship.
D. S.—Distilling Ship.
Tr.—Transport.
P. B.—Pilot Boat.
St. S.—Station Ship.
H. S.—Hospital Ship.
S. S.—Supply Ship.

Besides the vessels given in the table, there are 41 tugs in the service distributed among the various Navy stations in the United States and the Philippines; 9 wooden steamers which are unfit for service; and 6 wooden sailing vessels which are used for receiving-ships at the Navy-yards and by the Naval militia of some of the States.

Summary.

Vessels of the Navy fit for service, including those under repair, 252; vessels under construction or authorized, 45; unfit for sea service, 23; total number of vessels, 320.

Active list of Navy comprises 1,577 commissioned officers and 469 warrant officers. The enlisted force numbers 28,644 men. The United States Marine Corps consists of 222 officers and 6,821 men.

The Department of War.

THE Department of War, an executive department of the United States Government, is presided over by the *Secretary of War*, who is a member of the President's Cabinet, and whose general duties are a supervision of the estimates of the expenses of the department, the purchasing of army-supplies, and of all expenditures for the support and transportation of the army. He has also supervision of the United States Military Academy at West Point, of the National Cemeterics, of the publication of the official records of the Board on Ordnance and Fortification and of the War of the Rebellion. He has charge of river and harbor improvements, the prevention of obstruction to navigation, the establishment of harbor-lines, and of the construction of bridges over navigable waters in the United States. His salary is $8,000. He is assisted by an *Assistant Secretary of War*, who performs such duties as the secretary may prescribe or the law enjoin. The Secretary has a *chief clerk*, who has charge of the official mail and correspondence, and who performs such other duties as are assigned him by the Secretary.

The work of the War Department is distributed among eleven bureaus, as follows, the chief of each being an officer of the regular army of the United States and having the relative rank of Brigadier-General while holding the office, except the Chief of the Record and Pension Office.

The Adjutant-General promulgates all military orders of the President, Secretary of War, and the Major-General commanding the Army, conducts the correspondence between the latter and the army, prepares commissions, appointments, and consolidated reports of the army and militia, receives all muster-rolls, and has charge of the recruiting service.

The Inspector-General inspects all military commands and stations, the Military Academy, the military department of all schools at which officers of the army are detailed, and the money accounts of all disbursing officers of the army. To him are referred the material, personnel, discipline, instruction, uniform, and outfit of the army, and the character, quality, and adequacy of its supplies.

The Quartermaster-General provides transportation for the army; also, clothing and equipage, horses, wagons, forage, and all other things required by soldiers in the barracks or in the field. He also constructs all necessary buildings, roads, bridges, military posts, pays guides, interpreters, etc., and has charge of the national cemeteries.

The Commissary-General has control of the subsistence department, which furnishes rations to the army; the purchase and distribution of articles which may be sold to officers and enlisted men; and the examination and settlement of returns of supplies.

The Surgeon-General has charge of the medical department of the army. He stations medical officers and instructs them in their professional duties. He has charge of the purchase and distribution of all medical supplies. With this department is connected the entire hospital work of the service. The Army Medical Museum and the publications of the office are under his direct control.

The Paymaster-General is charged with the payment of the officers and enlisted men; examines the accounts of army officers, and pays Treasury certificates for bounty, back pay, etc.

The Chief of Engineers commands the corps of engineers, which constructs and repairs fortifications, military roads, bridges, etc., and is in charge of torpedoes for coast defense. He also has charge of harbor and river improvements, and all military and geographical exploration and surveys.

The Chief of Ordnance commands the Ordnance Department, which provides all the munitions of war required for the fortifications, the armies in the field, and the militia of the Union, and determines the form and construction of all military weapons employed in war.

The Judge-Advocate-General reviews the proceedings of all courts-martial and other military courts, and, in general, attends to all legal matters pertaining to the army.

The Chief Signal Officer has charge of all military signal duties, and books, papers, etc., connected therewith, including telegraph and telephone service, and meteorological instruments for army use.

The Chief of the Record and Pension Office has charge of the military and hospital records of the volunteer armies, and transacts the pension and other business of the War Department connected therewith. The records include those of the Bureau of Refugees, Freedmen, and Abandoned Lands; also the Confederate archives. This office furnishes the Commissioner of Pensions, the officers of the Treasury, and others information for the settlement of claims against the national and state governments, and adjustment of the individual records of officers and enlisted men, under the general and special legislation of Congress rélating thereto.

SECRETARIES OF WAR.

The following is a complete list of the Secretaries of War from the organization of this department of the government, with dates, severally, of their appointments:

Henry Knox	1789
Timothy Pickering	1795
James McHenry	1796–1797
John Marshall	1800
Samuel Dexter	1800
Roger Griswold	1801
Henry Dearborn	1801
William Eustis	1809
John Armstrong	1813
James Monroe	1814
William H. Crawford	1815
Isaac Shelby	1817
George Graham	1817
John C. Calhoun	1817
James Barbour	1825
Peter B. Porter	1828
John H. Eaton	1829
Lewis Cass	1831
Benjamin F. Butler	1837
Joel R. Poinsett	1837
John Bell	1841
John McLean	1841
John C. Spencer	1841
James M. Porter	1843
William Wilkins	1844
William L. Marcy	1845
George W. Crawford	1849
Edward Bates	1850
Charles M. Conrad	1850
Jefferson Davis	1853
John B. Floyd	1857
Joseph Holt	1861
Simon Cameron	1861
Edwin M. Stanton	1862–1865
U. S. Grant	1867
Lor. Thomas	1868
John M. Schofield	1868
John A. Rawlins	1869
William T. Sherman	1869
William W. Bellnap	1869
Alphonso Taft	1876
James Don Cameron	1876
George W. McCrary	1877
Alexander Ramsey	1879
Robert T. Lincoln	1881
William C. Endicott	1885
Redfield Proctor	1889
Stephen B. Elkins	1891
Daniel S. Lamont	1893
Russel A. Alger	1897
Elihu Root	1899-1901
William H. Taft	1904

THE ARMY OF THE UNITED STATES.

In 1898 the United States Army was deficient in numbers, unwieldy, inelastic, and woefully deficient in organization. At the beginning of our war with Spain money was spent right and left without stint in a frantic endeavor to increase and strengthen our forces, which expenditure resulted in the numerical increase of our soldiers to 275,000 including volunteers under arms. Our subsequent experiences in the Philippines evidenced to the United States the vital necessity of increasing and decreasing the Army at will without waiting for the slow actions of Congress. A bill was consequently drafted, presented to Congress, and, in due time became a law, giving the President within certain limitations the power to increase or decrease the Army at his discretion between the limits of 100,000 and 60,000 men; 60,000 men being the peace footing of the organization.

The United States Army, as at present constituted, is organized under the Act of Congress of February 2, 1901. It consists of fifteen regiments of cavalry, an artillery corps, thirty batteries of field artillery, and one hundred and twenty-six companies of coast artillery; thirty regiments of infantry, three battalions of engineers, and an additional provisional force of more than five thousand men. As now constituted the total strength of the Army is 65,971 men, 3,820 of whom are commissioned officers. By Act of 1901, the Army shall at no time exceed 100,000 men.

The organization of the Army is as follows:

STATION.	Privates.	Total Commissioned.	Total Enlisted.	Cadets.	Aggregate.
General officers		22			22
Aides de Camp to general officers					
Adjutant-General's Department		28			28
Inspector-General's Department		17			17
Judge Advocate-General's Department		12			12
Quartermaster's Department		96	150		246
Subsistence Department		44	200		244
Medical Department	3,300	321	4,000		4,321
Pay Department		53			53
Corps of Engineers	972	160	1,282		1,442
Ordnance Department	452	72	700		772
Signal Corps	400	35	810		845
Record and Pension Office		2			2
Chaplains		57			57
Fifteen Regiments of Cavalry	7,740	750	11,700		12,450
Artillery Corps	13,126	651	17,742		18,393
Thirty Regiments of Infantry	17,280	1,500	24,000		25,500
Military Academy				492	500
Enlisted Men, unattached to Regiments	577		942		942
Indian Scouts	75		75		75
Totals	43,922	3,820	61,601	492	65,971

The organization by Regiments and Companies is as follows:

REGIMENTS, COMPANIES, ETC.	Total Commissioned.	Privates.	Total Enlisted.	Aggregate.
15 regiments of cavalry — each	50	516	780	830
180 troops of cavalry — each	3	43	65	68
15 regimental bands (cavalry) — each		11	28	28
126 companies coast artillery (artillery corps) — each	3	81	109	112
28 batteries field artillery (artillery corps) — each	4	91	120	124
2 siege batteries (artillery corps) — each	4	131	160	164
10 bands (artillery corps) — each		11	28	28
30 regiments of infantry — each	50	576	780	830
360 companies of infantry — each	3	48	65	68
30 bands (infantry) — each		12	28	28
First battalion of engineers	15	320	418	433
Second battalion of engineers	15	320	418	433
Third battalion of engineers	15	320	418	433
12 companies of engineers		80	104	104
1 band (engineers)		12	28	28

Divisions and Departments of the Army as Reorganized.

Division of the Philippines.—Consisting of the Departments of Luzon, Visayas, and Mindanao.

Department of Luzon.—Includes all that part of the Philippine Archipelago lying north of a line passing southeastwardly through the West Pass of Apo, or Mindoro Strait, to the 12th parallel of north latitude; thence east along said parallel to 124 degrees 10 minutes east of Greenwich, but including the entire island of Masbate; thence north to San Bernardino Straits; headquarters, Manila, P. I.

Department of the Visayas.—To include all islands south of the southern line of the Department of Luzon and east of longitude 121 degrees 45 minutes east of Greenwich, and north of the 9th parallel of latitude, excepting the islands of Mindanao, Paragua, and all islands east of the Straits of Surigao.

WEST POINT,

United States Military Academy.

Pay Table.

GRADE.	YEARLY.	PAY OF OFFICERS IN ACTIVE SERVICE.			
		Monthly Pay.			
		After 5 years' service.	After 10 years' service.	After 15 years' service.	After 20 years' service.
Lieutenant-General	$11,000.00	.....	.....	.....	.....
Major-General	7,500.00	.....	.....	.....	.....
Brigadier-General	5,500.00	.....	.....	.....	.....
Colonel	3,500.00	$320.83	$350.00	$375.00	$375.00
Lieutenant-Colonel	3,000.00	275.00	300.00	325.00	333.33
Major	2,500.00	229.17	250.00	270.83	291.67
Captain, mounted	2,000.00	183.33	200.00	216.67	233.33
Captain, not mounted	1,800.00	165.00	180.00	195.00	210.00
Regimental Adjutant (captain mounted)	2,000.00	183.33	200.00	216.67	233.33
Regimental Quartermaster (captain mounted)	2,000.00	183.33	200.00	216.67	233.33
Regimental Commissary (captain mounted)	2,000.00	183.33	200.00	216.67	233.33
Battalion and Squadron Adjutant, Engineer, Cavalry and Infantry	1,800.00	165.00	180.00	195.00	210.00
Battalion and Squadron Quartermaster and Commissary	1,600.00	146.67	160.00	173.33	186.67
First Lieutenant, mounted	1,600.00	146.67	160.00	173.33	186.67
First Lieutenant, not mounted	1,500.00	137.50	150.00	162.50	175.00
Second Lieutenant, mounted	1,500.00	137.50	150.00	162.50	175.00
Second Lieutenant, not mounted	1,400.00	128.33	140.00	151.67	163.33
Chaplain	1,800.00	165.00	180.00	195.00	210.00

Department of Mindanao.—Includes all the remaining islands of the Philippine Archipelago.

Department of California.—States of California and Nevada, the Hawaiian Islands and their dependencies; headquarters, San Francisco, Cal.

Department of the Colorada.—States of Wyoming (except so much thereof as is embraced in the Yellowstone National Park), Colorado and Utah, and the Territories of Arizona and New Mexico; headquarters, Denver, Col.

Department of the Columbia.—States of Washington, Oregon, Idaho, and the Territory of Alaska (except so much of Idaho as is embraced in the Yellowstone National Park); headquarters, Van Couver Barracks, Washington.

Department of Dakota.—States of Minnesota, North Dakota, South Dakota, Montana, and so much of Wyoming and Idaho as is embraced in the Yellowstone National Park; headquarters, St. Paul, Minnesota.

Department of the East.—New England States, New York, New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, the Island of Porto Rico, and the islands and keys adjacent thereto; headquarters, Governor's Island, New York.

Department of the Lakes.—States of Wisconsin, Michigan, Illinois, Indiana, Ohio, Kentucky, and Tennessee; headquarters, Chicago, Ill.

Department of the Missouri.—States of Iowa, Nebraska, Missouri, Kansas, Arkansas, Indian Territory, and the Territory of Oklahoma; headquarters, Omaha, Neb.

Department of Texas.—State of Texas; headquarters, San Antonio, Texas.

All persons applying for enlistment in the United States Army must be not less than 18 nor more than 35 years of age. They must also be of good moral character, of temperate habits and be able to pass the necessary examination to show that they can speak, read, and write the English language, and are able-bodied and free from disease. Persons who are under 18 years of age, but who can meet all other requirements of the service, are accepted for enlistment if they can produce the written consent of parent or guardian.

The height and weight requirements are as follows:

For infantry and coast artillery, height not less than 5 feet 4 inches; weight not less than 120 and not more than 190 pounds.

For cavalry and field artillery service the height must be over five feet four inches and under five feet ten inches, while the weight must not be more than 165 pounds.

The reoganization of 1901 provided also for the establishment of technical training schools for the army and the better equipment of those already established. The Military Academy at West Point, a poorly-housed artillery school at Fortress Monroe, Va., an infantry and cavalry school at Fort Leavenworth, Kan., and an artillery and cavalry school at Fort Riley, Kan., were the only places for the instruction of Army Officers at the beginning of the Spanish War. By the plans mapped out by Secretary Root it was arranged for an improved, better-housed, and better-equipped artillery school at Fortress Monroe, an engineer school of application at Washington, a school of sub-marine defense at Fort Totten, New York, a school of application for cavalry and field artillery at Fort Riley, an army medical school at Washington, a general service and staff college at Fort Leavenworth, and a war college for the most advanced instruction at Washington.

Generals Who Commanded the United States Army.

	From.	To.
George Washington	1775	1783
Henry Knox	1783	1784
Josiah Harmer	1784	1791
Arthur St. Clair	1791	1792
Anthony Wayne	1792	1796
James Wilkinson	1796	1798
George Washington	1798	1799
Alexander Hamilton	1799	1800
James Wilkinson	1800	1812
Henry Dearborn	1812	1815

	From.	To.
Jacob Brown	1815	1828
Alexander Macomb	1828	1841
Winfield Scott	1841	1861
George B. McClellan	1861	1862
Henry W. Hallock	1862	1864
Ulysses S. Grant	1864	1869
William T. Sherman	1869	1883
Philip H. Sheridan	1883	1888
John M. Schofield	1888	1895
Nelson A. Miles	1895	1903
Samuel B. M. Young	1903	1903

National and International Salutes.

Salute to the national flag, the President of the United States, the Presidents and sovereigns of foreign States, 21 guns; salute to the Vice-President of the United States and foreign Ambassadors, 19 guns; salute to the President of the Senate, Speaker of the House of Representatives, Cabinet Officers, Chief Justice, Governors within their respective States or Territories, Governors-General of foreign States, General of the Army, Admiral of the Navy, and same ranks in foreign armies and navies, 17 guns; United States and foreign Ministers, Plenipotentiaries, Assistants of Secretary of War or the Navy, Lieutenant-General or Major-General commanding the army, and corresponding ranks in the navy and foreign armies and navies, 15 guns; Ministers resident, Major-Generals, Rear-Admirals, and corresponding ranks in foreign armies and navies, 13 guns; *Chargé d'Affaires*, Brigadier-Generals, Commodores, and corresponding ranks in foreign armies and navies, 11 guns; Consul-General, 9 guns.

The State Militia of the States of the Union.

Official Designation of State Troops.	Cavalry.	Artillery.	Infantry.	Total number authorized.	Total liable to Military Service.
Alabama State Troops	278	290	2,727	7,788	175,000
National Guard of Arizona	56	.....	319	.....	20,000
Arkansas State Guard	59	64	1,769	No limit.	265,000
National Guard of California	319	302	2,966	6,500	256,000
National Guard of Colorado	176	68	815	No limit.	110,000
National Guard of Connecticut	77	68	2,401	3,500	107,000
National Guard of Delaware	.....	.....	370	750	29,000
National Guard of District of Columbia	.....	72	1,193	3,365	50,000
Florida State Troops	.....	122	1,145	1,458	85,000
Georgia Volunteers	586	391	3,676	12,344	291,000
Hawaii National Guard	.....	.....	564	2,000	4,000
Idaho National Guard	.....	.....	438	2,100	27,000
Illinois National Guard	547	201	5,767	10,600	815,000
Indiana Legion	.....	205	2,002	4,608	512,000
Iowa National Guard	42	.....	2,301	3,690	356,000
Kansas National Guard	.....	134	1,177	2,131	115,000
Kentucky National Guard	.....	192	1,055	3,500	415,000
Louisiana State National Guard	.....	512	944	No limit.	140,000
National Guard, State of Maine	.....	.....	1,133	2,040	110,000
Maryland National Guard	70	.....	1,915	2,700	210,000
Massachusetts Volunteer Militia	267	193	5,189	6,592	450,000
Michigan National Guard	.....	.....	2,020	3,429	287,000
National Guard of Minnesota	.....	137	1,813	3,700	215,000
Mississippi National Guard	.....	73	1,049	1,800	235,000
National Guard of Missouri	.....	68	2,993	3,000	420,000
National Guard of Montana	.....	54	476	3,000	35,000
Nebraska National Guard	163	81	1,298	2,173	108,000
Nevada National Guard	.....	.....	140	No limit.	4,750
New Hampshire National Guard	75	69	1,161	1,699	35,000
National Guard of New Jersey	176	140	4,298	5,142	390,000
National Guard of New Mexico	66	.....	294	1,130	43,000
National Guard, State of New York	492	1,326	12,977	18,000	950,000
North Carolina National Guard	.....	71	1,762	3,600	250,000
North Dakota National Guard	70	67	660	1,000	40,000
Ohio National Guard	138	269	5,225	9,480	650,000
Oklahoma National Guard	45	47	733	2,240	64,000
Oregon National Guard	53	69	1,131	1,587	66,000
National Guard, Pennsylvania	312	138	8,449	11,103	900,000
Brigade of Rhode Island Militia	112	104	798	1,026	69,000
South Carolina Volunteer State Troops	864	77	2,732	5,000	114,000
South Dakota National Guard	192	74	1,061	1,500	55,000
National Guard, State of Tennessee	134	.....	1,769	3,000	172,000
Texas Volunteer Guard	294	281	2,625	No limit.	345,000
National Guard of Utah	64	71	212	1,000	45,000
National Guard of Vermont	.....	71	619	No limit.	45,000
Virginia Volunteers	67	201	1,987	5,176	310,000
National Guard of Washington	52	.....	722	1,877	102,000
West Virginia National Guard	.....	.....	1,115	8,359	135,000
Wisconsin National Guard	63	72	2,703	3,122	410,000
Wyoming National Guard	54	39	253	1,078	180,000
Total	5,831	7,109	119,941	178,787	11,126,750

Alaska and Indian Territory have no militia, though provision is made for such if need arises. Guam and Samoa each have a small provisional force used more for police purposes than for military. The Philippines have a constabulary force which can be used either for police or war purposes, provided the latter is on the islands. So also Porto Rico has a provisional force of 700 foot and 100 mounted men, 100 non-commissioned officers, and 26 officers, the whole under command of a Lieutenant-Colonel of the United States Army.

THE ✝ POST-OFFICE ✝ DEPARTMENT.

THE POSTMASTER-GENERAL is appointed by the President. His term, unless he dies, resigns or is removed, continues for one month after the Presidential term expires. There are four Assistant Postmasters-General, appointed by the President, and an Assistant Attorney-General, appointed by the Postmaster-General, in this Department.

THE OATH.

Every person employed in the postal service, from the Postmaster-General down, before entering upon his or her duties, or drawing any salary, takes the following oath:

"I, A. B., do solemnly swear (or affirm) that I will faithfully perform all the duties required of me, and abstain from everything forbidden by the laws, in relation to the establishment of post-offices and post-roads within the United States; and that I will honestly and truly account for, and pay over, any money belonging to the said United States which may come into my possession or control: So help me God."

Controlling the machinery of the whole postal system, the *duties* of the Postmaster-General are multifarious, and most of them appear plainly in the detailed workings of the service. The Postmaster-General reports annually to Congress all contracts for carrying the mails made within the preceding year, with all particulars concerning them; a statement of all land and water mail routes established within the year, and of all allowances made to mail contractors above the contract prices, and why; a detailed statement of the finances of the Department; a report of fines assessed against mail contractors; a copy of each contract for carrying mails between the United States and foreign countries, and a statement showing its benefits to the Department; a report on the postal business and agencies in forcign countries; a statement of the money expended in the Department, with details.

The Personnel

Of a post-office in one of the larger cities consists of the Postmaster, his private secretary and inquiry clerk, Assistant Postmaster, auditor of accounts, bookkeeper, cashier, watchman, mailing clerks, delivery clerks, letter carriers, registered letter clerks, money order clerks, special postal agents.

The Work.

THE POSTMASTER having general supervision, his private secretary attends to the correspondence relating to the business of the office.

THE INQUIRY CLERK receives all complaints about missing letters, and institutes searches for them.

THE ASSISTANT POSTMASTER is the ever present superintendent.

THE AUDITOR examines and corrects the accounts of the Postmaster with the Government, and with his subordinate officers, clerks and employes.

THE BOOKKEEPER keeps the accounts of the Postmaster with the Government, and with every person doing business with his post-office.

THE CASHIER has supervision of all the money paid into or out of the post-office, and provides for its safe keeping and proper deposit with the United States Sub-Treasurer or in some other designated place.

THE MAIL CLERKS open all packages of letters addressed to the office, count and compare them with the post bills accompanying the packages, and check any errors in the bills, file the bills and send the letters to the letter carriers' department, the general delivery, the registry office or the money order office, as may be necessary.

If the office is a distributing post-office, letters for other places within the distributing limits of the office are sorted, billed, repacked and forwarded; some of the clerks sort out newspapers and periodicals for delivering or mailing; other clerks receive, sort, stamp, bill and mail letters for other places; others receive and mail transient newspapers; others receive newspapers and periodicals sent from publishers direct to subscribers, weigh them to find out the amount of postage to be prepaid, and send the account to the proper officer. These papers are then forwarded without further charge.

DELIVERY CLERKS receive letters, papers and periodicals not directed to any special box, street or number, and place them in the general delivery, to be called for by the owners. Letters directed to a specified box are placed in it and remain until called for.

THE SUPERINTENDENT OF FREE DELIVERY has charge of the letter-carriers.

One or more clerks in the general delivery assort and deliver the letters and papers sent to their department.

When letters remain a set time in the general delivery without being called for, they are advertised and kept a certain time longer, and are then forwarded to the Dead Letter Office.

POSTAL AGENTS superintend the railway postal service, and the special agents in the free delivery and money order service, in the interest of the Post-office Department.

Writer's Address.

Letters bearing upon the outside the name and address of the writer are not advertised, but, if not called for within the time mentioned on them, having been prepaid, are returned without further charge.

Postal Cars.

On the railway postal cars the clerks sort the mails for each station on the route and deliver them whilst in motion by throwing the bags off the car at the proper places, or handing them to the mail messengers at the depots where the train halts.

Postmasters.

There are four classes of postmasters. The fourth class, who do the least business, are appointed by the Postmaster-General; the others by the President. A Postmaster must reside within the delivery of his office. He must, before entering upon his duties, give bond to the Government for their faithful performance, with good security. If a money order office, there are additional conditions on the bond. He must every three months report to the Postmaster-General a sworn statement of all moneys received by him from postage or other sources connected with his department. If he neglects for one month to make this quarterly return he and his sureties forfeit and pay double the amount of the gross receipts at his office during any previous or subsequent period of time, and if at the time of trial no account has been rendered, they are liable to a penalty in such a sum as may be estimated equivalent.

In a city where there is an Assistant Treasurer of the United States, the Postmaster must deposit with him all moneys collected. Where there is no Assistant Treasurer the Postmaster must keep such funds safely, subject to the order of the Postmaster-General. He can neither lend, use, deposit in an unauthorized bank, nor exchange for other money, the public funds which come into his hands.

CONTRACTS for carrying the mails (except in the railway service) are made with the lowest bidder, he giving ample security for the performance of the work.

THE RAILWAY SERVICE is classified according to the amount of mail moved. Companies owning routes of the first class are paid $300 per mile per year; second class, $100; third class, $50.

LETTER-CARRIERS are employed in towns where there are 20,000 inhabitants. They must give bond with security. They are uniformed. Any person assaulting a letter-carrier while performing his duty is liable to a fine of from $100 to $1,000, or imprisonment from one to three years.

Rates of Postage.

POSTAL CARDS, 1 cent each, go without further charge to all parts of the United States and Canada. Cards for foreign countries (within the Postal Union), 2 cents each.

ALL LETTERS, to all parts of the U. S., Mexico and Canada, 2 cents per ounce or fraction thereof.

LOCAL, OR "DROP" LETTERS, that is, for the city or town where deposited, 2 cents where the carrier system is adopted, and 1 cent where there is no carrier system.

FIRST CLASS.—Letters and all other written matter, whether sealed or unsealed, and all other matters sealed, nailed, sewed, tied or fastened in any manner so that it cannot be easily examined, 2 cents for each ounce or fraction thereof. Postal cards, 1 cent each. Postal cards are unmailable with any writing or printing on the address side, except the direction, or with anything pasted upon or attached to them.

SECOND CLASS.—Only for publishers and news agents; 1 cent per pound.

THIRD CLASS.—Printed matter, in unsealed wrappers only (all matter inclosed in notched envelopes must pay letter rates), 1 cent for each two ounces or fraction thereof, which must be fully prepaid. This includes books, circulars, chromos, engravings, handbills, lithographs, magazines, music, newspapers, pamphlets, photographs, proof-sheets and manuscript accompanying the same, reproductions by the electric pen, hektograph, metallograph, papyrograph, and, in short, any reproduction upon paper by any process except handwriting and the copying press. Limit of weight, 4 pounds, except for a single book, which may weigh more.

FOURTH CLASS.—All mailable matter, not included in the three preceding classes, which is so prepared for mailing as to be easily withdrawn from the wrapper and examined. Rate, 1 cent per ounce or fraction thereof. Limit of weight, four pounds. Full payment compulsory.

Foreign Postage.

Countries.	Letters, per 1-2 oz.	Newsp'a, per 4 oz.	*Countries.*	Letters, per 1-2 oz.	Newsp'a, per 4 oz.
Ascension	15	4	Natal and Zululand	15	4
Cape Colony	15	4	Norfolk Island	12	2‡
China, via Brindisi	13	5	Orange Free State	15	4
Comoro Islands	5	1†	Queensland	12	2‡
Madagascar (except French Stations), British mail	13	4	Samoan Islands	12	2‡
Morocco (except Sp. possessions)	15	2†	St. Helena	15	4
			Transvaal and Bechuanaland	19	5

† Per 2 ounces. ‡ Per copy.

ALL COUNTRIES EXCEPT THE ABOVE ARE IN THE UNIVERSAL POSTAL UNION, within which the rates are as follows:

Letters per ½ ounce		5 cents.
Postal cards, each		2 cents.
Newspapers and other printed matter, per 2 ounces		1 cent.
Commercial papers.	Packets not in excess of 10 ounces	5 cents.
	Packets in excess of 10 ounces, for each 2 ounces, or fraction thereof	1 cent.
Samples of merchandise.	Packets not in excess of 4 ounces	2 cents.
	Packets in excess of 4 ounces, for each 2 oz., or fraction thereof	1 cent.

Rates and conditions to countries not in the Universal Postal Union are now the same as those to Universal Postal Union countries.

Postmasters-General.

Samuel Osgood, Mass.	1789	William Denison, Ohio.	1864
Timothy Pickering, Penn.	1791	A. W. Randall, Wis.	1866
Joseph Habersham, Ga.	1795	John A. J. Creswell, Md.	1869
Gideon Granger, Conn.	1801	James W. Marshall, Va.	1874
Return J. Meigs, Ohio.	1814	Marshall Jewell, Conn.	1874
John McLean, Ohio.	1823	James N. Tyner, Ind.	1876
William T. Barry, Ky.	1829	David M. Key, Tenn.	1877
Amos Kendall, Ky.	1835	Horace Maynard, Tenn.	1880
John M. Niles, Conn.	1840	Thomas L. James, N. Y.	1881
Francis Granger, N. Y.	1841	Timothy O. Howe, Wis.	1881
Charles A. Wickliffe, Ky.	1841	W. Q. Gresham, Ind.	1883
Cave Johnson, Tenn.	1845	Frank Hatton, Iowa.	1884
Jacob Collamer, Vt.	1849	William F. Vilas, Wis.	1885
Nathan K. Hall, N. Y.	1850	Don M. Dickinson, Mich.	1888
Samuel D. Hubbard, Conn.	1852	John Wanamaker, Pa.	1889
James Campbell, Penn.	1853	Wilson S. Bissell, N. Y.	1893
Aaron V. Brown, Tenn.	1857	William L. Wilson, W. Va.	1895
Joseph Holt, Ky.	1859	James A. Gary, Md.	1897
Horatio King, Mo.	1861	Chas. Emory Smith, Pa.	1898
Montgomery Blair, Md.	1861	Henry C. Payne, Wis.	1902

BOARD ON GEOGRAPHIC NAMES.

That uniform usage in regard to geographic nomenclature and orthography shall obtain throughout the Executive Department of the Government, and particularly upon maps and charts issued by the various departments and bureaus, this board is constituted. To it shall be referred all unsettled questions concerning geographic names which arise in the Departments, and the decisions of the board are to be accepted by the Departments as the standard authority in such matters.

THE DEPARTMENT OF THE INTERIOR.

A LIST of the Bureaus over which the Secretary of the Interior has supervision includes the following: The census,* the public lands and mines, the Indians, pensions and bounties, patents for inventors, and education. He reports annually to Congress all claims for depredations committed by the Indians, all the expenditures of the different branches under his charge, and estimates for further appropriations. The transactions of this department are conducted through six branches, each governed by a Commissioner:

The General Land Office.
The Bureau of Indian Affairs.
The Pension Office.
The Patent Office.
The Bureau of Education.
The Bureau of Railroads.

The Commissioner of the General Land Office

Superintends the survey and sale of the public lands of the United States; issues patents for all lands granted by authority of government. Plats of surveys and all information concerning the public lands can be found in his office. All patents issued from the office are signed by the President, countersigned by the Commissioner, and have the seal of the office affixed.

A Surveyor-General is appointed to each of the districts: Alaska, Louisiana, Florida, Minnesota, North Dakota, South Dakota, Oregon, Washington, Colorado, New Mexico, California, Idaho, Nevada, Montana, Utah, Wyoming and Arizona. When the surveys in any State are finished and all the maps, field notes and other records turned over to the Secretary of State of such State, the office of Surveyor-General ceases in that State.

How to Secure a Homestead.

The public lands open to settlement are divided into two classes with respect to price, one class being held at $1.25 per acre as the minimum price, the other at $2.50 per acre; being the alternate sections reserved by the United States in land grants to railroads, etc. Such tracts are sold on application to the Registers and Receivers of the district land offices to legally qualified parties upon conditions of actual residence and improvement under the pre-emption laws. Widows, heads of families, or single persons over twenty-one years of age, if citizens of the United States, or aliens who have declared their intention to become citizens, have the right of pre-emption to the maximum quantity of 160 acres each on becoming settlers and complying with the regulations.

Under the homestead laws a citizen, or an alien having declared his intention to become a citizen, has the right to 160 acres of either the $1.25 or $2.50 class after actual residence and cultivation for five years. Under the timber culture law a citizen, or one who has declared his intention to become such, if the head of a family, or a single person over twenty-one years, may acquire title to 160 acres on cultivating 10 acres of trees thereon for eight year. By the act of August 30, 1890, no person can acquire under all the land laws an aggregate area of more than 320 acres of the public lands.

Land Offices.

In *Missouri*, at Boonville, Ironton and Springfield; *Alabama*, at Huntsville and Montgomery; *Louisiana*, at New Orleans, and Natchitoches; *Michigan*, at Marquette; *Arkansas*, at Dardanelle, Little Rock, Camden and Harrison; *Florida*, at Gainesville; *Iowa*, at Des Moines; *Wisconsin*, at Ashland, Wausau and Eau Claire; *California*, at San Francisco, Stockton, Visalia, Sacramento, Redding and Susanville; *Nevada*, at Carson City; *Washington*, at Olympia, Vancouver, North Yakima, Seattle, Spokane Falls, Waterville and Walla-Walla; *Minnesota*, at St. Cloud, Duluth, Crookston and Cass Lake; *Oregon*, at Oregon City, Roseburgh, Le Grand, Burns, The Dalles and Lake View; *Kansas*, at Topeka, Dodge City and Wa Keeney; *Nebraska*, Lincoln, North Platte, Alliance, Broken Bow, McCook, O'Neill, Sidney and Valentine; *Colorado*, at Pueblo, Denver, Akron, Del Norte, Durango, Glenwood Springs, Gunnison, Hugo, Lamar, Leadville, Montrose and Sterling; *New Mexico*, at Sante Fe, Clayton, Las Cruces and Roswell; *Idaho*, at Boise City, Blackfoot, Cœur d' Alene, Hailey and Lewiston; *Montana*, at Helena, Bozeman, Lewistown, Miles City, Great Falls, Kalispell and Missoula; *Utah*, at Salt Lake City; *Wyoming*, at Cheyenne, Buffalo, Evanston, Lander, Douglas and Sundance; *Arizona*, at Prescott and Tucson; *Mississippi*, at Jackson; *North Dakota*, at Bismarck, Devil's Lake, Fargo, Grand Forks and Minot; *South Dakota*, at Aberdeen, Chamberlain, Huron, Mitchell, Pierre, Rapid City and Watertown; *Alaska*, at Juneau; *Oklahoma*, at Oklahoma City, Guthrie, Alva, Elreno, Lawton, Mangum, Woodward and Kingfisher.

*The Census office has lately been transferred to the new Department of Commerce and Labor.

THE BUREAU OF INDIAN AFFAIRS.

ALL matters concerning the Indians are in charge of the Commissioner of Indian Affairs. He examines all accounts and vouchers for claims and disbursements connected with Indian affairs. He reports annually a tabular statement showing the several objects of expenditure under his supervision, and embodying the statements of all agents issuing supplies of any kind to the Indians, with the number of Indians receiving them.

There is an Advisory Board connected with this Bureau, consisting of not more than ten persons, appointed by the President. Members of this Board receive no compensation; they are chosen as men eminent in the community, who have exhibited some peculiar mark of fitness for the position. The Board supervises the expenditures of money appropriated for the Indians, and inspects all goods purchased for them. It has access to all books and papers relating to Indian affairs in any Government office. The Board has no direct power further than that of inspection.

Inspectors.

From one to five Indian Inspectors are appointed by the President. Their duty is to visit twice a year each Indian superintendency and agency, and fully investigate all matters belonging to the business of each, including the examination of accounts, the manner of expending the money, the number of Indians provided for, contracts of all kinds, the condition of the Indians, their advance in civilization, the extent of the reservations, and what use is made of the lands set apart for that purpose, and all matters belonging to the Indian service.

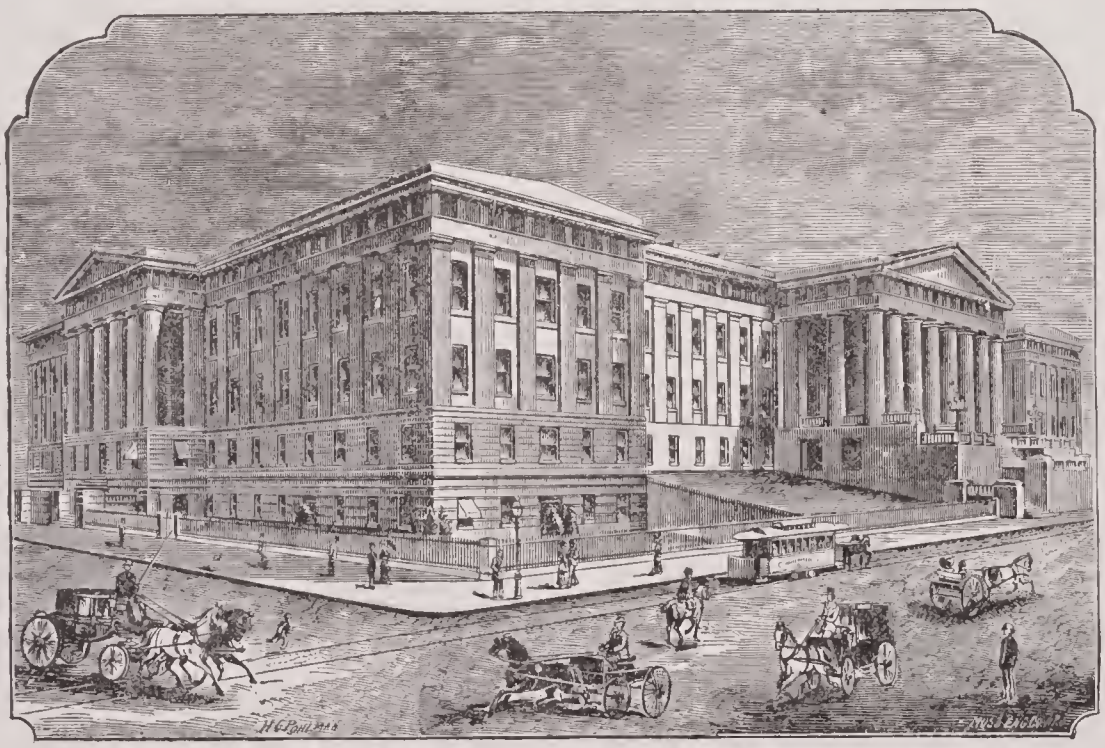
Each inspector has power to examine on oath all officers and others in and about the superintendencies and agencies, and to suspend any superintendent or employe and appoint others temporarily. He has power to enforce the laws in the several agencies and superintendencies. The same inspector does not visit and investigate any agency or superintendency twice in succession.

Four or more superintendents are appointed by the President. Their duties are each in his own district to supervise and control the official conduct and acts of all persons employed by the Government in Indian affairs.

Indian Agents.

Indian Agents are appointed by the President. They must give bond with good security before enlisting upon their duties. Every agent must reside and keep his agency near the tribe of Indians to which he is assigned. Within his agency he manages and superintends the intercourse with the Indians and enforces all rules prescribed to him. No person employed in Indian affairs may have an interest in any trade with them, under a penalty of $5,000 and removal from office.

Teachers may be employed for the improvement of the Indians, when it is deemed opportune.



THE PATENT OFFICE.

Indian Traders.

A bond of $5,000, with approved security, must be given, warranting the observance of all laws with any one proposing to become an Indian trader.

Pension Office.

The Commissioner of Pensions has the management of this office. Pension Agents are required to give bond; they receive a salary of $4,000 per annum, and fifteen cents for each voucher in excess of four thousand vouchers prepared and paid by them. Agents and their clerks may take the affidavits of pensioners and their witnesses, but receive no fee for that service. In paying pension the agent is authorized to deduct the attorney's fee for aiding the pen-

sioner. He retains a fee of thirty cents for this service. Pension surgeons receive $1,800 a year; the medical referce receives $2,500.

Boards of examining surgeons consist of three members. In ordinary cases each member receives one dollar fee; in special examinations, three dollars.

Patent Office.

In this Bureau are kept all records, books, models, drawings, specifications and other papers and things belonging to patents for inventions.

The Commissioner of Patents and the chief clerk are required to give bond. No officer or employé in the Patent Office is allowed to acquire or take during his or her term of office any right or interest in any patent issued by the office. The Commissioner of Patents has copies of patent claims, laws, regulations and circulars printed for the information of the public. He makes an annual report to Congress of all matters committed to his charge.

Commissioner of Railroads.

The Commissioner of Railroads is charged with prescribing a system of reports to be rendered to him by the railroad companies whose roads are in whole or in part west, north, or south of the Missouri River, and to which the United States have granted any loan of credit or subsidy in lands or bonds; to examine the books, accounts and property of said companies; to see that the laws relating to said companies are enforced, and to assist the Government Directors of any of said railroad companies in all matters which come under their cognizance, whenever they may officially request such assistance.

Geological Survey.

The Director of the Geological Survey has charge of the classification of the public lands, and examination of the geological structure, mineral resources and products of the national domain.

The Census Office.

The Superintendent of the Census supervises the taking of the census of the United States every tenth year, and the subsequent arrangement, compilation and publication of the statistics collected. Since 1903 this office has been under the charge of the Department of Commerce and Labor.

Bureau of Education.

The duties of the Commissioner of this Bureau consist in the collection of facts and figures showing the condition and progress of education in the several States and Territories, to diffuse information with regard to the management of schools and methods of teaching, and promote the cause of education.

Secretaries of the Interior.

Thomas Ewing, Ohio.	1849	Zachariah Chandler.	1875
Alex. H. H. Stewart, Va.	1850	Carl Schurz.	1877
Robert McClelland, Mich.	1853	Samuel J. Kirkwood.	1881
Jacob Thompson, Miss.	1857	Henry M. Teller, Colo.	1884
Caleb B. Smith, Ind.	1861	L. Q. C. Lamar, Miss.	1885
John P. Usher, Ind.	1863	William F. Vilas, Wis.	1888
James Harlan, Iowa.	1865	John W. Noble.	1889
O. H. Browning, Ill.	1866	Hoke Smith, Ga.	1893
Jacob D. Cox.	1869	David R. Francis, Mo.	1896
Columhus Delano.	1870	Cornelius N. Bliss, N. Y.	1897

Ethan A. Hitchcock, Mo. 1901.

The Department of Labor.

A BUREAU OF LABOR was established by act of Congress, June 27, 1884. By an act of Congress June 13, 1888, a Department of Labor was created, and the Bureau of Labor transferred to the Department of Labor. In 1903 it became a part of the Department of Commerce and Labor.

The Department is placed in charge of a Commissioner of Labor, who is directed to acquire and diffuse among the people of the United States useful information on subjects connected with labor, in the most general and comprehensive sense of that word, and especially upon its relation to capital; the hours of labor; the earnings of laboring men and women, and the means of promoting their material, social, intellectual and moral prosperity. He is also especially charged, in accordance with the general design and duties prescribed by the law, at as early a date as possible, and whenever industrial changes shall make it essential, to ascertain the cost of producing articles, at the time dutiable in the United States, in leading countries where such articles are produced, by fully specified units of production, and under a classification showing the different elements of cost of such articles of production, including wages paid in such industries, etc.

It is also the duty of the Commissioner to ascertain and report as to the effect of the customs laws upon the currency and on the agricultural industry; especially as to their effect on the mortgage indebtedness of farmers; what articles are controlled by trusts, or other combinations of capital, business operations, or of labor, and what effect such trusts, or other combinations of capital, business operations, or of labor, have on production and prices.

The Commissioner is also to establish a system of reports, by which, at intervals of not less than two years, he can ascertain the general condition, so far as production is concerned, of the leading industries of the country. He is also especially charged to investigate the causes of, and facts relating to, all controversies and disputes between employers and employés as they may occur, and which may happen to interfere with the welfare of the people of the different States.

The Department of Agriculture.

THE Secretary of Agriculture is charged with the supervision of all public business relating to the agricultural industry. He directs the management of all the divisions and sections and the bureaus embraced in the Department. He exercises advisory supervision over the agricultural experiment stations deriving support from the National Treasury, and has control of the quarantine stations for cattle.

The Chief of the Weather Bureau has charge of the forecasting of weather; the issue of storm warnings; the display of weather and flood signals; the gauging and reporting of rivers; the maintenance and operation of sea-coast telegraph lines, and the collection and transmission of marine intelligence for the benefit of commerce and navigation; the reporting of temperature and rainfall conditions; the display of frost and cold-wave signals; the distribution of meteorological information and the taking of such meteorological observations as may be necessary to establish and record the climatic conditions of the United States, or as are essential for the proper execution of the foregoing duties.

The Bureau of Animal Industry makes investigations as to the existence of dangerous communicable diseases of live stock, superintends the measures for their extirpation, makes original investigations as to the nature and prevention of such diseases, and reports on the condition and means of improving the animal industries of the country. It also has charge of the inspection of import and export animals, of the inspection of vessels for the transportation of export cattle, and of the quarantine stations for imported neat cattle; supervises the interstate movement of cattle, and inspects live stock and their products slaughtered for food consumption.

The Statistician collects information as to the condition, prospects and harvests of the principal crops, and of the numbers and status of farm animals, and obtains similar information from European countries monthly. He records statistics of agricultural production, distribution and consumption, and publishes a monthly bulletin for the use of editors and writers, and for the information of producers and consumers, and for their protection against combination and extortion in the handling of the products of agriculture.

The Chemist makes analyses of natural fertilizers, vegetable products and other materials which pertain to the interests of agriculture. Applications are constantly made from all portions of the country for the analysis of soils, minerals, liquids and manures.

The Office of Experiment Stations represents the Department in its relations to the agricultural experiment stations in the several States and Territories. Its object is to promote uniformity of methods in the work of the stations, and, in general, to furnish to them such advice and assistance as will best promote the purposes for which they were established. To this end, it indicates lines of inquiry, aids the stations in the conduct of co-operative experiments, helps to make available to them the processes and results of experimental inquiry in the United States and abroad, and compiles, edits and publishes accounts of station investigations.

The Entomologist disseminates information regarding insects injurious to vegetation; investigates insects sent him in order to give appropriate remedies, and arranges specimens for illustrative and museum purposes.

The Ornithological Division investigates the economic relations of birds and mammals, and recommends measures for the preservation of beneficial and destruction of injurious species.

The Division of Forestry is occupied with investigations dealing with the subject of forestry; with the distribution of seeds of valuable trees, and with the dissemination of information upon forestry matters.

The Botanist investigates plants and grasses of agricultural value or of injurious character, and answers inquiries relating to the same; also has charge of the Herbarium, receives botanical contributions and purchases for its improvement, and distributes duplicate specimens to agricultural colleges and educational institutions.

The Pomologist distributes information in regard to the pomological industry; investigates the habits and qualities of fruits, their adaptability to various soils and climates and conditions of culture, and introduces new fruits from foreign countries.

The Division of Vegetable Pathology investigates the diseases of plants, and seeks to determine remedies for their prevention.

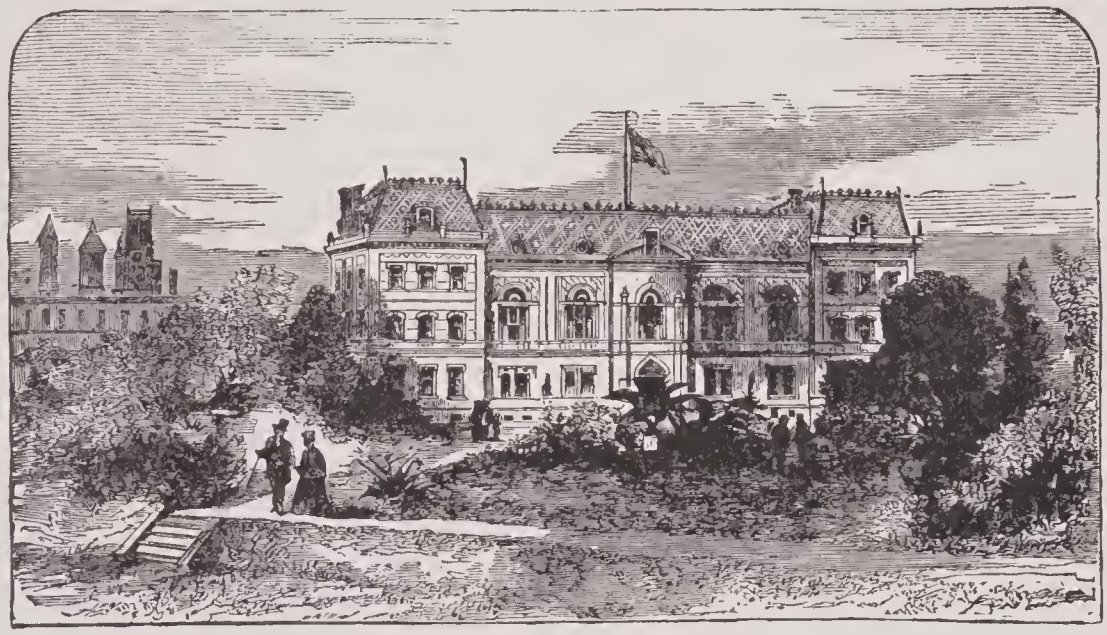
The Microscopist makes investigations relating to parasitic growths, to the characteristics of fibers, and to the adulteration of foods.

The Division of Records and Editing exercises supervision of the Department printing; issues press notices of interest to agriculturists, and distributes synopses of Department publications.

The Division of Illustration and Engraving comprises the artists and engravers engaged in preparing illustrations for the Department publications.

The Seed Division collects new and valuable seeds and plants for propagation and distributes them to applicants in all parts of the country.

The Division of Gardens and Grounds is charged with the care of the park surrounding the Department buildings, and with the duties connected with the conservatories and gardens for testing and propagating exotic and economic plants.



THE DEPARTMENT OF AGRICULTURE.

Secretaries of Agriculture.

Jeremiah M. Rusk, Wis.	1889	James Wilson, Iowa.	1897
J. S. Morton, Neb.	1893	James Wilson, Iowa.	1901

The Department of Commerce and Labor

THE Department of Commerce and Labor was created by Act of Congress on Jan. 17, 1903. The purpose of its creation was stated as follows in the bill: "It shall be the province and duty of said Department to foster, promote, and develop the foreign and domestic commerce, the mining, manufacturing, shipping, and fishery industries, the labor interests and the transportation facilities of the United States."

The agitation for such a department began in Boston business circles some twenty years ago. Nothing definite was accomplished, however, until the introduction of a bill in the Fifty-sixth Congress by Senator Frye, for the Senate, and Mr. Hepburn, for the House, recommending the establishment of a "Department of Commerce and Manufactures." The National Association of Manufacturers undertook to make the demand for such a department universal, and to that end circulated literature throughout the country, showing the necessity of such a department to further the growing export trade, and setting forth the benefits to be derived from its influence in developing industries. The leading boards of trade and commerce in the United States all favored the idea and passed resolutions appealing to Congress to create such a department.

Little resistance was encountered, but several amendments to the bill were made. As finally passed it establishes the "Department of Commerce and Labor," makes the Secretary a Cabinet officer at $8,000 a year and provides for an assistant secretary at $4,000 a year. It also creates a Bureau of Manufactures and a Bureau of Corporations. It transfers to the new department from the Treasury Department the Bureau of Immigration, including the enforcement of the Chinese Exclusion Act, the Bureau of Statistics, the Lighthouse Service, the National Bureau of Standards, the Steamboat Inspection Service, the Bureau of Navigation, the United States Shipping Commissioners, and the Coast and Geodetic Survey; from the Interior Department the Census Office, and from the State Department the Bureau of Foreign Commerce, including the Consular Service. Two formerly independent departments, the Bureau of Labor, and the Commissioner of Fish and Fisheries, are also transferred to the new department.

The reasons stated for the creation of such a department are many. The Treasury Department was burdened with a great deal of important and difficult bureau work, which had no relation whatever to the objects for which the department was originally intended. The Treasury Department, it was declared, had all it could do to administer the finances. The Interior Department more than had its hands full with its various divisions, so it was deemed wise to remove the Census Office from its control. In regard to the Consular Service, it was found that its reorganization under the new department would make it worth a hundred times the cost of the whole department. Moreover, with its comprehensive knowledge of trade conditions, the new department will be the best possible resort for inquiries from people who desire to know the facts about the tariff; so, too, in time certain phases of the tariff issue may be eliminated from politics, or, at any rate, popular impulse will not be likely to revise the tariff generally or violently.

The Bureau of Commerce, according to all expectations, will have a large and important influence on the future of the trusts in America. The clause creating it reads: "The Commissioner shall have authority to make, under direction of the Secretary, diligent investigation into the organization, conduct, and management of the business of any corporation, joint stock company, or corporate combination engaged in commerce among the several States and with foreign nations, excepting common carriers and to gather such information and data as will enable the President of the United States to make recommendations to Congress for legislation for the regulation of such commerce and to report such data to the President from time to time as he shall require."

The principal officials created by the institution of the new department are George B. Cortelyou, Secretary of Commerce and Labor; E. E. Clark, assistant secretary of the department; and James P. Garfield, Chief of the Bureau of Corporations.

THE ATTORNEY-GENERAL.

THE ATTORNEY-GENERAL of the United States has charge of the Department of Justice. The officers under him are the Solicitor-General, three Assistant Attorneys-General, a Solicitor of the Treasury, a Solicitor of Internal Revenue, a Naval Solicitor and an Examiner of Claims for the Department of State, all of whom are appointed by the President and hold office for four years.

Whenever required by the President, it is the duty of the Attorney-General to give his advice and opinion on questions of law. He must decide on the validity of the land-title to any property where the Government proposes to erect buildings.

He must give his opinion on any question of law arising in any of the Executive Departments, when called upon by the head of such Department.

He superintends the District Attorneys and Marshals of the United States, and may employ other counsel to aid District Attorneys in their duties. He may send the Solicitor-General or any officer of his Department to any State or district of the United States, to attend to the interests of the Government in any Federal or State court. He has supervision of the accounts of District Attorneys, Marshals, Clerks and other officers of the United States courts. He signs all requisitions for the payment of moneys appropriated for the use of his Department.

He reports to Congress annually a full account of the business of his Department during the year, the expenses of the Federal courts, number of pending suits, number of additional counsel and attorneys employed, statistics of crime, etc. The approval of the Attorney-General is necessary to make the opinions of his subordinates valid.

All questions of law referred to him he may submit to his subordinates for examination and opinion, except such questions as involve a construction of the Constitution of the United States.

The officers of this Department assist in performing all legal service required for the other Departments, in prosecuting or defending Government claims and suits. The traveling expenses of the officers of this Department when on duty are paid in addition to their salaries.

Attorneys-General.

Edmund Randolph, Va.	1789	John J. Crittenden, Ky.	1850
William Bradford, Penn.	1794	Caleb Cushing, Mass.	1853
Charles Lee, Va.	1795	Jeremiah S. Black, Penn.	1857
Levi Lincoln, Mass.	1801	Edwin M. Stanton, Penn.	1860
Robert Smith, Md.	1805	Edward Bates, Mo.	1861
John Breckenridge, Ky.	1805	James Speed, Ky.	1864
Cæsar A. Rodney, Del.	1807	Henry Stanbery, Ohio.	1866
William Pinkney, Md.	1811	William M. Evarts.	1868
Richard Rush, Penn.	1814	E. Rockwood Hoar.	1869
William Wirt, Va.	1817	Amos T. Ackerman.	1870
John M. Berrien, Ga.	1829	George H. Williams.	1871
Roger B. Taney, Md.	1831	Edwards Pierpont.	1875
Benjamin T. Butler, N. Y.	1834	Alphonso Taft.	1876
Felix Grundy, Tenn.	1838	Charles Devens.	1877
Henry D. Gilpin, Penn.	1840	Wayne MacVeagh.	1881
John J. Crittenden, Ky.	1841	Benjamin H. Brewster.	1881
Hugh S. Legare, S. C.	1841	A. H. Garland, Ark.	1885
John Nelson, Md.	1844	W. H. H. Miller, Ind.	1889
John Y. Mason, Va.	1845	Richard Olney, Mass.	1893
Nathan Clifford, Me.	1846	Judson Harmon, Ohio.	1895
Isaac Toucey, Conn.	1848	Joseph McKenna, Cal.	1897
Reverdy Johnson, Md.	1849	John W. Griggs, N. J.	1897

Philander C. Knox, Pa. 1901.

THE SUPREME COURT.

"The judicial power of the United States shall be vested in one Supreme Court, and in such inferior courts as the Congress may from time to time ordain and establish."— *Constitution.*

JUDGES both of the Supreme and inferior courts hold office during good behavior, and there can be no decrease in the compensation they receive during their continuance in office. The power of the judiciary extends to all cases in law and equity arising under the Constitution, the laws of the United States, and all treaties with foreign countries.

The Supreme Court of the United States consists of a Chief Justice and eight Associate Justices, appointed by the President.

Precedence of the Associate Justices is according to the dates of their commissions. Should the commissions of two or more bear the same date, precedence will be according to their age.

Should a vacancy occur in the office of Chief Justice, his duties devolve upon the Associate Justice who is first in precedence.

If one of these Judges, after having held office for ten years, being then seventy years of age, resigns, he will receive for the remainder of his life the same compensation as he did whilst a member of the court.

Any six of the Justices form a quorum.

The Supreme Court appoints a clerk, a marshal and a reporter.

THE CLERK is under the same oath, restrictions and bond as the clerks in the United States District Courts. Deputy clerks when needed may be appointed and removed by the court.

THE MARSHAL is required to attend the court at its sessions, to serve and execute all processes and orders issuing from it, or made by the Chief or Associate Justices, in pursuance of law, and to take charge of all property of the United States used by the court or its members. He may, subject to the approval of the Chief Justice, appoint assistants and messengers to attend court, with the same allowance of compensation as is received by similar officers in the Lower House of Congress.

THE REPORTER of the Supreme Court must print and publish the decisions of the court within eight months after they are made, and every subsequent year he must issue a similar volume. He receives for his first volume $2,500, and for each of the succeeding ones $1,500. They must be completed at the prescribed time.

ANNUALLY, beginning on the second Monday in October, the Supreme Court holds its session. Adjourned or special terms are held when necessary.

The jurisdiction of the Supreme Court is pointed out by the Constitution, and need not be repeated here. In action at law against citizens of the United States, trials of issues of fact are always by jury.

Federal Courts.

Supreme Court	Chief Justice. Eight Associate Justices.	Clerk. Marshal. Reporter.	Attorney-General. Solicitor-General.
9 Circuit Courts	The 9 Justices of Supreme, and 9 Circuit Judges.	Clerks. District Marshals.	District Attorneys.
55 District Courts	55 Judges	Clerks. Marshals. Grand Juries.	District Attorneys.

Juries are called in all courts when requisite.

Districts.

The United States are divided into fifty-five Federal judicial districts. A Judge is appointed for each district by the President. Each Judge must reside in the district for which he is appointed. All the records of the court are kept at the place where the District Court is held.

THE LEGISLATIVE DEPARTMENT.

Duties of the American Congress.

ALTHOUGH the duties and responsibilities of the American Congress are very plainly laid down in the Constitution, a further examination of the functions of the Legislative Department cannot but be of interest. Congress is divided into the Senate and the House of Representatives, a division which was made because our Government was founded upon the model of England, whose Parliament consists of a House of Peers and a House of Commons. The Senate is supposed to play the same part in American legislation which the House of Peers does in Britain. It is a sort of governor in the machinery of the body politic, which exerts a conservative and prudent influence on law-making. The Senate originally, although that meaning has been largely neglected, meant the conclave of the sovereign States of the Union, a council which was to look more closely after the general and external affairs of the confederacy, while the House of Representatives was to represent the people of the whole Union. This meaning, it has been said above, has been largely lost in the course of time, but the fiction remains, and the division of the powers of Government between the two bodies illustrates the purpose which the fathers of the Government had in the original separation into two Houses.

The Senate.

The Senate consists of two Senators from each State of the Federal Union; these Senators are chosen by the Legislatures of the respective States and hold office for six years. There was a strong effort made at the time of the drafting of the Constitution to extend the term for life, but this was believed to savor too much of aristocracy, and after long debate six years was agreed upon as a compromise measure. The pay of Senators is $5,000 per year. The Senate is presided over by the Vice-President, and when he has for any cause vacated his office a President *pro tempore* of the Senate is elected. There are now (1904) ninety Senators. All impeachments are tried by the Senate, and when the President of the United States is on trial the Chief Justice of the Supreme Court must preside. The Senate must approve of treaties made with foreign governments by the President before they can become binding, and the consent of the Senate is necessary to the appointments to all the great offices of the State made by the President. The Senate is the only permanent body in the United States Government, the elections being always so ordered that two-thirds of the Senators hold over.

The House of Representatives.

In the early days of the Federal Union the only legislative body was the Continental Congress, which exercised both the executive and legislative functions of government, and which occasionally performed judicial duties also. The old Congress piloted the nation through the Revolutionary war, but, although effective for its original purpose, it was not able for the work which fell upon its shoulders under the articles of confederation. The articles themselves were unsuited to the land, and in a little while it became evident that the United States experiment would end in disaster and disappointment unless something was done to give it shape and direction.

The man that had led the Continental Army to glory and freedom through the Revolution again came forward and preserved by his wise statesmanship the Republic which his military genius had founded. At the call of George Washington the American Constitution was born, and the keystone of the Constitution is the House of Representatives. This body is the brain of the nation; on its floor all the momentous issues of the Republic have been settled; no higher office can a citizen win than a seat in the council of the Nation, none greater in the influence which it wields, not for America alone, but for the future of the human race.

The number of Representatives is decided by the census, which is taken every ten years. As soon as this is done, Congress decides upon the number of Representatives for the ensuing decade. The number since the establishment of the Constitution has been as follows:

1789—1793,	65	1843—1853,	223
1793—1803,	105	1853—1863,	237
1803—1813,	149	1863—1873,	243
1813—1823,	189	1873—1883,	293
1823—1833,	213	1883—1893,	325
1833—1843,	240	1893—1903,	356
1904,	390		

These Congressmen are paid $5,000 a year, with certain additions in the shape of mileage, stationery, etc., etc. The qualifications for a Representative are fully explained in the Constitution.

POPULATION OF THE CHIEF CITIES OF THE WORLD.

According to the Latest Official Figures.

Cities.	Census Year.	Population.	Cities.	Census Year.	Population.
Greater London	1901	6,581,372	Montreal	1901	267,730
New York	1900	3,437,202	West Ham, England	1901	267,308
Paris	1901	2,714,068	Lucknow	1901	264,049
Berlin	1900	1,888,848	Nuremburg	1900	261,081
Chicago	1900	1,698,575	Bordeaux	1901	257,638
Vienna	1901	1,674,957	Riga	1897	256,197
Canton (est.)		1,600,000	Teheran (est.)		250,000
Tokio, Japan	1898	1,440,121	Kiev	1897	247,432
Philadelphia	1900	1,293,697	Newark	1900	246,070
St. Petersburg	1897	1,267,023	Nagoya	1898	244,145
Calcutta	1901	1,125,400	Hull	1901	240,618
Constantinople (est.)		1,125,000	Nottingham	1901	239,753
Peking (est.)		1,000,000	Havana	1899	235,981
Moscow	1897	988,614	Hanover	1900	235,649
Buenos Ayres	1901	836,381	Rangoon	1901	234,881
Osaka	1898	821,235	Genoa	1901	234,710
Bombay	1901	776,006	Magdeburg	1900	229,667
Glasgow	1901	735,906	Kristiania	1900	227,626
Budapest	1901	732,322	Damascus (est.)		225,000
Hamburg	1900	705,738	Salford	1901	220,956
Liverpool	1901	684,947	The Hague	1801	218,029
Warsaw	1897	638,209	Kobe, Japan	1898	215,780
Bangkok (est.)		600,000	Newcastle	1901	214,803
St. Louis	1900	575,238	Dusseldorf	1900	213,711
Cairo, Egypt	1897	570,062	Leicester	1901	211,574
Naples	1901	563,541	Stettin	1900	210,702
Brussels	1901	562,893	Lille	1901	210,696
Boston	1900	560,892	Benares	1901	209,331
Manchester, England	1901	543,969	Delhi	1901	208,575
Amsterdam	1901	530,718	Toronto	1901	208,040
Rio de Janeiro	1890	522,651	Chemnitz	1900	206,813
Birmingham, England	1901	522,182	Jersey City	1900	206,433
Madrid	1897	512,150	Florence	1901	205,589
Barcelona	1897	509,589	Valencia	1897	204,768
Madras	1901	509,346	Louisville	1900	204,731
Baltimore	1900	508,957	Lahore	1901	202,964
Munich	1900	499,932	Minneapolis	1900	202,718
Sydney	1900	496,990	Prague	1901	201,589
Melbourne	1901	496,079	Smyrna (est.)		201,000
Milan	1901	491,460	Cawnpore	1901	197,170
Marseilles	1901	491,161	Seoul, Korea	1902	196,646
Copenhagen	1901	476,806	Yokohama	1898	193,762
Rome	1901	462,783	Königsberg	1900	189,483
Lyons	1901	459,099	Sharlotteuburg, Prussia	1900	189,305
Leipzig	1900	456,342	Portsmouth, England	1901	189,160
Haidarabad	1901	448,466	Agra	1901	188,022
Leeds	1901	428,953	Ahmadabad	1901	185,889
Breslau	1900	422,709	Mandelay	1901	183,816
Odessa	1897	405,041	Tabriz	1881	180,000
Dresden	1900	396,146	Stutgart	1900	176,699
Cleveland	1900	381,768	Providence	1900	175,597
Sheffield	1901	380,717	Kharkov	1897	174,846
Shanghai (est.)		380,000	Bahia	1890	174,412
Dublin	1901	379,861	Oporto	1901	172,421
Cologne	1900	372,529	Allahabad	1901	172,032
Lisbon	1900	357,000	Tunis (est.)		170,000
Kioto	1898	353,139	Indianapolis	1900	169,164
Buffalo	1900	352,387	Bolton	1901	168,205
Belfast	1901	349,180	Cardiff	1901	164,420
Mexico City	1900	344,721	Kansas City, Mo	1900	163,752
San Francisco	1900	342,782	Adelaide	1901	163,430
Rotterdam	1901	341,051	Bremen	1900	163,297
Turin	1901	335,656	St. Paul	1900	163,065
Bristol, England	1901	328,842	Rochester	1900	162,608
Cincinnati	1900	325,902	Amritsar	1901	162,429
Pittsburg	1900	321,616	Ghent	1901	162,291
Alexandria	1897	319,766	Altona, Germany	1900	161,501
Edinburgh	1901	316,479	Dundee	1901	160,871
Lodz	1897	315,209	Liege	1901	160,246
Palermo	1901	309,694	Jaipur	1901	160,167
Stockholm	1901	303,356	Lemberg	1901	159,877
Manila	1902	297,154	Bangalore	1901	159,046
Santiago, Chile, (est.)	1901	296,695	Colombo, Ceylon	1901	158,228
Frankfort-on-Main	1900	288,989	Howrah	1901	157,594
New Orleans	1900	287,104	Elberfield	1900	156,966
Detroit	1900	285,704	Halle-on-Salle	1900	156,609
Milwaukee	1900	285,315	Vilna	1897	154,532
Hong Kong	1891	283,905	Poona	1901	153,320
Bucharest	1899	282,071	Zurich	1901	152,942
Bradford	1901	279,809	Bologna	1901	152,009
Washington	1900	278,718	Venice	1901	151,840
Antwerp	1901	278,093	Strasburg	1900	151,041
Montevideo	1901	268,334			

THE METRIC SYSTEM.

A BILL is now before Congress advocating the Metric System of weights and measures as the standard in the United States. The chances for its adoption seem very favorable. The bill requires the departments of government to use the Metric System after the beginning of the year 1904 and makes it the legal standard in the United States after January 1, 1907.

Forty-two nations of the world have adopted the Metric System of weights and measures, so that now more than two-thirds of the civilized world is using the metre instead of the yard. In all of those countries that do not use the system, the movement for its adoption is very strong. In the United States it is legalized in the whole country and is the only legal system in Porto Rico and the Philippines. The system is also widely used in our government departments — in our coinage, in the Postal Service, Coast and Geodetic Survey, and in the scientific work of all kinds. The present indications are that the yard, quart, and pound will soon pass out of use and be replaced by the International System.

The Metric System is the only complete International System of weights and measures ever adopted, it is the simplest and most perfect system ever planned, and its standards are constructed upon the best scientific principles and preserved with the greatest care. Until the Metric System was adopted each locality and each industry had its own system of weights and measures. More than 235 values have been found for the pound, more than 50 for the mile, etc. Where the international system is not in use the jewelers use one set of weights to measure gold and another to measure lead. The avoirdupois pound is the larger but the troy is the larger ounce; so that while an ounce of gold is heavier than an ounce of lead, a pound of lead is heavier than a pound of gold. There is a system of measures for stone and timber, another to measure drugs; one to measure liquids and one for dry commodities; there is a diamond measure, a troy measure, land measure, and nautical measure. At least 12 systems of weights and measures are now in use in the United States not including the various special measures used in various industries.

There are many objections to the old system. First there are too many units — at least 64 names being in common use, making an enormous tax on the memory; and too many ratios — more than 60 being used. The units of the old system are ambiguous — the pint has two values in the United States; the line has two; the link may be a surveyor's or engineer's link; there is a linear foot (12 in.), a board foot (144 sq. in.), a timber foot (1728 cu. in.), and a cord foot (16 cu. ft.); there is the avoirdupois ounce of 437.5 gr.; the troy and apothecaries' ounce of 480 gr.; and the silk troy ounce of 360 gr. One of the most common mistakes is to suppose that the English system of weights and measures agrees with our own. This is not true in a single instance, and what is more, there is no chance of either becoming universal. The legal value of the United States yard differs from the English yard by at least 2½ microns (the micron being one millionth of a metre). The avoirdupois pound in the United States differs from the English pound by five milligrams. The imperial English bushel is 68 cu. in. larger than ours, and their gallon is 19% larger than the United States gallon.

In view of the great diversity of systems in use throughout the world, the Constitutional Assembly of France invited the governments of the world to join in establishing an International System of weights and measures. Ten nations joined in passing upon the details of the Metric System and the utmost simplicity has been secured, combined with a consistent terminology, perfect standard, and the provision for international custody of such standards.

The twelve systems of weights and measures in this country are by this means replaced by one simpler system. The 64 terms now in use are replaced by 3 simple names with the 7 numerical prefixes. Instead of more than 60 ratios, the Metric System contains but one — the decimal ratio of ten. In place of the 19 ambiguous terms in use in this country, there is never any question as to the value of the metre, gram, and litre. These terms can never mean but one thing as they always refer to the single standard preserved at Paris.

The International Standard Kilogram is a block of platinum-iridium deposited at the International Bureau of Weights and Measures near Paris, established by the concurrent action of the principal governments of the world. It was received by the United States in 1890 and is in the custody of the office of Standard Weights and Measures at Washington.

The length of the metre was obtained from a most careful calculation of the distance from the Equator to the North Pole along the meridian passing through the city of Paris. The length of the distance being determined, it was divided into ten million equal parts, and this subdivision constitutes the metre. A metre is therefore one ten millionth of the distance from the Equator to the Pole.

The liquid measure and the unit of weight are as constant; for a cubic centimetre of distilled water at 4° Centigrade weighs the same the world over, and the gram, which is a cubic decimetre, is as fixed as the metre or the litre.

The decimal base, the interrelation of use, the simple nomenclature, the perfection of standard, the freedom from ambiguity, the ease of learning, of remembering, of computing — all are advantages of the Metric System.

An international system of weights and measures is as important as an international system of longitude and time. It is already the universal language in scientific works of all kinds and is the standard system of more than 40 countries of the globe. The scientific, manufacturing, and commercial interests of our country demand its adoption as the only legal system.

FACTORS FOR CONVERSION.

1 inch	=	0.0254	metre
1 foot	=	0.3048	"
1 mile	=	1,609.35	metres
1 sq. in.	=	0.06452	sq. m.
1 sq. yd.	=	0.836	"
1 acre	=	4,047.	sq. ms.
1 cu. in.	=	0.0164	litre
1 bu. (U.S.)	=	35.24	"
1 qt. (dry m.)	=	1.1011	litres
1 peck (U.S.)	=	8.81	"
1 cu.yd.	=	765.	litres
1 fl. dram	=	.00369	litre
1 fl. oz.	=	.0296	"
1 gill	=	.1183	"
1 qt. (liquid m.)	=	.9463	"
1 gal. (231 cu. in.)	=	3.785	litres
1 gr.	=	.0648	gram
1 av. oz.	=	28.3495	grams
1 troy oz.	=	31.103	"
1 lb.	=	453.59	"

LEGISLATIVE AND PARLIAMENTARY PROCEDURE IN THE CONGRESS OF THE UNITED STATES

By THOMAS B. REED.

THE legislative power of the United States is vested in the Senate and House of Representatives, collectively called The Congress, under the supervision of the veto power granted to the President. Each of these bodies is sole judge of the election, returns, and qualifications of its members, and has power to compel attendance of its members. Each may determine the rules of its proceedings, may punish members, and, with the consent of two-thirds, expel a member. A majority in each constitutes a quorum, the presence of which is necessary to transact business. Each House must keep a journal, and one-fifth of the members in each can cause the yeas and nays to be entered on the journal. Neither House, during the session of Congress, can, without the consent of the other, adjourn for more than three days, nor to any other place than where they shall be sitting. Members of Congress are paid for their services out of the Treasury. At present the compensation is $5,000 per annum, payable monthly, and a mileage of twenty cents for each mile traveled by a customary route in going to and returning from each session of Congress. Members can hold no office under the United States. The Congress meets the first Monday in December of each year, can change by law this time of meeting if it sees fit, and can be called in extra session by the President.

The Senate consists of two Senators from each state, chosen by the legislature thereof for six years, and is a permanent body. No state can be deprived, without its consent, of its equal suffrage in the Senate. Senators are divided into three classes, and one-third of the number goes out every second year. Besides its legislative duties, the Senate, by its advice and consent on a two-thirds vote, enables the President to make treaties, and by a majority vote confirms the appointments of important officers. The Senate is also a court of impeachment, thus in a limited way having executive and judicial, as well as legislative, functions.

As legislative bodies, the Senate and the House have equal powers; but all bills for raising revenue must originate in the House, except that the Senate may propose or concur with amendments, as in other bills. Custom, also, has made it imperative that the general appropriation bills shall originate in the House. The Senate, however, derives power in many ways from the fact that it is a permanent body and from its participation in executive functions.

The ordinary course of business in the Senate requires that after the journal has been read and approved, the presiding officer shall lay before the Senate messages from the President and communications from the heads of departments, commonly called Cabinet officers, and other communications addressed to the Senate, and also such bills, joint resolutions, and other messages as may come from the House. He then calls, in the order named, for the presentation of petitions and memorials, reports of committees, the introduction of bills and joint resolutions, and finally, concurrent and other resolutions. Until the morning business shall have been concluded, and so announced from the chair, or until one o'clock, no motion to proceed to any subject on the calendar is entertained by the presiding officer, except by unanimous consent. Petitions and memorials are referred without putting the question, unless there is objection, in which case all motions relating to reception or reference are put without amendment, except to add instructions. Any matter from the President or House may be taken up at once by motion determined without debate, or the presiding officer may lay it before the Senate. Bills offered may be objected to, and thereupon lie over one day. All bills must be read three times, and, except by unanimous consent, on three separate days. After a bill has been twice read, it may be amended or committed. All bills, after the second reading, are considered by the Senate as in the Committee of the Whole, where any amendments are considered, and then reported to the Senate, where the amendments are again considered, after which further amendments

may be proposed. After the third reading, amendments are not in order; but the bill may be sent to a committee, and, after the report of the committee, goes to the calendar, and must be again considered in committee of the whole. After each day's morning business is over, or at one o'clock, unless the Senate otherwise order, all bills not objected to are disposed of, debate being limited to five minutes for each Senator. Objection can be made at any time; but on motion without debate, the Senate may continue consideration. In that case the five-minute restriction is removed. This may go on until two o'clock, or until two hours have expired, if the Senate meets at another time than noon. After two o'clock, or after two hours, the calendar of general orders is taken up. This order of business on the calendar may be interrupted by appropriation bills, a motion to take up some other bill, a motion to pass over the bill under discussion, or a motion to put it at the foot of the calendar. All these motions are decided without debate. Any subject may be made a special order by a two-thirds vote, and special orders take rank by seniority, unless changed by direction of the Senate. When bills go to a committee and are reported, they are placed on the calendar with bills which have been read twice and objected to and not referred. When a bill has been taken up and is under discussion, a motion to take up and consider another bill on the calendar, or any question of privilege, disposes of the first, which cannot be again resumed except by a direct vote of the Senate. The precedence of motions is as follows: To adjourn, to adjourn to a day certain, or that when the Senate adjourns it be to a day certain, to take a recess, to proceed to the consideration of executive business, to lay on the table, to postpone indefinitely, to postpone to a day certain, to commit, to amend. It will be seen that there is no motion for the previous question; hence there is no method of closing debate except by unanimous consent. On an amendment, however, debate may be closed by laying the amendment on the table, which does not carry the bill with it.

The foregoing is a brief outline of the method of doing business in the Senate, according to the standing rules. In practise, this system is much modified by what is called "Senatorial courtesy," which is but another name for the comity that grew up naturally in a body originally small in number, where every consideration is extended by the members each to the other. Sometimes it is claimed rather to the detriment of public business. In ordinary assemblies, for instance, a member discusses a question only when it is before the body for action. In the Senate, if a Senator announces that at a day named in the future he will state his views on a bill presented by him or some one else, he is permitted so to do, and speaks without limit. At no time is there any limit to the time a Senator may speak. Seventy-two hours with intermissions, and 14 hours without intermission, are perhaps the highest records thus far made.

In the House of Representatives, now composed of 390 members, there is necessarily a different system of procedure and different rules. In the days of John Quincy Adams, all matters, even petitions and memorials, were presented in the open House, and much time was consumed in mere routine. Among the more valuable reforms introduced into the House in the Fifty-first Congress (1889–91) was that system which now prevails, by virtue of which, without taking any of the time of the House, all bills, petitions, memorials, and communications from the heads of departments and bills from the Senate are referred by the Speaker to appropriate committees, and all reports of committees, or rather the accompanying bills, except those which are privileged, are placed upon the calendars to which they belong. Messages from the President are always read to the House.

The calendars are three in number: The House Calendar, the Union Calendar, and the Private Calendar. To the Private Calendar go all the private bills, to the Union Calendar all bills which appropriate money or require such appropriations. The House Calendar receives all other bills. No bill goes to either calendar until reported from a committee.

The order of business is as follows: Bills which do not carry appropriations, and which, having passed the House, are amended by the Senate and sent back, are first disposed of, and then the same class of bills passed by the Senate and sent to the House, which are substantially the same as bills of the House already reported by a House committee, can be disposed of when that committee request it. After this comes the unfinished business of the previous day, and next the morning hour for the consideration of bills. These bills must be on the House Calendar, and must be called up by the committees. The morning hour is not necessarily limited to sixty minutes, but may continue all day if the House so desire. At the end of sixty minutes, however, the House may go into the Committee of the Whole House on the State of the Union, either to take up bills in their order, or, when a committee authorizes a motion to be made, to take up a particular bill. If motions for these purposes are voted down, then the morning hour continues until the adjournment, or until the business in hand is finished. All appropriation bills, and bills to raise revenue, are considered first in a Committee of the Whole House on the State of the Union. The general appropriation bills, which provide for the different branches of the public service, and bills to raise revenue, have the right of way against everything but questions of privilege and conference reports. They cannot interrupt other

business already begun, but may at any other time obtain consideration. On Fridays, private bills are entitled to be considered, unless the House refuses to go into the Committee of the Whole, in which case the public business proceeds as on other days. Congress not only legislates for the whole country, but in particular for the District of Columbia. Hence on the second and fourth Mondays of each month District of Columbia business is in order.

On the first and third Mondays of each month, and during the last six days of each session, the rules may be suspended and bills and resolutions may be passed by a two-thirds vote after a discussion of forty minutes, one-half of which is given to either side. The precedence of motions in the House is as follows: To adjourn, to lay on the table, for the previous question (which motions shall be decided without debate), to postpone to a day certain, to refer, to amend, or to postpone indefinitely.

It will be seen that, unlike the Senate, the House has the motion for the previous question, and it may be added, that as the previous question may be ordered on any proposition or motion and on a bill to its final passage, the closure is ample. To prevent, however, undue use of it, no main question can be ordered to a vote without debate; for, unless there has been previous debate, forty minutes are allowed, except where the bill has been in a committee of the whole. There are two committees of the whole; the Committee of the Whole House on the State of the Union, in which appropriation bills and revenue bills are considered, and the Committee of the Whole House, wherein are considered private bills alone.

In the House, and in these two committees, each member is limited to one hour, and can speak but once, though this last prohibition is much disregarded. In committees of the whole, after general debate on the whole bill is closed, the bill is open to amendments, and to remarks for or against the amendment, limited to five minutes for and five minutes against. This is called debate under the five-minute rule. By the device of amending by striking out the last word, this kind of debate is often kept up a long time, as the five minutes are often lengthened by unanimous consent.

Bills and joint resolutions, of course, have to pass both Houses to become law, or in case of concurrent resolutions, to accomplish their purpose. Hence there must be communication between the two Houses, and some joint action. Such communication is by way of messages presented by the clerk of the House to the Senate, and by the secretary of the Senate, to the House, and by the conference committees. Each House receives in person or by deputy the clerk or secretary of the other, and suspends all business to receive the message, which is disposed of under the rules of each body. When the two Houses have reached a point of disagreement, each appoints a conference committee of several members, usually three, who meet each other and endeavor to compose the differences. If they do not succeed, each committee reports the continued disagreement to its own House, which either lets the matter drop, in which case the bill is lost, or asks another conference. If the two committees, by a majority of each, agree, then the agreement is reported, and if the two Houses ratify the agreement, the bill thus modified becomes law, so far as the two Houses can make it so.

Under the constitution, however, the bill, after passing the two Houses, must undergo the scrutiny of the President. If he approves it, he signs it, and it becomes a law; if he does nothing, and Congress remains in session for ten days (Sundays excepted) after the bill is presented to him, it becomes a law; otherwise not. If he disapproves the bill, he transmits it, with his objections, usually called a veto message, to the House in which it originated. The objections are entered in the journal, and that House proceeds to reconsider it. If, after such reconsideration, two-thirds of that House agree to pass the bill, it is sent, together with the objections, to the other House, and if that House passes it by a two-thirds vote, it becomes a law. The votes of both Houses must be by yeas and nays.

It will be seen that the President thus exercises a very important legislative power, and that a veto message makes one man in either House who thinks with the President the equal of the two who do not.

Such, in general, is the way of doing the routine business of both Houses. In both of them it will be seen that the work and direction of affairs are largely in the hands of committees. In the Senate, a bill, which in this article is used as a general term to include all propositions presented, may go to a committee or not, as the Senate may determine. In the Senate, a committee may, by order of the Senate, be discharged from the consideration of a particular bill, and required to report it back to the Senate, which may then act upon it. In practise, almost all the work is done by committees, certainly in all important cases. In the House, all matters, even those relating to the House alone, go to committees as of course, and are there discussed, acted upon, and reported, or laid aside and not reported. The House cannot, under its ordinary course of procedure, discharge one of its committees from the further consideration of a bill and order it reported for action. There are no provisions in the order of business for such a course. The committees of the House have therefore the most complete control of the bill in its early stages. When it is brought into the House and is laid before the House for consideration, it is still under the fostering care of the committee; for the custom of the

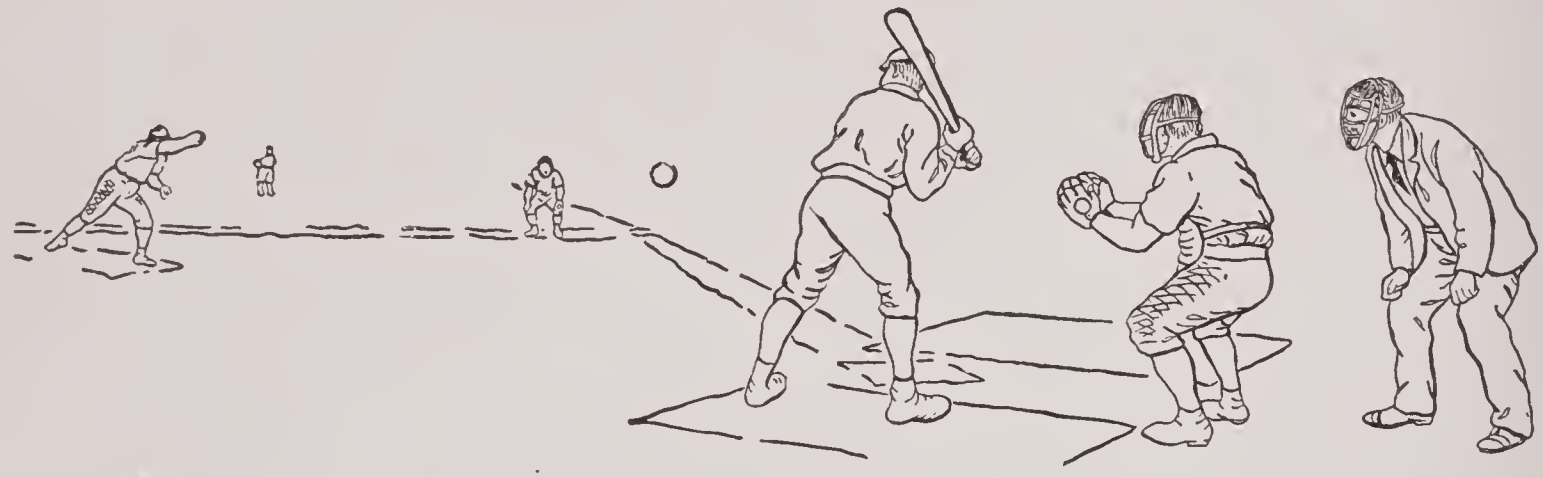
House requires, or rather expects, that the members of the committee shall first be heard in explanation of the bill, and in debate thereon. This proceeds upon the theory that they, having given special study to the subject, are best fitted to enlighten the House upon it.

Such is the great amount of business presented to the Congress, more than ten thousand bills being before the House of Representatives every two years, that a very small percentage of it is ever discussed or passed upon. A report from a committee is very far from being a passport to consideration, though without a report no progress can be made.

Such being the power of committees, it is important to know how they are created. In the Senate, they are chosen apparently by the body itself, but the choice is really made by caucus committees, selected by each side after division is made between the parties. The Senate thereupon ratifies the action taken. The House is too large a body for such a method. Committee appointments there are all made by the Speaker and announced to the House. Naturally, the Speaker has great power in determining the general policy of the House at the outset. At least, as the power is necessarily vested in him to determine who shall first be recognized in many cases to offer business to the House, he is forced to give much attention to the whole state of public business. As the general order of business is far from reaching all the matters which have to be taken up and disposed of, the Committee on Rules, of which the Speaker is chairman, has gradually become a committee on order of business, and has the power at any time to direct what matters shall be taken up, the method of procedure and the limitation of debate and amendment. The use of this power depends entirely on the amount of business deemed advisable to be done, which, in turn, depends on public sentiment.

The first Senate had 26 members; the Senate of 1903, 90 members. The constitution prescribed that the first House of Representatives should consist of 65 members. The House of Representatives now consists of 390 members. The Representatives are chosen every second year, and the term of service begins the fourth day of March following the election, which takes place at a time fixed by each state, but this time is usually during November of the even years. Their number is fixed by law, based on the preceding decennial census, and is distributed among the several states in proportion to population, but each state creates its own representative districts, or may elect members at large; that is, members chosen by the entire vote of the state, when the apportionment is in excess of the number of districts. Territories are represented by one delegate each, who may address the House and receive the same pay and perquisites as a member, but cannot vote.

SPORTS AND PASTIMES.



A Game of Base-ball Seen from the Left.

THE FIRST PART of this subject will be devoted to a description of the most usual of the out-of-doors games and sports: the second to games and pastimes in-doors. Both classes of amusements have proven indispensable to humanity, and savages and civilized people have equally had them in all time.

With both, rules, the laws of the games, are observed and enforced. In the descriptions of games and pastimes which follow, these rules will be given as they have been formulated by the latest authorities.

In this first division of the subject the following games and sports will be considered, arranged in sequence in compliance with relative present importance and popularity:

1. BASE-BALL.
2. FOOT-BALL.
3. LAWN TENNIS.
4. CROQUET.
5. CRICKET.
6. CURLING, SHINNEY.
7. GOLF.
8. ROWING.

BASE-BALL.

OF all games the most attractive seem to be those played with a ball, and of these the most attractive and most universally played by Americans is Base-ball. It is an evolution. The stalwart nines that play against each other in the presence of crowds of spectators are, after all, merely playing the perfected game which in various forms has always been played by the boys in this country. In the course of time the ingenuity and disputes and settlements of boys, refined and fixed the game of ball until all at once adult men, athletes, began to see the merit in it and adopted it.

The game is played on a precise quadrangle, or square, each side of which measures 90 feet. The field on which this square is laid out should be spacious; at least 300 feet long and as many wide. The first corner of the ball-square or "diamond" is marked by a square plate of iron or rubber, sometimes only by a square of sod a foot across being cut away. Sometimes the diamond is lined with lime or plaster, and still oftener, with the average school-boys' club or made-up game, it is merely imagined to exist. This home-base is the beginning. Across it the ball is thrown by the pitcher, and close beside it, on either side, stands the man at the bat. All spectators must gather in the rear of this plate;

it is the point from behind which the game is usually seen by all interested.

A rule generally followed for laying out a base-ball square, or "diamond," is to fasten a line or tape to the home base, and carry it straight out to the opposite corner of the diamond, which is known as second base. To this point, from home base, should be 127 feet, 4 inches, and by fixing it first, the lay of the diamond, in respect to the general field, can be accurately determined. Now lengthen the tape or cord to 180 feet, fastening it at that length to each of the two points mentioned, and marking the middle of it, or 90 feet, with something white. Take the line at this point and carry it over to one side as far as it will go and mark that place; then

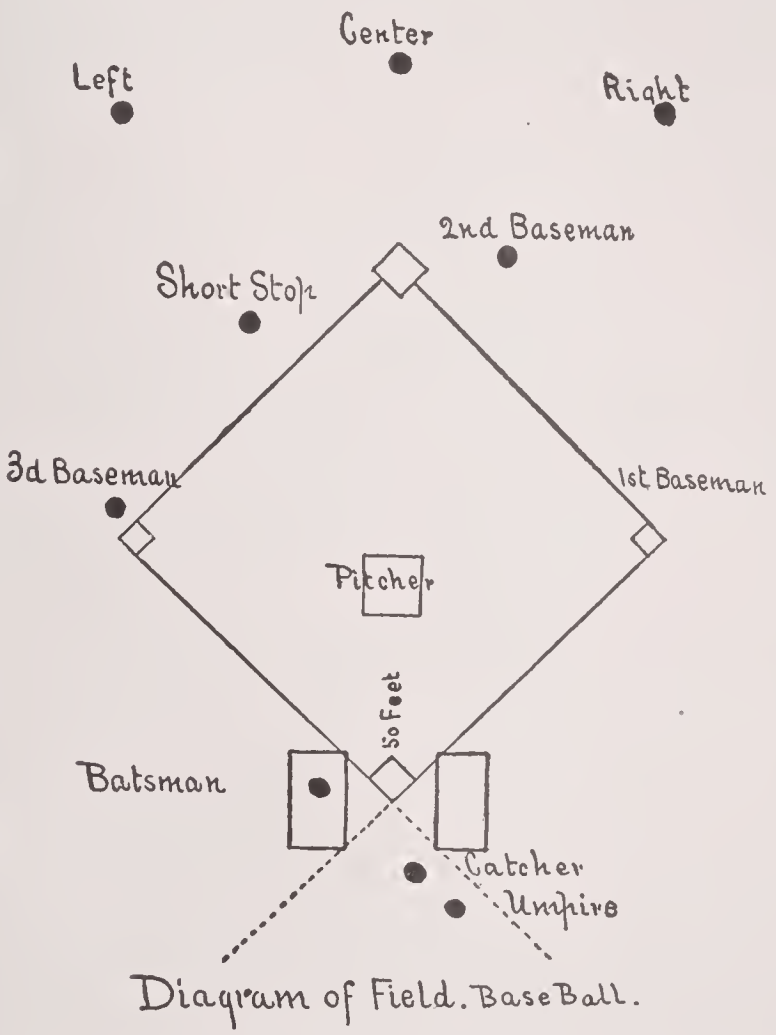
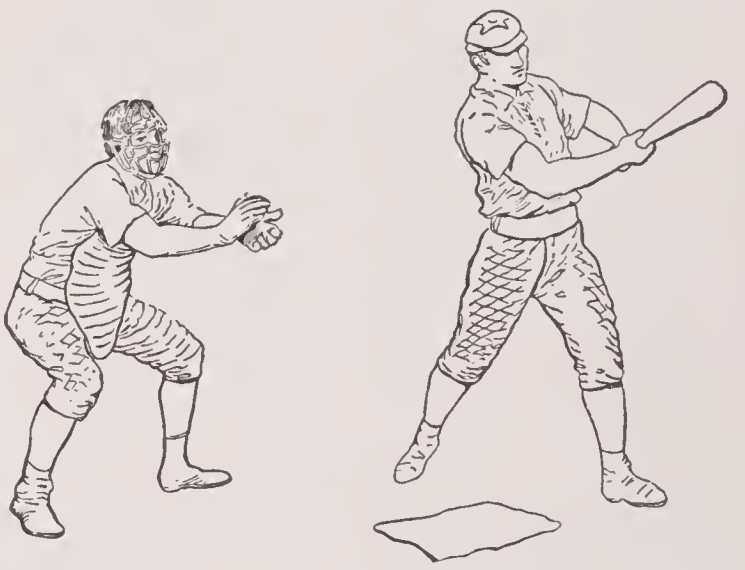


Diagram of Field. Base Ball.

to the other side and do the same. When this is done, the four sides and corners of the diamond, the three bases and the home base, are correctly fixed. This is full size for the professional game. Small boys often understand all the rules and play a game which surprises their elders, for whom the runs and throws of the regular diamond are too long. One-half the size may be readily made by having the measure across the diamond from home base to second base 63 feet, and 2 inches, and the length of the slack tape for measuring the distance from the home-plate to the two other corners, as above described, 90 feet.

The corners of the diamond should be marked, except the home base, with canvas bags. These corners are called, beginning with the one first on the right when standing on the home base facing the diamond, first, second and third base respectively, as the runner goes round the diamond. Outside of a line running from home to first and home to third, indefinitely prolonged, is "foul." Any ball struck by the man at the bat that is not struck so as to fly inside of these lines is a "foul ball."

In every game of base-ball the two sides are composed of nine men each. The two sides toss for choice, and that side which wins the toss takes the bat, taking turns in hitting, or trying to hit, the ball thrown by a pitcher of the other nine until three of them have been put out, when the opposing nine take the bat in the same way, with a pitcher of the other side. The side that has the field are arranged as follows: The "infielders" are the first baseman, second baseman, short-stop and third baseman. These stand in a half-circle just behind the lines forming the diamond, the basemen very near their bases, and the short-stop behind the line between the second and third bases. Behind these, distant about 30 yards, the "outfielders" stand in another half-circle, right,



center and left. (See diagram.) The two remaining members of the nine are the pitcher and catcher, and these two constitute what is known as the "battery;" so called because they are the means of delivering and returning all the balls during a game. The name seems to have been adopted naturally, by use and propriety.

The arrangement of the field will at once suggest one of the peculiarities of base-ball. Everybody is, for the time being, in a conspiracy against the one man who is trying to hit the ball. He is alone against the field while he stands there; the object of nine other men, often alert, skillful and active beyond anything known among young men thirty years ago, is to put him out, and then another and another, until with the discomfiture of three the innings is won and the other nine take their turn. But it is not entirely one-sided. Games are won by the batter being often more than a match for all the nine. And there is another peculiarity. One of the duties of a side is to act in a way as assistants of their opponents. The pitcher and catcher must pass the ball back and forth for their opponent to hit. He often does it most successfully and

makes his run of all the bases round to the home-plate. The skill in playing base-ball lies in so pitching and catching the ball as to cause it to result to the discomfiture of the side whose present privilege it is to hit it.

The pitcher and batter have certain prescribed limits within which they must stand, the first to deliver the ball and the latter to bat it. For the first there is a place marked 50 feet in front of the home-plate, the latter stands beside the home-plate, on either side as suits him in handling his bat with both hands. The catcher stands behind the man at the bat in such place as suits him best in trying to catch the ball thrown by the pitcher and missed or let pass by the man at the bat.

As stated, the men of the batting side take turns at the bat in regular rotation until three of them have been put out. The side in the field endeavor to accomplish this result. It is the game. But they must do it under the rules of the game, and when they have succeeded they in turn take the bat, and the entire play consists in nine turns at the bat by each side; nine even "innings," as they are called. A man at the bat becomes a base-runner (1) when he has hit the ball fairly so that it will fall in front of the foul-lines; (2) when he has had three strikes or fair chances of hitting the ball; (3) when the pitcher has delivered four balls; pitched the ball four times without its passing over the plate at the proper height and consequently without its being struck at by the batsman. In this last case he is entitled to the first base without being put out, but in all the other cases he takes his chances against his opponents, who try to put him out by every expedient allowed by the rules. He is never safe unless on one of the bases—touching it with some portion of his body—and he must make these bases in regular order, first, second, third, home. If he succeeds in doing this he scores a "run" for his side, and the total number of runs made during the nine innings decides the match.

A batsman is put out under the following circumstances: (1) If he hits the ball and it is caught by a man of the opposing side before it touches the ground; (2) If the ball be held by any opponent who is at the same time touching first base before the batter reaches it after a fair strike; (3) If after three strikes the ball be held by an opponent before touching the ground, or, having touched the ground, be held on first base as above mentioned; (4) If at any time the batter, now a base-runner, be touched by the ball in the hands of a fielder when he, the base-runner, is not touching a base to which he is entitled.

There are, in accordance with human nature, many disputes. An umpire, sometimes two, is employed to settle all such disputes, and to call balls and strikes. The decisions of the umpire are final. In amateur clubs, and made-up matches between boys, the umpire is often dispensed with. In games between adults he is usually chosen by both sides and acts gratuitously. In professional games he is paid for his services.

Among the common rules of base-ball to be always remembered, are these: The balls thrown by the pitcher, to be fair, must pass fairly over the home base, the plate, not higher than the batsman's shoulder nor lower than his knee. If three good balls are delivered he must strike or go out. If four unfair balls are pitched he gets a base without a strike, and another batsman comes in. If he strikes the ball he must run at least one base, and if he has made a hit that will

allow him time he may make all four. This last is the "home run." If he is standing on first base when his successor at the bat makes a strike he must run to second. Meantime he may steal to another base whenever he can, "stealing a base," if he can find any opportunity.

In pitching the ball it will be seen that certain rules must be observed. The skill of the pitcher consists in delivering the ball within those rules, and yet delivering it so that the batter will often fail in hitting it. Early in the science of base-ball a way was discovered of giving a twist or curve to the flight of the ball. It does not go on a straight line to the point towards which its flight is direct in starting, but may curve out or in, up or down. These curves must be varied from time to time to be effective. It is all a part of the scheme, under rule, to beat the batsman.

One further reference to the "foul" lines above referred to may complete a general statement of the rules of the game. A ball hit so that it will fall behind the lines is a "foul ball,"

but *though the batsman cannot run on it he may be caught out on such a ball.*

Base-ball may be played with great satisfaction to all concerned with only two implements, a ball and a bat. But there have grown to be many tools, implements and accoutrements in the games even of amateurs and school-boys. There are two classes of these: first, that which is necessary for the laying out of the field, and, second, the tools and garments of the players. In the first are the home-plate and the three base-bags, with the pegs to which they are attached, and the lime or plaster for marking out the diamond. The lines of this usually become beaten paths after the first innings. There are also little streamers on sticks used for marking the extensions of the foul lines. None of these things are absolutely necessary except the base-bags or some substitute for them. The old question of being on or off the base is as much a question now as it was in Three-Old-Cat, and the question should be capable of ready decision. The home-plate is legally a piece of white rubber one foot square, but it is often cast-iron or zinc, or a piece of light-colored stone let into the ground. The base-bags are canvas bags 15 inches square stuffed with straw or some yielding material, and attached by straps to posts or pegs sunk in the ground.

The second class of implements consists of balls, bats, catcher's gloves, and the mask and body shield for the same person. The best balls cost as much as $1.50 each, though a good ball, of regulation size and weight, may be bought for 25 or 50 cents. The ball is 5 to 5 1-2 ounces in weight and from 9 to 9 1-2 inches in circumference.

The bat varies greatly, like the ball, in quality and price. The regulation bat must not be over 42 inches long and 2 1-2 inches in diameter. The ash bat is the one most commonly used, but hickory, and for very choice material the wood from old wagon tongues, are used. These bats are much too heavy for any but full-grown and active players. Willow makes a good light bat for boys and beginners. All weights, sizes, and prices may be found.

As pitching became swifter and harder after the abolition of the old "straight-arm" rule, the glove became necessary, and with it the wire mask and body-shield. At first any old and heavy glove would answer, and then one was used with a felt palm. Now the glove for the left hand is a huge padded mitten, while the right hand is bare, the glove formerly worn having been discarded. The first baseman also usually wears gloves. Catcher's gloves are now made for both professional players and little boys, and of all qualities and prices. So also are the masks for the face and the body-shields. All these things came about gradually. Every one can remember when the catcher held in his mouth a piece of soft rubber which was so shaped as to spread out over the teeth to protect them in case of foul tips—a ball glancing off the bat. Mask and protector are shown in a preceding illustration.

In well-equipped teams there are many other appliances not absolutely necessary, such as spiked and tipped shoes, etc.

THE CATCHER.—The duties of the pitcher have been briefly referred to. He is the most important man of the team, and is always in intimate copartnership with the other man of the "battery," the catcher. This last is next of importance. In addition to all he may seem to be doing he may be directing the pitcher privately as to what kind of balls he should throw to the particular batsman then hitting. He may be signalling the basemen also, and letting them know whether he is going to throw the ball to one of them or to the pitcher. He has three of the bases to watch, and has besides to hold any ball he can reach, that is missed or tipped by the batsman, as they are fired at the latter by the pitcher with a velocity the public only knows by sight.

THE BASEMEN.—Of these the easiest in one sense is the first. It is not often that a ball is batted to first base, but it is often thrown there. He is pounded to an extent that has caused him to adopt gloves. His especial business is to attend to his base, but in late years he often fields balls coming in his direction at some distance from his bag. He is, or should be, an expert in catching short bounds, "pickup," and high and wide throws. He must often leave his base to run for a ball, but he must also be there and in touch with it before the batsman reaches it from the home-plate, after a strike.

The second baseman is a most important member of the organization. He can come nearly up to the first base, and go well out into center and right field. He is a good way from the batsman and has time to judge where the ball is going, while he has an easy throw and time in which to judge where to throw, and to whom. He has especial charge of balls from the catcher with which to put out a man who tries to steal second.

The third baseman is the quick man. Batted balls most often come his way, and when they do the whack of the bat and the arrival of the ball to him are almost simultaneous. His throws are long, and he has not much time to think. His *forte* must be throw quickly and hard, and to pick up a ball in such a way that it is in position in his hand to throw without any change.

The short-stop is between second and third base, and is not confined closely to that locality. His throw is long. He is of general utility at a point where the second and third basemen alone would not be able to perform all the necessary duties. As most batsmen are right-handed, the majority of struck balls come in his direction, between second and third base, and too far from them to admit of fielding being always safely done by those basemen. It is a place for a man active on his legs, a good catcher of swift balls knocked from the bat, a strong, straight thrower, a person who sees quickly and does not hesitate too long.

THE OUTFIELDERS.—These three men should have that faculty sometimes remarkably developed among base-ball players, of knowing almost precisely where a flying ball is going to come down. This proficiency has been greatly developed within a few years. The outfielder cannot stand

and judge and then run, and as the ball leaves the bat he starts to the place where it is going to fall—often he has not time to stop to make the catch—seizes it, whirls and makes a long, swift and accurate throw to the place where it will do the most good. Quickness of action and speed in running, certainty in catching and accuracy and strength in throwing, are the qualifications required of the outfielders. Some of the most brilliant and beautiful work of the ball-field is done far from the diamond. It may not occur so frequently, but it is very effective in the eyes of a spectator, and the long trajectory of the flying ball, accurately caught and effectively used, is one of the prettiest features of the finest out-door game men have yet learned to play.

The distance round a base-ball diamond is only three hundred and sixty feet: one hundred and twenty yards. But it is, to begin with, not a straight course. To make it when nine other skillful men are trying to get the ball to any one of the basemen before the runner can get there, requires the ability to start quickly, to run fast and run all the way, to stop at nothing, and when the feet cannot get there in time to fall down and slide and shorten the distance by reaching for the base-bag with the extended hand. Individual players have special ways of sliding. Each man has his own way. Sometimes it is feet first, sometimes head on, sometimes on the back, often on one side, most often on the chest and stomach. Some players use all of these styles. Base-ball clothing is now made for such service; strong and padded on the thighs and hips. The costume of base-ball is now always in the Knickerbocker style. Such clothing can be bought very cheaply. It is not necessary that masks, gloves, protectors, bats and balls, should be of the high grade required by professional teams. Young amateurs are usually content with a catcher's gloves and mask, and a set of bats and balls. They want the sport, and almost every vacant lot sees them

having it, with plenty of non-playing spectators. There is a thing for all grown people to remember. The game is most harmless in all respects, and aids materially in the education of the boy in those things that every boy will need when he is a man. The world is a huge ball-field. To accept defeat, which must come, good-naturedly; to be fair to the prowess of others; to get up and try again; to be fair and uncomplaining; this is the man's world. And the boy who plays base-ball is not likely to grow up a spindling or puny man. It is a consummation devoutly to be wished. Base-ball, and the commonness of it all over America, is one of the improvements and benefits of our time.

FOOT-BALL.

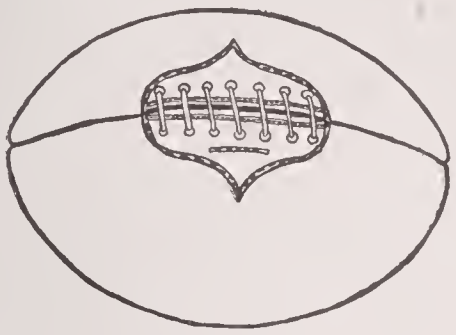
FOOT-BALL is an old game in England, the school of Rugby being famous for its game for several generations of boys. Its introduction into the United States as a scientific game, with rules, is recent. It is fitted as a sport only to athletic young men of very substantial weight and muscular development. The rules are rigid and exacting. The Rugby code has no less than sixty of these. The Association game had fewer intricacies. Its principal rules, as formulated by the Advisory Committee of the Intercollegiate Foot-Ball Association, are given herewith.

The beginner must necessarily acquire the rules. In the lack of any competent practical instruction, his only recourse is to begin playing with his mates, with as complete an understanding of them as possible. The accessories of the game are simple. The field can be marked out with lime or plaster, and should inclose a space 330 feet long by 160 feet wide. In the middle of the lines forming the ends of the field the goal-posts are placed. These should stand 18 feet, 6 inches apart, with a cross-bar ten feet from the ground. The posts should be several feet higher than the cross-bar.

The ball usually used is oval form, an outer leather bag containing an inner rubber ball which is blown up with the

lungs or with a small air-pump usually furnished with the ball by the dealers.

The costumes of the players are an important feature, because of the roughness of the game. They are usually of canvas, sometimes of leather. The canvas jackets, knickerbockers, stockings, etc., are regularly kept in stock by large dealers in such goods, and are not expensive.



The team in foot-ball consists of eleven men on each side. It is divided into seven "rushers," or "forwards," who stand in line facing their seven opponents; a "quarter-back," who stands just behind this line; two "half-backs," a few yards behind the quarter-back; and finally a "full-back," whose position is between the right and left half-backs.

In Association games a man is chosen as referee, another as linesman, a third as umpire. One person can act in all these capacities. When the two sides toss up, the one winning has choice of goals or of kick-off. If there be no material advantage in one goal over the other, caused by direction of wind or slant of ground, the winner will naturally prefer the kick-off. Then the opponents take whichever goal they like. The two teams line up. The ball is placed in the exact center of the field. Both sides stand back on their own territory at least ten yards. A man on the side that has the kick-off must then kick the ball at least thirty feet into the territory of the other side. He will usually send it as far as he can, but not into what is called "touch." The opponents must then catch it and return it in the opposite direction, and they can do this either by a kick or by picking it up and running with it. If one of them runs with it he may be tackled by an opponent. When the ball is "held"—that is, when it and the man running with it have been brought to a standstill—the runner must cry "down," and another man on his side must place the ball on the ground. This man is usually the "snap-back" or "center-rush," who sets the ball in play again by kicking or snapping it back, either with his foot or hand, to a player on his own side behind him; the quarter-back. Then both sides may again press forward. The quarter-back of course tries to pass it still further behind him to the half-back, who may either kick it or run with it, and it is the opposing side who are anxious to hinder this operation, the side having possession of the ball being equally desirous of keeping them away until their man has had a chance to execute his play. In this struggle really consists the actual play of foot-ball. It has recently been enacted that the side having possession of the ball may not, in opposing the other side, use their hands or arms, but only their bodies; they can get in the way only; while the other side may use their hands and arms in the endeavor to stop the runner and secure possession of the ball. Then follows a rule which provides that in three of these "downs," or attempts to move the ball, a side not having made five yards towards the opponent's goal, or retreated twenty yards towards their own goal, must surrender possession of the ball. Kicking is therefore more often resorted to than running with the ball. Feinting in such a case is barred; it must be such a kick as will give the opposing side a fair chance to get possession of the ball and make it go the other way. When the ball has come near enough to either goal to warrant a "try-at-goal," the captain may elect to continue the running or kicking attempts, or may secure a touch-down and kick in the endeavor to put the ball between the uprights and over the cross-piece. When a touch-down is secured at the point where the ball is finally held, any player on his side may bring it out, making a mark with his heel on the line as he walks out, and when he reaches a suitable distance may place the ball for one of his side to kick, the opponents meantime standing behind their goal-line. The ball is held in the hands of the placer, close to, but not touching, the ground, and carefully aimed until the direction is proper. Then, at a signal from the kicker that it is right, it is placed upon the ground, still steadied by the touch of the placer, and instantly kicked by the place-kicker. The reason it is kept off the ground until the last instant is that the opponents can charge forward as soon as the ball touches the ground and would stop the kick if not instantly given. If the ball goes over the goal it is carried back to starting-place again the same as at the beginning of the match, the successful drop-kick counting five points.

The succession of plays continues 35 minutes. There is a ten-minute intermission. Then the side which did not have the kick-off at the beginning has the kick-off for the next play. The result of the match is determined by the number of points scored during the two plays. Usually the time of playing is not over 20 to 30 minutes.

The following are some of the principal points and rules in a game of foot-ball:

A *drop-kick* is made by letting the ball fall from the hands and kicking it at the very instant it rises from the ground.

A *place-kick* is made by kicking the ball after it has been placed on the ground.

A *punt* is made by letting the ball fall from the hands and kicking it before it touches the ground.

Kick-off is a place-kick from the center of the field of play, and cannot score a goal.

Kick-out is a drop-kick, place-kick or punt, made by a player of the side which has touched the ball down in its own goal, or into whose touch-in-goal the ball has gone.

A *free kick* is a term used to designate any kick where the opponents are restrained by rule from advancing beyond a certain point.

A *foul* is any violation of a rule.

A *touch-down* is made when the ball is carried, kicked or passed across the goal line and there held, either in goal or touch-in-goal. The point where the touch-down is marked, however, is not necessarily where the ball is carried across the line, but where the ball is fairly held or called "down."

A *goal* is obtained by kicking the ball, in any way except a punt, from the field of play, over the cross-bar or post of the opponents' goal.

A *scrimmage* takes place when the holder of the ball puts it down on the ground, and puts it in play by kicking it forward or snapping it back.

A *fair catch* is a catch made direct from a kick by one of the opponents (or a punt-out by one of the same side), provided the man intending to make the catch indicates that intention by holding up his hand when running for the ball, and also makes a mark with his heel upon catching it, and no other of his side touches the ball. If he be interferred with by an opponent who is off side, or if he be thrown after catching the ball, he shall be given fifteen yards, unless this carries the ball across the goal-line. In that case he shall be given but half the intervening distance. After having raised his hand he cannot run with the ball, but must take his fair catch if he succeeds in making one.

The same side shall not kick-off in two successive halves. In all cases where the rules provide for a kick, the ball must be actually kicked a distance of at least ten yards into the opponents' territory, unless stopped by the opponents.

The side which has a free-kick must be behind the ball when it is kicked. At kick-off the opposite side must stand at least ten yards in front of the ball until it is kicked.

Charging is lawful for the opponents if a punter advance beyond his line, or, in case of a place-kick, as soon as the ball is put in play by touching the ground. In the case of a punt-out, however, not until the ball is kicked.

The players of the side which has possession of the ball can obstruct the opponents with the body only. But the players of the side which has not the ball can use the hands and arms, as heretofore; that is, to push their opponents out of the way in breaking through when the ball is snapped.

A player shall be disqualified for unnecessary roughness, hacking or striking with closed fist.

For the offences of throttling, tripping up or intentional tackling below the knees, the opponents shall receive twenty-five yards, or a free-kick at their option.

If a player when off side interfere with an opponent trying for a fair catch, by touching him or the ball, or waving his hat or hands, or deliberately getting in his way, the opponent may have an advance of fifteen yards and a free-kick, or down, from where the interference occurred.

If a player having the ball be tackled and the ball fairly held, the man so tackling shall cry "held," the one so tackled must cry "down," and some player on his side put it down for a scrimmage. As soon as a runner attempting to go through is tackled and goes down, the referee shall blow his whistle and the ball shall be considered down at that spot. Any piling up on the man after that, shall be punished by giving him fifteen yards, unless this carry the ball across the goal line, when he shall have only half the intervening distance.

No momentum-mass plays are allowed. A momentum-mass play is one where more than three men start before the ball is put in play. Nor shall more than three men group for that purpose more than five yards back of the point where the ball is put in play.

A side which has made a touch-down in their opponents' goal *must* try at goal, either by a place-kick or punt-out. If the goal be missed, the ball shall go as a kick-off at the center of the field to the defenders of the goal.

At kick-out the opponents must be on the twenty-five yard line or nearer their own goal, and the kicker's side must be behind the ball when kicked, or be adjudged off side.

The following is the value of each point in scoring:

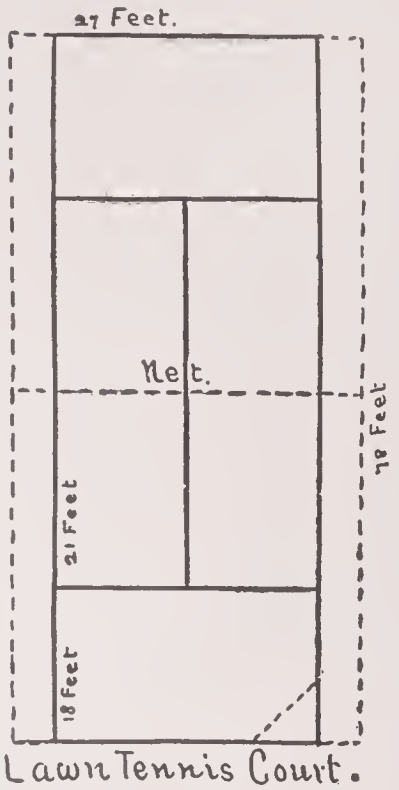
Goal obtained by touch-down and place kick,	6
Goal from field-kick,	5
Touch-down failing goal,	5
Safety by opponents,	2

The Rugby foot-ball game is described thus far. The game of the Gaelic Association, Irish foot-ball, slightly differs, and is in America played only to a limited extent. The ball is not carried by the players, or moved or knocked with the hands. It is entirely a game of *foot*-ball. A round ball is used.

LAWN TENNIS.

A LAWN TENNIS COURT may be of clay, common soil, or sod. The second is the most common, but the last is the best. It must be *level* and *smooth*. These two qualities cannot be dispensed with. A piece of ground which seems level to the eye is not always so. To lay out a tennis court, take some point on the ground which will serve as one corner of a court, and carry from there a straight line with the tape or cord seventy-eight feet in length. This is one long side of

the court. Then from the same point of beginning carry a line at right angles to the first twenty-seven feet. This is the end line, or base line of the court. The other end and side are like these. Get the corners square by any of the well-known methods used by builders or suggested by the circumstances. A simple way is to drive two pegs into the ground outside the intended corner, to and around which the cord is carried. Move these pegs until the corner is square with the direction of the court.



Lawn Tennis Court.

The end lines (see diagram) are called base lines; the long boundaries are side lines. The double court is made by simply adding the dotted lines in the diagram 4½ feet outside of the boundaries already described. On either sod or soil these lines are marked with lime or plaster. There is a fluid marking made by a solution of common whiting in water, applied along the lines with a white-wash brush. Lime and water, white-wash, is equivalent. There are numerous patent appliances for sifting lime, whiting, plaster, along the lines when they need renewing. Lay out the court with stakes and twine first, and then make the lines. They will seldom become so dim between plays that they cannot be followed and renewed at any time afterwards. Make them about two inches wide and perfectly straight. All styles of nets and net-poles are for sale. The rules require the top of the net to be 3 feet from the ground in the middle and 3½ feet at the ends. The modern woven wire is often used behind each end of the court to stop balls.

THE RACKET is always an article of manufacture, purchasable in almost any quality and price. Get a good one at the start and then take especial care of it. It should be well balanced, and of a weight that suits your wrist. A rather heavy one weighs fifteen ounces; and it is better to begin with one that is too light than too heavy. A girl should begin with one weighing 12 to 13 ounces.

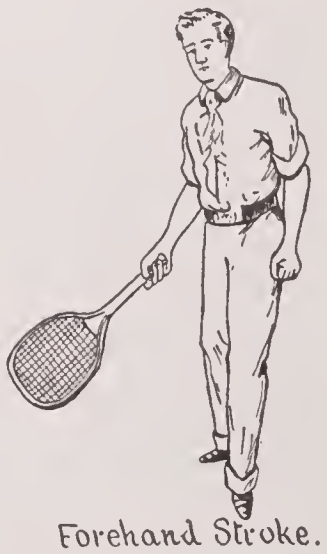
Serving.

The tennis ball measures 2½ inches in diameter and should weigh exactly 2 ounces. It is a hollow rubber sphere covered with white, soft leather.

In tennis clothing every one follows his own fancy. The exercise is one requiring great activity of body without any violence, and great coolness and alertness of mind. Loose clothing and easy foot-wear are essential. A woman often plays with long skirts and corsets upon her, but no one but she can imagine how she manages to do it. Tennis is foremost among the health games. Don't sit on the ground during the intervals of games; change all the clothing at the end of the playing. Get the best results in both amusement and health.

A single game is played with one person on each side of the net. Each one then plays for himself. The one who starts the ball is called the "server," his opponent being the "receiver" or "striker out." The server must stand in the first service just outside of the base line and a little to the right of the middle line. He must strike the ball over the net so that it will fall in the court of his opponent, diagonally opposite to the server. The receiver must return the ball *after it has bounded once in his court*, and this return must be made so that it will fall somewhere within the limits of the server's court. If the server fails to strike the ball into his opponent's court as described, he makes a "fault;" if he fails the second time he loses the first point. If he succeeds the receiver must return the ball on the first bound, and if he fails, or strikes it against the net, or outside the server's court, then the receiver loses and the server gains one point. After the first play either player may hit the ball either on the bound or before it reaches the ground. The latter is called "volleying." In any case the ball must not be struck into the net or outside of the adverse player's court, and when such is the case the player loses a point. The server in one game becomes the receiver in the next, and so on while the game lasts.

RULE OF SCORING.—The first point counts 15 for the winner, the second 15 more, making 30, the third 10, making 40, and the next point wins the game unless each party has 40 —known as "deuce"—when two successive points are required to win the game. The player who first wins six games wins the set, except when the score stands five games to each, and in that case *two* successive games must be won to conclude the set.


Forehand Stroke.

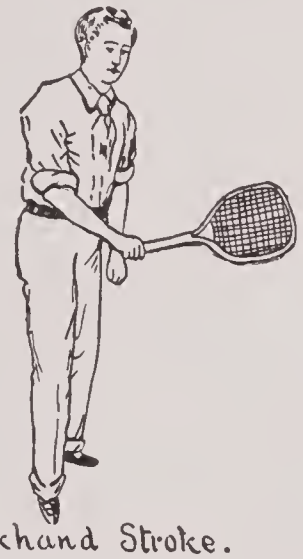
There are two styles of playing tennis: one is the base-line game, and the other the net, or "volley" game. In the first, the player keeps in position well back in the court, making most of his returns from the bound of the ball. In this case it is impossible to "pass" him: to hit the ball over his head. But if one's opponent is a skillful netman, the latter will strike the ball so as to cause it to return at a very short angle, and the base-line player will find it difficult to reach it on its rebound.

The net game consists simply in playing as close to the net as is advisable, and in volleying every ball you can. It

requires quick judgment and activity, and good endurance. In playing a net game it is much easier for your opponent to "pass" you with a ball, and on the side there is more ground unprotected.

THE DOUBLE GAME is played by two contestants on each side. This arrangement is now more common than any other. Both players stand at about the same relative position in the court, advancing and retreating together as the game progresses. The service of the ball is taken by each of the four players alternately. Each partner has his particular half of the court to cover. One does not interfere with the other in good playing, and then there are no collisions, spoiled hits and conflicting judgments as to what should be done. A rule of good results in good playing is to do your own side the best you can and *don't talk.* Do not try to get

Half-Volley.



Backhand Stroke.

a nice strike away from your partner because you are afraid he will not see it or make it.

Tennis is the most beautiful game ever evolved—for it is an evolution—for men and women to play in *together.* It is a woman's game *and* a man's. To do her part in it, and enjoy it, and get rosy health by it, the woman must wear easy, substantial shoes, dress loosely and simply, and cease to try to pose and be languid, dawdling, slow and "finicky." Expertness in the play makes a woman graceful. It is that which makes the female players seem graceful and attractive to all spectators. She should not hesitate to run as hard, and stop as quickly, and reach as far, as any exigency of the play seems to require. *The winning of the match* soon becomes the object of all who play. A person who will not try to do this is not wanted in the game, and is, in plain English, a bore to all present.

The following are the principal rules of lawn tennis:

The court is 78 feet long, and 27 feet wide. It is divided across the middle by a net, the ends of which are attached to posts standing 3 feet outside of the court on either side. The height of the net is 3 feet, 6 inches at the posts, and 3 feet at the middle.

The balls shall measure not less than $2\frac{15}{32}$ inches, nor more than $2\frac{1}{2}$ inches in diameter; and shall weigh not less than $1\frac{15}{16}$ ounces, nor more than 2 ounces.

The choice of sides and the right to serve in the first game shall be decided by toss; provided, that if the winner of the toss choose the right to serve, the other player shall have choice of sides, and *vice versa.* The player who first delivers the ball shall be called the server, and the other the striker-out.

At the end of the first game the striker-out shall become server, and the server shall become striker-out; and so on alternately in all the subsequent games.

The server shall serve with one foot on the ground, immediately behind the base line; the other foot may be anywhere, except touching the base line or the ground within the court. He shall deliver the service from the right to the left courts, alternately; beginning from the right.

The ball served must drop between the service line, half-court line, and side line of the court, diagonally opposite to that from which it was served.

After a fault the server shall serve again from the same court from which he served that fault, unless it was a fault because he served from the wrong court.

A fault cannot be claimed after the next service is delivered.

It is a good *return,* although the ball touches the net; but a *service,* otherwise good, which touches the net shall count for nothing.

The striker-out wins a stroke if the server serves two consecutive faults.

On either player winning his first stroke, the score is called 15 for that player; on either player winning his second stroke, the score is called 30 for that player; on either player winning his third stroke, the stroke is called 40 for that player; and the fourth stroke won by either player is scored game for that player. If both players have won three strokes, the score is called *deuce;* and the next stroke won by either player is scored *advantage* for that player. If the same player wins the next stroke, he wins the game; if he loses the next stroke the score returns to deuce; and so on until one player wins the two strokes immediately following the score of deuce, when game is scored for that player.

The players shall change sides at the end of every set.

CROQUET.

CROQUET has ceased to be a lawn game exclusively. The ground is now often a level, hard-rolled, sanded field. All tournament games must be played on such a ground. The sod ground is still much used, but the game has in late years been modified. The number of arches has changed, also their positions and size, and the size of the ground has diminished. The scientifically-constructed croquet ground is 36x72 feet. It has a slightly-raised border, so that the ground is very slightly platter-shaped. There is a border at the top of the little slope which is made of hard wood, which is a cushion from which caroms can be made. The corners of this border are cut across, each cornerpiece being 8 feet long. The stakes, or posts, are only 1 inch in diameter, and one and one-half inches high. The first wicket is 7 feet from the stake, the second 7 feet from the first, the side arches on a line with this on each side and 5 feet inside the rise of the border, and the cage in the center is 18 inches long with the loops set at right angles with the line drawn through the center of the ground from stake to stake, and with 3 3-8 inches between the legs of the arches. In all tournament games the wickets are not more than 3 1-2 inches wide and the cage as above described. For such a game the mallets are of boxwood, 7 to 7 1-2 inches long and 2 1-4 to 2 1-2 inches in diameter; the handle from 8 to 15 inches long. Some of these mallets are a steel or brass tube filled with wood, and having a hard and a soft-rubber end. The best balls are of hard-rubber, 3 1-2 inches in diameter. They require frequent repainting to note the colors.

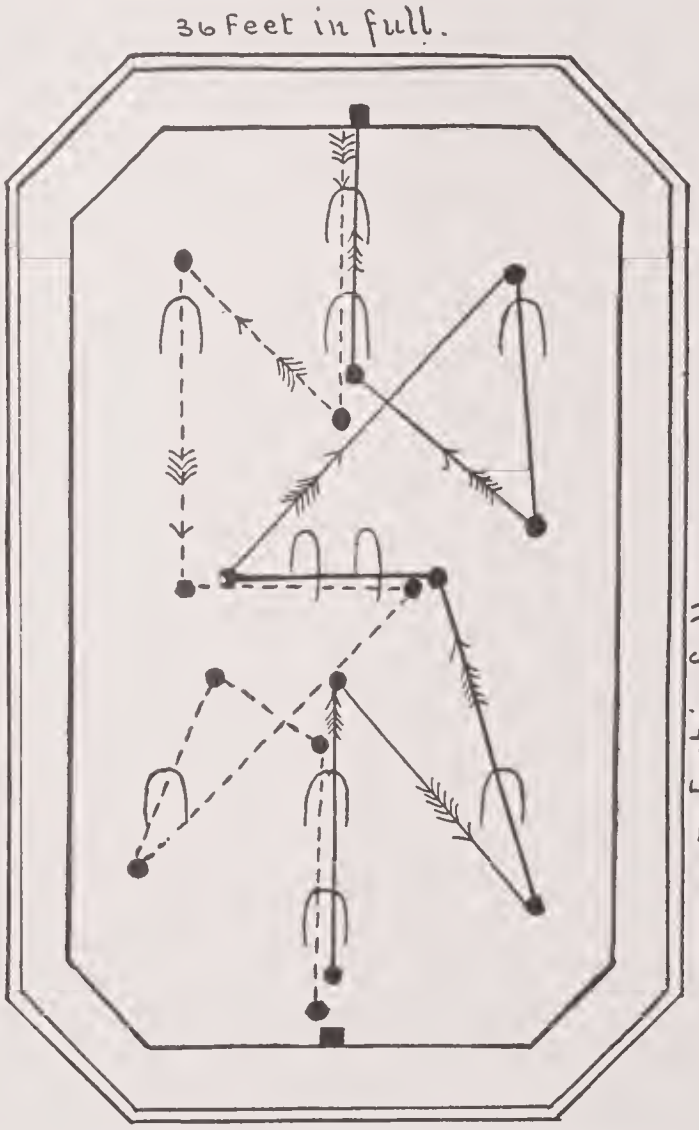


Diagram of Croquet Ground

The diagram given may be used in lawn croquet, without the border or grading, and the course of the ball is also indicated. The narrow wickets and arches, and the manner of arranging the cage, may also be dispensed with for something more in keeping with the roughness of the ordinary ground.

The more modern mallet has been referred to. To use in lawn games it is better to be 7 to 8 inches in length, 2 1-4 inches in diameter, the handle 12 to 18 inches in length. There are balls of hard rubber, boxwood and rock maple, costing from 25 cents to $2.50 each. Arches and stakes may well be of better quality than those used when the game was first played. Once made, a dirt ground is easily kept in order, and when used in summer evenings, as is most commonly the case, there is no dew and dampness. The game is a deliberate and gentle one, suitable for elderly people, and there is as much skill in it as in billiards. Rules should be rigidly observed. The old-fashioned disputes and bickerings are quite out of fashion. There are a few general principles, such as these:

1. Separate as much as you can the balls of your adversaries; keep your own together.

2. Keep with you, or your partner, the last-played ball of your adversaries, called the "innocent."

3. Keep the ball to be next played by him, the "guilty," wired as much as possible.

4. When you can't do any more yourself, set them up for your partner as well as you can.

5. Do not play on your adversary's ball when, if you should miss him, you give him a better chance than he had before.

6. In making a run look out for points ahead. Do not leave balls behind you when you can avoid it.

TERMS USED IN CROQUET—*To Roquet.*—To hit with one's own ball another ball for the first time.

To Croquet.—To place player's ball against the roqueted ball and then striking his own ball, moving both.

Carom.—A rebounding from an arch, a stake, or the border.

Dead Ball.—A ball on which the player has played since making a point. It is then *dead* to the player till he makes another point or has another turn.

Direct Shot—Roquet.—This is a direct shot, whether the ball in passing to its destination does or does not carom from a wire, or a stake, or the border.

Set Up.—To locate the balls so as to afford facility for making the next point or run.

Wiring.—To leave the balls so that the next player finds a wire or stake between his ball and the object-ball.

"*Guilty*" *Ball.*—The next played on the adversary's side.

"*Innocent*" *Ball.*—The last played ball of the adversary.

Rover.—A ball that has made all the points except the last.

Tight Croquet is holding with the hand or foot the ball placed against another for the sake of croquet, thus allowing only the latter to be moved.

Loose Croquet is striking a ball when it is in contact with another, where it has been placed for the purpose of croquet, thus moving both balls.

CROQUET RULES.—No player or other person shall be permitted to interfere with the result of a game by any word or act calculated to embarrass the player, nor shall anyone, except a partner, speak to a player while in the act of shooting.

The order of colors is red, white, blue, black.

There shall be no restriction as to kind or size of mallet used—one or two hands may be used in striking.

All games shall be opened by scoring from an imaginary line through the middle wicket, and playing towards the turning stake. The balls must be so played that they rest below the first arch from the turning stake, and if dislodged must be replaced.

The ball must be struck with the face of the mallet, the stroke being delivered whenever touching the ball, it moves it. Should a stake or wire intervene, the stroke is not allowed unless the ball is struck at the same time. All balls moved by a false shot may be replaced or not at the option of the opponent.

When making a direct shot (*i. e.* roquet), the player must not push or follow the ball with his mallet; but when taking croquet from a ball (two balls being in contact), he may follow his ball with the mallet; but must not strike it twice.

If a player strikes his ball before his opponent has finished his play, the stroke shall stand, or be made over, at the option of the opponent.

Should a ball rest against or near a wire, and in order to pass through the arch, an unfair or push shot would have to be made, it shall not be made.

Should a player in making a stroke move with his mallet any other than his object-ball, it shall be a foul and his play ceases, and all balls moved shall be replaced as before the stroke, or remain where they rest, at the option of the opponent.

If a dead ball in contact with another ball moves while playing the other ball away from it, the player does not lose his shot.

A ball must not be touched while on the field, except after a roquet, when it is necessary to place it beside the roqueted ball for the purpose of croquet.

Roquet gives to the player the privilege of roquet-croquet only, and play must be made from the roqueted ball.

A player, in each turn of play, is at liberty to roquet any ball on the ground *once* only before making a point.

In taking croquet from a ball, if player's ball strikes another, to which he is dead, such stroke does not end his play.

If a player roquets two or more balls at the same stroke, only the first can be croqueted.

A player makes a point in the game when his ball makes an arch or hits a stake in proper play.

If a player makes a point, and afterwards at the same stroke roquets a ball, he must take the point, and use the ball.

A ball making two or more points at the same stroke, has only the same privilege as if it made but one.

Should a ball be driven through its arch, or against its stake by croquet, it is a point made by that ball, except it be a rover.

If a player, in making a direct shot, strike a ball on which he has already played, *i. e.*, a dead ball, his play ceases. A dead ball displaced by other than direct shot, shall not be replaced.

If playing-ball, in passing through its arch, strikes a dead ball that is beyond the arch, the ball shall not be considered a dead ball if playing-ball rests through its arch, and the point shall be allowed.

A ball accidentally displaced, otherwise than as provided for, must be returned to its position before play can proceed.

The boundary is a line extending around the field, usually 30 inches from the border, and parallel with it.

A ball shot over boundary or border must be returned at right angles from where it stops before play can proceed.

A ball is in the field only when the whole ball is within the boundary line.

No play is allowed from beyond the boundary line, except when a ball is placed in contact with another for the purpose of croquet.

If a player hits a ball off the field by a direct shot, his play ceases, and the roqueted ball is placed on the boundary opposite the point where it lay before being thus hit. But if a ball off the field is hit from a croquet, the hit shall not be allowed, the ball shall be replaced properly in the field, and the play shall not cease.

The first ball driven over the boundary line into a corner must be replaced on the corner at the intersection of the two boundary lines.

A ball is not through an arch when a straightedge, laid across the two wires on the side from which the ball came, touches the ball without moving the arch.

If a ball has been placed under an arch, for the purpose of croquet, it is not in position to run that arch.

If a ball be driven under its arch from the wrong direction, and rests there, it is not in position to run that arch in the right direction.

If a ball, shot through its arch in the right direction, rolls back through or under that arch, the point is not made, but the ball is in position if left there.

The cage wicket may be made in one, two or more turns, provided the ball stops within limit of the cage.

Any playing-ball within, or under, a wicket, becomes dead to advancement through the wicket from that position if it comes in contact with any other ball by a direct shot.

A rover has the right of roquet and consequent croquet on every ball once during each turn of play, and is subject to roquet and croquet by any ball in play.

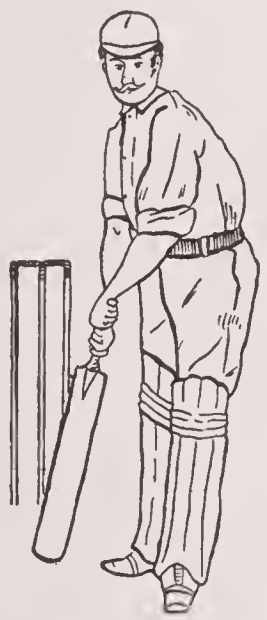
Rovers must be continued in the game until partners become rovers, and go out successfully, and a rover that has been driven against the stake cannot be removed to make way for the next rover.

If an error in order is discovered after a player has struck his ball, he shall be allowed to finish his play, provided he is playing in the regular sequence of his partner's ball last played.

In making all side or corner wickets the playing-ball shall pass through them towards the center.

CRICKET.

CRICKET is an old English game, scarcely yet introduced into this country, and known and played only to a very limited extent. It became popular in England mainly during the present century. The "double-cricket" game is that which is usually played, requiring two sets of wickets, and two bats and a ball. Single-wicket games may be played with a less number of persons than is required for the usual game. The wickets are three upright sticks or "stumps," 27 inches high, and two horizontal pieces of wood called "bails" are placed on top of each wicket. These wickets are 22 yards apart. There is a batter at each wicket; and a wicket-keeper, a bowler, a "long-stop," and fielders are placed in position by the director of the other side. The purpose of the game is that the bowler shall so direct his ball toward the opposite wickets as to knock off the bails or strike down the stumps, while the batter's object is to keep his wicket by stopping the ball or driving it out of the field. If the batsman misses the ball and it passes the wicket, the wicket-keeper stops it and returns it to the bowler, who delivers another. When the batter can strike the ball away he runs to the other wicket, his companion crosses to his, and so on until the ball is returned to the bowler or wicket-keeper by a fielder. He may have time to make more than one "run" before the ball is returned, and his side is credited with such runs. If the ball touches the wicket before the batter touches it with his bat or has reached his ground in a run, he is out and another takes his place.



There are several ways in which a batsman may be put out, as:

Bowled Out.—If the bowler succeeds in bowling a ball that passes the bat and hits the wicket.

Hit Wicket.—If the batsman in playing at the ball hits the wicket with his bat or person.

Stumped Out.—If the batsman, in playing at a ball, steps out of his ground—that is, beyond a marked line called the "*popping-crease.*"

There are, as with other games, technical terms used. The following are among the most important:

A "Bye."—Should the batsman fail to hit the ball, and it should pass the fielders behind the wicket, the batsman may make a run, which scores one to his side as a "bye."

A "Leg-Bye."—Should the ball glance from any part of the batsman's body and pass the fielders, the batsman may make a run, which counts one for his side as a "leg-bye."

A "Wide."—When a ball is bowled out of the reasonable reach of a batsman, and the umpire calls "*wide,*" it counts one for the batsman's side.

"*No Ball.*"—A ball must be "bowled." When a bowler delivers a ball in front of the bowling-crease, or jerks or throws it, the umpire calls "*no ball.*" When a "no-ball" is bowled, a batsman can only be put out by "running out."

A "Maiden Over."—This is when a bowler delivers five balls and no "runs" are made.

"*Overs.*"—The object of an "over" is to rest the bowlers. After five balls he is relieved, and the bowling is done by another man from the opposite wicket. The fielders, of course, change accordingly.

A ball is "in play" from the moment a bowler takes it in

hand to deliver it until it is settled again in his or the wicket-keeper's hands. Then it is "dead." A batsman must not touch a ball with his hands while it is in play. If he does he is "out."

The Fielders.—The "long-stop" stands behind the wicket-keeper to stop with his hands the balls the latter misses. The fielders are posted in different parts of the ground. They throw the ball to the wicket-keeper, who returns it to the bowler. The captain of the eleven places them in varying situations to comply with the varying strokes of different batsmen.

RULES OF CRICKET—*Runs.*—The score shall be reckoned by runs. A run is scored—1st. So often as the batsmen after a hit, or at any time while the ball is in play, shall have crossed, and made good their ground from end to end. The side which scores the greatest number of runs wins the match.

The ball shall weigh not less than five ounces and a half, nor more than five ounces and three-quarters. It shall measure not less than nine inches, nor more than nine inches and one-quarter in circumference.

The bat shall not exceed four inches and one-quarter in the widest part; it shall not be more than thirty-eight inches in length.

The Wickets.—The wickets shall be pitched opposite and parallel to each other, at a distance of 22 yards. Each wicket shall be 8 inches in width, and consist of three stumps, with two bails upon the top. The stumps shall be of equal and sufficient size to prevent the ball from passing through, 27 inches out of the ground. The bails shall be each 4 inches in length, and when in position, on the top of the stumps, shall not project more than half an inch above them.

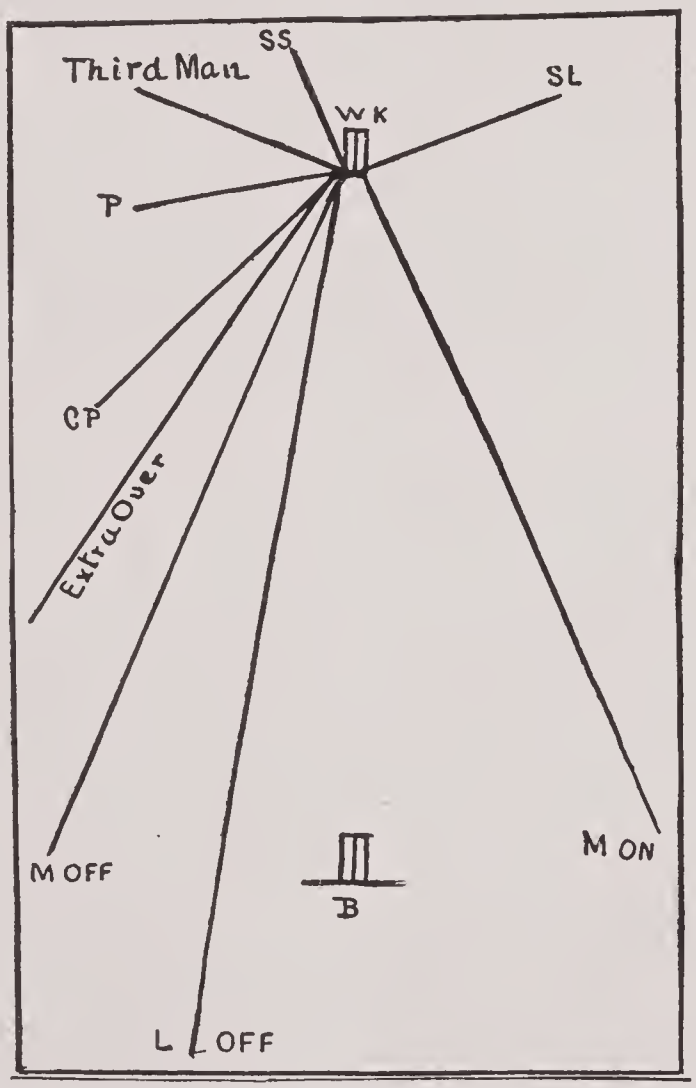


Diagram of Cricket Ground

The bowling-crease shall be in a line with the stumps, 6 feet 8 inches in length, the stumps in the center, with a return crease at each end at right angles behind the wicket.

The popping-crease shall be marked 4 feet from the wicket, parallel to it, and be deemed unlimited in length.

The ball must be bowled; if thrown or jerked, the umpire shall call "no ball."

The ball shall be bowled in overs of five balls from each wicket alternately. When five balls have been bowled, and the ball is finally settled in the bowler's or wicket-keeper's hands, the umpire shall call "over." Neither a no-ball nor a wide-ball shall be reckoned as one of the over.

The wicket shall be held to be "down" when either of the bails is struck off, or, if both bails be off, when a stump is struck out of the ground.

The Striker is Out—If the wicket be bowled down, even if the ball first touch the striker's bat or person.

Or, if the ball, from a stroke of the bat or hand, but not the wrist, be held before it touch the ground, although it be hugged to the body of the catcher.

Or, if in playing at the ball, provided it be not touched by the bat or hand, the striker be out of his ground, and the wicket be put down by the wicket-keeper with the ball or with hand or arm, with ball in hand.

Or, if with any part of his person he stop the ball, which, in the opinion of the umpire at the bowler's wicket, shall have been pitched in a straight line from it to the striker's wicket and would have hit it.

Or, if in playing at the ball, he hit down his wicket with his bat or any part of his person or dress.

Or, if under pretence of running, or otherwise, either of the batsmen wilfully prevent a ball from being caught.

Or, if the ball be struck, or be stopped by any part of his person, and he wilfully strike it again, except it be done for the purpose of guarding his wicket, which he may do with his bat or any part of his person, except his hands.

Either Batsman is Out—If in running, or at any other time, while the ball is in play, he be out of his ground, and his wicket be struck down by the ball after touching any fieldsman, or by the hand or arm, with ball in hand, of any fieldsman.

Or, if he touch with his hands or take up the ball, while in play, unless at the request of the opposite side.

Or, if he wilfully obstruct any fieldsman.

If the batsmen have crossed each other, he that runs for the wicket which is put down is out; if they have not crossed, he that has left the wicket which is put down is out.

The striker being caught, no run shall be scored. A bats-

man being run out, that run which was being attempted shall not be scored.

A batsman being out from any cause, the ball shall be "dead."

The fieldsman may stop the ball with any part of his person.

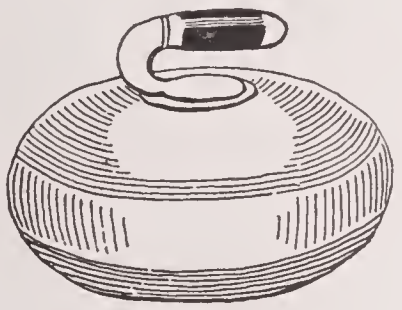
The wicket-keeper shall stand behind the wicket. If he shall take the ball for the purpose of stumping before it has passed the wicket, or if he shall incommode the striker by any noise or motion, or if any part of his person be over or before the wicket, the striker shall not be out.

CURLING, SHINNEY.

CURLING

Is exclusively a winter amusement, played upon ice. It is known as a Scottish pastime, though games on the ice that were similar to it have been played by many others. It is played, however, wherever Scotchmen and ice are found together.

The chief implement used in curling is the stone, or "curler." It is circular, slightly flattened, or turnip-shaped, with a convenient handle in its top which is horizontal. According to rink rules no stone must weigh more than forty-four pounds nor less than thirty-two pounds. The length of the rink is 42 yards (126 feet), and the game is played by four persons on a side.



The game is in the hands of a "skip," or director, for each side. The mark at each end of the rink is called a "tee." Circles are drawn around each tee of 2 feet, 4 feet, and 7 feet in diameter. The game is much like the playing of quoits, except that instead of being thrown, the curling-stone is made to glide along the ice, giving an opportunity for the exercise of great skill in placing it. Some players use iron blocks instead of stones. The rules are not more technical than those of quoits or bowling, but much practice is necessary to acquire skill in placing the stones.

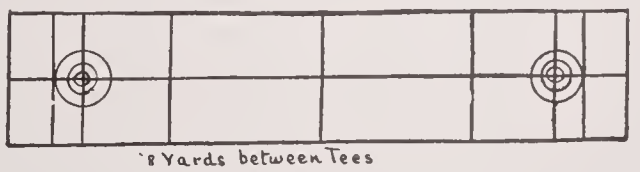


DIAGRAM OF CURLING RINK.

SHINNEY.

THIS is the American name for the old game which is also known by the names "bandy" and "hockey." The game is often played with improvised crooked-ended sticks, and with pebbles or blocks instead of balls. The regulation stick is of ash or hickory, not more than 34 inches long nor weighing more than 4½ ounces, the crook being 4 inches long. The ball is of self-inflating India rubber, not more than 1¾ inches in diameter, and weighing one ounce. The ground should be smooth, level and bare, not less than 125 yards long and 54 yards wide. In the center of this are posts like those used in foot-ball: 11 feet high, 18 feet apart, with a cross-bar 10 feet from the ground.

The object of the game is to strike the ball with the stick so as to make it pass between the posts, under the cross-bar, and strike the ground behind the goal. There should be an even number of players on each side. The match-game, under strict rule, requires fifteen on a side. They toss for choice of goal and hit-off. The goal-line extends across the ground through the two posts, and a base-line is 60 feet on each side of it. The ball is hit-off from any point between these two lines. While the object of the game is to hit the ball between the two posts, a player cannot win a goal by a hit until the ball has been struck at least twice by players belonging to the opposite side. No catching, holding, or carrying the ball, or stopping it with the person by a player, is allowed. No "shinning" or striking of players with the stick, and no interfering with a stick except with another stick, is permitted. A "free-hitter" may be named for each side by its captain. When the ball has been struck behind the goal-line belonging to one side, and a player from the *opposing* side is the first to touch it with his hand, he shall have the right to bring the ball to where it crossed the goal-line, and from thence hit it in any directon he pleases, but all the other players on his side must be beyond their base-line at the time of striking, and at the moment of his placing the ball on the ground.

GOLF.

WHEN and where the game of golf was first played is an unsettled question. It is generally conceded to be of Dutch origin and there is incontestable proof that it was played as long ago as the opening years of the 16th century.

In more recent times it became an amusement so peculiar to Scotland and so prevalent there that it may be considered the national game.

About the year 1890 golf began to make headway in the United States. Its conquest has been rapid and sweeping. It is now played everywhere by both sexes and all ages. A characteristic of the game of golf is the strong partisan feeling it arouses. Those who play are enthusiastic about it, devoted to it, while those unacquainted with it are prone to scoff and to speak with undisguised scorn of the bootless folly of those who spend time and money and effort in its pursuit. It is observable that the scoffers generally experience a change of heart if they ever so far defy their prejudice as to make a practical test of the merits of the game.

Golf players claim for it many advantages—the exercise under most favorable auspices, amusement and relaxation, social features, faculty training, etc.

Told in simple language, golf consists in hitting a ball over the "course" or "links," "putting" it at stated places into a small hole four and one-half inches in diameter, made for the purpose. It sounds simpler than it is as every one knows who has tried it.

The game may be played on any good stretch of meadow-land, where the grass is not too rank; but the ground best suited for the purposes is a reach of undulating down-country, such as is most common on the sea-board, sandy in soil and covered with short crisp turf. The more obstacles there are the "sportier" the course is counted. These obstacles are both natural and artificial. They are called "hazards" and "bunkers." When not provided in sufficient quantity by nature, the deficiency is supplied, generally in the shape of mounds of sand aggravatingly located in positions most likely to give the player trouble. Hills and hollows, broken land, trees, fences, and roads are frequently found within the confines of a course.

Eighteen is the recognized number of holes in a full course, though many have only nine. The holes are located as convenience dictates, at varying distances apart, from one hundred yards up to anything between one-quarter and one-half mile apart. For the strokes required in hitting the ball over the course, various "clubs" have been designed to meet its different "lies" or locations. They are 1, driver; 2, brassy; 3, cleek; 4, driving mashie; 5, iron; 6, mashie; 7, niblick; 8, wooden putter; 9, putter; 10, Boffing spoon.

The golf ball is gutta percha or rubber about one and one-fourth inches in diameter, weighing one and three-fourths ounces.

At the start for each hole the balls are driven from the "teeing-ground," each ball being "teed" *i. e.*, placed upon a little mound or pinch of sand which is provided for the purposes. After the first shot the ball may not be touched, except by the club, until safely landed in the hole, when a new start for the next teeing ground is made, and so on to the end of the course.

A "full drive," as the farthest distance that a ball can be hit is called, is about 200 yards in length. It is easily to be understood that when the ball is lying on the turf behind a sand-hill or in a bunker, a differently shaped club is required for raising it over such an obstacle from that which is needed when it is placed advantageously on the "tee," and again, that another club is needed to strike a ball out of a cup or out of heavy grass. It is this constant variety that gives the game zest.

Each player plays with his own ball, with no interference from his opponent, and the object of each is to hit the ball from the starting points or "teeing-grounds" into each successive hole of the course in the fewest strokes. The player who at the end of the round has won the majority of the holes is the winner round.

Glossary of Technical Terms Used in the Game.

Addressing the Ball.—Putting one's self in position to strike the ball.

All Square.—Term used to express that the score stands level, neither side being a hole up.

Baff.—To strike the ground with the club when playing, and so loft the ball unduly.

Baffy.—A short wooden club, with laid-back face, for lofting shots.

Bogey.—The number of strokes which a good average player should take to each hole. This imaginary player is usually known as "Colonel Bogey," and plays a fine game.

Brassy.—A wooden club with a brass sole.

Bulger.—A driver in which the face "bulges" into a convex shape. The head is shorter than in the older-fashioned driver.

Bunker.—A sand-pit.

Caddie.—The person who carries the club (from French *cadet*).

Cleek.—The iron-headed club that is capable of the farthest drive of any of the clubs with iron heads.

Dead.—A ball is said to be "dead" when so near the hole that the putting it in the next stroke is a "dead" certainty. A ball is said to "fall dead" when it pitches with hardly any run.

Divot.—A piece of turf cut out in the act of playing, which, be it noted, should always be replaced before the player moves on.

Dormy.—One side is said to be "dormy" when it is as many holes to the good as remain to be played—so that it cannot be beaten.

Driver.— The longest driving club, used when the ball lies very well and a long shot is needed.

Foozle.— Any very badly missed or bungled stroke.

"*Fore!*"— A cry of warning to people in front.

Foursome.— A match in which 4 persons engage, 2 on each side playing alternately with the same ball.

Green — (a) The links as a whole; (b) The "putting-greens" around the holes.

Grip.— (a) The part of a club-shaft which is held in the hands while playing; (b) The grasp itself—e. g., "a firm grip," "a loose grip," are common expressions.

Half-shot.— A shot played with something less than a full swing.

Halved.— A hole is "halved" when both sides have played it in the same number of strokes. A round is "halved" when each side has won and lost the same number of holes.

Hanging.—Said of a ball that lies on a slope inclining downwards in regard to the direction in which it is wished to drive.

Hazard.— A general term for bunker, whin, long grass, roads, and all kinds of bad ground.

Heel.— To hit the ball with a pulling movement, so as to send it too much to the left; in a sense, the opposite of *slice.*

Honor.— The privilege (which its holder is not at liberty to decline) of striking off first from the tee.

Iron.— An iron-headed club intermediate between the cleek and lofting mashie. There are driving irons and lofting irons according to the purposes for which they are intended.

Lie.— (a) The angle of the club-head with the shaft (e. g., a "flat lie," "an upright lie"); (b) The position of a ball on the ground (e. g., "a good lie," "a bad lie").

Like-as-we-Lie.— Said when both sides have played the same number of strokes.

Line.— The direction in which the hole toward which the player is progressing lies with reference to the present position of his ball.

Mashie.— An iron club with a short head. The *lofting mashie* has the blade much laid back, for playing a short lofting shot. The *driving mashie* has the blade less laid back, and is used for longer, less lofted shots.

Match-Play.— Play in which the score is reckoned by holes won and lost.

Medal-Play.— Play in which the score is reckoned by the total of strokes taken on the round.

Niblick.— A short stiff club, with a short, laid back, iron head, used for getting the ball out of a very bad lie.

Press.— To strive to hit harder than you can hit with accuracy.

Putt.— To play the short strokes near the hole.

Putter.— The club used for playing the short strokes near the hole. Some have a wooden head, some an iron head.

Rub-of-the-Green.— Any chance deflection that the ball receives as it goes along.

Run Up.— To send the ball low and close to the ground in approaching the hole — opposite to lofting it up.

Scratch Player.— Player who receives no odds in handicap competitions.

Slice.— To hit the ball with a cut across it, so that it flies curving to the right.

Stance.— (a) The place on which the player has to stand when playing — e. g., "a bad stance," "a good stance," are common expressions; (b) The position relative to each other of the players' feet.

Stymie.— When one ball lies in a straight line between another and the hole the first is said to "stymie," or "to be a stymie to" the other — from an old Scottish word given by Jamieson to mean "the faintest form of anything." The idea probably was, the "stymie" only left you the "faintest form" of the hole aimed at.

Tee.— The little mound of sand on which the ball is generally placed for the first drive to each hole.

Teeing-Ground.— The place marked as the limit, outside of which it is not permitted to drive the ball off. This marked-out ground is also sometimes called "the tee."

Top.— To hit the ball above the centre, so that it does not rise much from the ground.

Wrist-Shot.— A shot less in length than a half-shot, but longer than a putt.

Rules of Golf.

1. *Definitions:* — (*a*) The game of golf is played by sides, each playing its own ball. A side consists either of one or of two players. If one player play against another, the match is called "a single." If two play against two, it is called "a foursome." A single player may play against two, when the match is called "a threesome," or three players may play against each other, each playing his own ball, when the match is called "a three-ball match."

(*b*) The game consists in each side playing a ball from a teeing-ground into a hole by successive strokes, and the hole is won by the side which holes its ball in fewer strokes than the opposite side, except as otherwise provided for in the rules. If the sides hole out in the same number of strokes, the hole is halved.

(*c*) The teeing-ground shall be indicated by two marks placed in a line, as nearly as possible at right angles to the course.

(*d*) The term "putting-green" shall mean all ground within twenty yards of a hole, except hazards. The holes shall be 4¼ inches in diameter, and at least 4 inches deep.

(*e*) A "hazard" shall be any bunker, water, (except casual water), sand, path, road, railway, whin, bush, rushes, rabbit scrape, fence, or ditch. Sand blown onto the grass, or sprinkled on the course for its preservation, bare patches, snow, and ice are not hazards. Permanent grass within a hazard shall not be considered part of the hazard.

(*f*) The term "through the green" shall mean all parts of the course except "hazards" and the putting-green which is being played to.

(*g*) The term "out of bounds" shall mean any place outside the defined or recognized boundaries of the course.

(*h*) "Casual water" shall mean any temporary accumulation of water (whether caused by rainfall or otherwise) which is not one of the ordinary and recognized hazards of the course.

(*i*) A ball shall be "in play" as soon as the player has made a stroke at the teeing-ground in each hole, and shall remain in play until holed out, except when lifted in accordance with the rules.

(*j*) A ball shall be considered to have "moved" only if it leave its original position in the least degree, and stop in

another; but if it merely oscillate, without finally leaving its original position it shall not be considered to have "moved."

(*k*) A ball shall be considered "lost" if it be not found within five minutes after the search for it has been begun.

(*l*) A "match" shall consist of one round of the links unless it be otherwise agreed. A match is won by the side which is leading by a number of holes greater than the number of holes remaining to be played. If each side win the same number of holes, the match is halved.

(*m*) A "stroke" shall be any movement of the ball caused by the player, except as provided for in Rule 4, or any downward movement of the club made with the intention of striking the ball.

(*n*) A "penalty stroke" is a stroke added to the score of a side under certain rules, and shall not affect the rotation of ball.

(*o*) The privilege of playing first from the teeing-ground is called "the honor."

(*p*) "Addressing the ball" shall mean that a player has taken up his position and grounded his club, or if in a hazard, that he has taken up his posltion preparatory to striking the ball.

(*q*) The reckoning of strokes is kept by the terms — "the odd," "two more," "three more," etc., and "one off three," "one off two," and the like. The reckoning of holes is kept by the terms — so many "holes up," or "all even," and so many "to play."

2. A match begins by each side playing a ball from the first teeing-ground.

The player who shall play first on each side shall be named by his own side.

The option of taking the "honor" at the first teeing-ground shall be decided, if necessary, by lot.

A ball played from, in front of, or outside of, or more than two club lengths behind the two marks indicating the teeing-ground, or played by a player when his opponent should have had the honor, may be at once recalled by the opposite side and may be re-teed.

The side which wins a hole shall have the honor at the next teeing-ground. If a hole has been halved, the side which had the honor at the last teeing-ground shall again have the honor.

On beginning a new match, the winner of the long match in the previous round shall have the honor, or if the previous match was halved, the side which last won a hole shall have the honor.

3. A player shall not play while his ball is moving, under the penalty of the loss of a hole. But if the ball begin to move while the player is making his upward or downward swing, he shall incur no penalty, except as provided for in Rules 10, 18, and 27, and a stroke lost under Rule 27 shall not in these circumstances be counted as a stroke of a player.

4. If the ball fall or be knocked off the tee in addressing it, no penalty shall be incurred, and it may be replaced, and if struck when moving no penalty shall be incurred.

5. In a threesome or foursome the partners shall strike off alternately from the teeing-grounds, and shall strike alternately during the play of the hole.

If a player play when his partner should have done so, his side shall lose the hole.

6. When the balls are in play, the ball farthest from the hole which the players are approaching shall be played first, except as otherwise provided for in the rules. If a player play when his opponent should have done so, the opponent may at once recall the stroke. A ball so recalled shall be dropped as near as possible to the place where it lay, without penalty.

7. The ball must be fairly struck at, not pushed, scraped, nor spooned, under penalty of the loss of the hole.

8. A ball must be played wherever it lies or the hole be given up, except as otherwise provided for in the rules.

9. Unless with the opponent's consent, a ball in play shall not be moved, nor touched before the hole is played out, under penalty of one stroke, except as otherwise provided for in the rules. But the player may touch his ball with his club in the act of addressing it without penalty.

If the player's ball move the opponent's ball through the green, the opponent, if he choose, may drop a ball (without penalty) as near as possible to the place where it lay, but this must be done before another stroke is played.

10. Any loose impediment (not being in or touching a hazard) which is within a club length of a ball may be removed. If the player's ball move after any such loose impediment has been touched by the player, his partner, or either of their caddies, the penalty shall be one stroke. If any loose impediment (not being on the putting-green) which is more than a club length from the ball be removed, the penalty shall be the loss of a hole.

11. Any vessel, wheel-barrow, tool, roller, grass-cutter, box, or similar obstruction may be removed. If a ball be moved in so doing, it may be replaced without penalty. A ball lying on, or touching such obstruction, or on clothes, nets, or ground under repair or covered up or opened for the purpose of the upkeep of the links, may be lifted and dropped without penalty, as near as possible to the place where it lay, but not nearer the hole. A ball lifted in a hazard, under such circumstances, shall be dropped in the hazard.

A ball lying in a golf hole or flag hole, or in a hole made by the green-keeper, may be lifted and dropped without penalty as near as possible to the place where it lay, but not nearer the hole.

12. Before striking at a ball in play, the player shall not move, bend, nor break anything fixed or growing near the ball, except in the act of placing his feet on the ground for the purpose of addressing the ball, in soling his club to address the ball, and in his upward or downward swing, under penalty of the loss of the hole, except as otherwise provided for in the rules.

13. When a ball lies in or touches a hazard, nothing shall be done to improve its lie; the club shall not touch the ground, nor shall anything be touched or moved before the player strikes at the ball, subject to the following exceptions:— (1) The player may place his feet firmly on the ground for the purpose of addressing the ball; (2) in addressing the ball, or in the upward or downward swing, any grass, bent whin, or other growing substance, or the side of a bunker, wall, paling, or other immovable obstacle may be touched; (3) steps or planks placed in a hazard by the Green Committee for access to or egress from such hazard may be removed, and if a ball be moved in so doing, it may be replaced without penalty; (4) any loose impediments may be removed from the putting-green; (5) the player shall be entitled to find his ball as provided by Rule 30. The penalty for a breach of this rule shall be the loss of a hole.

14. A player or caddie shall not press down or remove any irregularities of surface near a ball in play. Dung, worm-casts, or mole-hills may be removed (but not pressed down) without penalty. The penalty for a breach of this rule shall be the loss of the hole.

15. If a ball lie or be lost in water, the player may drop a ball, under penalty of one stroke. But if a ball lie or be lost (1) in casual water through the green, a ball may be dropped without penalty; (2) in water in a hazard, or in casual water in a hazard, a ball may be dropped behind the hazard, under penalty of one stroke; (3) in casual water on a putting-green, a ball may be placed by hand behind the water without penalty.

16. When a ball has to be dropped, the player himself shall drop it. He shall face the hole, stand erect behind the hazard or casual water, keep the spot from which the ball was lifted (or in the case of water or casual water, the spot at which it entered) in a line between himself and the hole, and drop the ball behind him from his head, standing as far behind the hazard or casual water as he may please. If it be impossible to drop the ball behind the hazard or casual water, it shall be dropped as near as possible to the place where it lay, but not nearer the hole. If the ball so dropped touch the player dropping it, there shall be no further penalty, and if the ball roll into a hazard, it may be re-dropped without further penalty.

17. When the balls lie within six inches of each other on a putting-green, or within a club length of each other through the green or in a hazard (the distance to be measured from their nearest points), the ball nearer the hole may, at the option of either the player or the opponent, be lifted until the other is played, and shall then be replaced as near as possible to the place where it lay. If the ball farther from the hole be removed in so doing, or in measuring the distance, it shall be replaced without penalty. If the lie of the lifted ball be altered by the player in playing, the ball may be placed in a lie as nearly as possible similar to that from which it was lifted, but not nearer the hole.

18. Any loose impediments may be removed from the putting-green, irrespective of the position of the player's ball. The opponent's ball may not be moved except as provided for by the immediately preceding rule. If the player's ball move after any loose impediment lying within 6 inches of it has been touched by the player, his partner, or either of their caddies, the penalty shall be 1 stroke.

19. When the ball is on the putting-green, the player or his caddy may remove (but not press down) sand, earth, dung, worm-casts, mole-hills, snow, or ice lying round the hole or in the line of his putt. This shall be done by brushing lightly with the hand only across the putt and not along it. Dung may be removed by a club, but the club must not be laid with more than its own weight upon the ground. The line of the putt must not be touched, except with the club immediately in front of the ball, in the acts of addressing it, or as above authorized. The penalty for a breach of this rule is the loss of a hole.

20. When the ball is on the putting-green, no mark shall be placed, nor line drawn as a guide. The line of the putt may be pointed out by the player's caddie, his partner, or his partner's caddie, but the person doing so must not touch the ground. The player's caddie, his partner, or his partner's caddie may stand at the hole, but no player nor caddie shall endeavor, by moving or otherwise, to influence the action of the wind upon the ball. The penalty for a breach of this rule is the loss of the hole.

21. When on the putting-green, a player shall not play until the opponent's ball is at rest, under penalty of one stroke.

22. Either side is entitled to have a flag-stick removed when approaching the hole. If the ball rest against the flag-stick when in the hole, the player shall be entitled to remove the stick and if the ball fall in, it shall be deemed as having been holed out at the last stroke. If the player's ball knock in the opponent's ball, the latter shall be deemed as having been holed out at the last stroke. If the player's ball move the opponent's ball, the opponent, if he choose, may replace it, but this must be done before another stroke is played. If the player's ball stop on the spot formerly occupied by the opponent's ball, and the opponent declare his intention to replace, the player shall first play another stroke, after which the opponent shall replace and play his ball. If the opponent's ball lie on the edge of the hole, the player, after holing out, may knock it away, claiming the hole if holing at the like, and the half if holing at the odd, provided that the player's ball does not strike the opponent's ball and set it in motion. If after the player's ball is in the hole, the player neglect to knock away the opponent's ball and it fall in also, the opponent shall be deemed to have holed out at his last stroke.

23. If a ball *in motion* be stopped or deflected by any agency outside the match, or by the forecaddie, the ball must be played from where it lies, and the occurrence submitted to as a "rub of the green." If a ball lodge in anything moving, a ball shall be dropped as near as possible to the place where the object was when the ball lodged in it, without penalty. If a ball *at rest* be displaced by any agency outside the match, excepting wind the player shall drop a ball as near as possible to the place where it lay, without penalty. On the putting-green the ball shall be replaced by hand, without penalty.

24. If the player's ball strike, or be moved by an opponent or an opponent's caddie or clubs, the opponent shall lose the hole.

25. If the player's ball strike, or be stopped by, himself or his partner, or either of their caddies or clubs, his side shall lose the hole.

26. If the player, when making a stroke, strike the ball twice, the penalty shall be one stroke.

27. If the player, when not intending to make a stroke, or his partner or either of their caddies, move his or their ball, or by touching anything cause it to move, when it is in play, the penalty shall be one stroke. If a ball in play move, after the player has grounded his club in the act of addressing it, or, when in a hazard, if he has taken up his stand to play it, he shall be deemed to have caused it to be moved, and shall lose a stroke, which shall be counted as a stroke of the player, except as provided in Rule 3.

28. If a player play the opponent's ball, his side shall, lose the hole, unless (1) the opponent then play the player's ball, whereby the penalty is cancelled, and the hole must be played out with the balls thus exchanged, or (2) the mistake occur through wrong information given by the opponent or his caddie, in which case there shall be no penalty, but the mistake, if discovered before the opponent has played

must be rectified by placing a ball as near as possible to the place where the opponent's ball lay.

If it be discovered before either side has struck off from the next teeing-ground, (or, after playing the last hole in the match, before any of the players have left the green) that one side has played out the hole with the ball of the party not engaged in the match, that side shall lose the hole.

29. If the ball be lost, except as otherwise provided for in the rules, the player's side shall lose the hole; but if both balls be lost, the hole shall be considered halved.

30. If a ball be lost in a fog, bent, whins, long grass, or the like, only so much thereof shall be touched as will enable the player to find his ball. The penalty for a breach of this rule shall be the loss of a hole.

31. If a ball be driven out of bounds, a ball shall be dropped at the spot from which the stroke was played, under penalty of loss of the distance.

32. In a three-ball match, if a player consider that an opponent's ball on the putting-green might interfere with his stroke, he may require the opponent either to lift or hole out his ball at the opponent's discretion.

If an opponent consider (1) that his own ball, if left, might be of assistance to the player, he is entitled to lift it, or hole out at his discretion; or (2) that the ball of the other opponent might be of such assistance, he may require that it be either lifted or holed out at the other opponent's discretion.

33. A player shall not ask for advice from any one except his own caddie, his partner, or his partner's caddie, nor shall he willingly be otherwise advised in any way whatever, under penalty of the loss of the hole.

34. If a ball split into separate pieces, another ball may be put down where the largest portion lies, or if two pieces are apparently of equal size, it may be put where either piece lies, at the option of the player. If a ball crack, or become unfit for play, the player may change it, on intimating to his opponent his intention to do so. Mud adhering to a ball shall not be considered as making it unfit for play.

35. If a dispute arise on any point, the players have the right of determining the party or parties to whom it shall be referred, but should they not agree, either side may refer it to the Rules of Golf Committee, whose decision shall be final. If the point in dispute be not covered by the Rules of Golf. the arbiters must decide it by equity.

Etiquette of Golf.

1. A single player has no standing, and must always give way to a properly constituted match.

2. No player, caddie, or onlooker, should move or talk during a stroke.

3. No player should play from the tee until the party in front have played their second strokes, and are out of range, nor play up to the putting-green till the party in front have holed out and moved away.

4. The player who has the honor should be allowed to play before his opponent tees his ball.

5. Players who have holed out should not try their putts over again when other players are following them.

6. Players looking for a lost ball must allow other matches coming up to pass them.

7. On request being made, a three-ball match must allow a single, threesome, or foursome to pass. Any match playing a whole round may claim the right to pass a match playing a shorter round.

8. If a match fail to keep its place on the green, and lose in distance more than one clear hole on those in front, it may be passed, on request being made.

9. Turf cut or displaced by a stroke should be at once replaced.

10. A player should carefully fill up all holes made by himself in a bunker.

11. It is the duty of an umpire or referee to take cognizance of any breach of rules that he may observe whether he be appealed to on the point or not.

ROWING.

ROWING is believed to combine, more than any other sport, all the best features of physical training. The standard of rowing is maintained by the university Clubs, and it is by the competition of such clubs in racing that its best features have been brought out. All rowing clubs tend to uphold this standard. Many things about rowing have been better learned in recent years. There are certain rules in the art of rowing, a right and a wrong way, which it is proposed to give here.

In rowing the person sits with his face toward the stern. He reaches forward with his oar in the air, then drops it into the water and throws the body straight backward, pulling the opposite end of his oar through the water, and finally pulling the handle in toward the chest, lowering his hands and lunging forward again to repeat the stroke. In racing boats there is often a sliding seat, so that straightening the knees in pulling moves the rower backward and makes the stroke longer. In rowing, both hands grasp one oar; sculls and sculling have the only difference from rowing in the fact that there is an oar for each hand. In rowing two persons are necessary; in sculling one can manage both sculls.

Technically there are two actions in rowing and sculling, the "stroke" and the "feather." The first is the pulling of the oar through the water, the flat surface at right angles to the fluid. The second is the dropping of the wrist in lowering the hands at the end of the stroke, thus turning the oar and bringing the blade nearly flat with the surface of the water, and carrying it back in this position to begin another stroke. This seems easy, and to some it is. By others it is never perfectly learned. No sport requires more practise in acquiring great skill.

Do not begin with too light a boat. You must learn to make headway with something substantial and steady. How to sit and how to hold an oar are the first things to learn. To get into a boat step in with the face to the stern, putting the foot lengthwise on the keelson, and, stooping, let yourself lightly down on the seat by placing a hand on each gunwale. Then ship the oar, placing the handle in the rowlock. Sit square, not one-sided or askew, elbows down, shoulders back. Hold the oar firmly in both hands, but don't grip it. Have the fingers on top and the thumb underneath. Don't cap the end of the oar with that hand which is next it. Keep the hands apart some two inches. The forearms should be below the level of the handles, the wrists laxed and dropped, the oar standing at right angles to the boat, out of the water, and feathered.

In making the stroke reach forward until the arms are straight, inclining the body forward with the chest well out. In reaching forward the hands should be shot out straight in front of the body without pause. About the time of passing the knees the wrists should be raised to bring the blade at right angles to the water preparatory to dipping it. In dipping, raise the hands straight up at once until the oar is covered with water up to the shoulder, the beginning of the handle, and then the stroke should commence. The beginning of the stroke must be caught *with the body only*, and *finished with the arms and shoulders*, the whole strength of these being put into the finish. The arms should begin to be drawn toward the body at about the time the body is perpendicular. It will be seen that at the last half of the stroke the body is moving backward and the hands are moving toward the body, giving the oar-blade an accelerated speed through the water. The finish should be made with the shoulders, by throwing them back, and not entirely with the biceps, squeezing the oar against the chest. When finished the pull should instantly cease, and the hands be dropped straight down and turned over to feather the oar, and then shot out again close to the legs, the body following without the least pause. When dipping again, the blade should descend to the proper depth before any force is applied. After passing the knees the oar should be gradually turned before immersion, the feather ending and the stroke beginning at the same instant. Owing to the angle of the oar with the boat, the most power can be exerted in the first half of the stroke. Do not turn the hands and feather the oar before dropping them at the end of the stroke. *Drop first while the oar-blade is up and down in the water, and then feather.*

In sculling, the points given above are equally applicable. But pulling must be even with both hands.

INDOOR GAMES AND PASTIMES.

CARD-PLAYING.

CARD-PLAYING has been known among men for an unmeasured period. No one knows when what we call cards were invented. They began to be used among the higher classes in Europe at a very early date, and from the fact that they were in use before block printing was invented, which was an art precedent to that which we now know as printing, and that they were painted by hand, and not necessarily on paper, we may infer their great antiquity. Cards were first stenciled; then the design was cut on wood and pressed as a stamp on thick paper. The first actual printing of this kind, xylography, was done upon playing cards before the movable types of Gutenberg were thought of. In fine, the playing card, and games with cards, are among the earliest products of civilization, and the use of them has not diminished with the lapse of time.

In describing the games with cards, and their rules, it is not possible here to even mention them all. There are about a hundred-and-twenty card games in common use. Their description and rules, in detail, would cover several hundred pages. Among these games there are a few that are more played than all the rest. Their rules embody the rules, more or less, of all other card games that are played for relaxation and amusement. These games are Euchre, Cribbage, Poker, Hearts, Whist, and their congeners. In that order, so far as space permits, they will be described.

EUCHRE.

EUCHRE is played with only thirty-two of the cards, the twos, threes, fours, fives and sixes being thrown out from the complete deck. Two players, or four, make the usual game; generally four, when each two are partners and play against the other two.

The players cut for deal. After shuffling, the cards are cut for the dealer by his opponent on the right. In cutting, the ace is the lowest. The dealer then reunites the cards, the cut portion being placed under, and delivers them to the players, beginning with the one on his left, three to each one the first time round, and two the second time, five in all to each. Sometimes *two* cards are dealt first. Either way is correct if agreed to. When each player has five cards the last one on top of the deck is turned up by the dealer. That is "trumps." The ace is the highest card, the seven the lowest. But trumps control values. The knave, or "jack," of the suit turned up is the highest card, and is the "right bower." The jack of the other suit *of the same color* is the next highest and is the "left bower." This card belongs for the time being in the trump suit. Supposing a heart to have been turned up, the jack of hearts is the best trump, then the jack of diamonds, then the ace of hearts, the king, queen, and ten down to the seven. It is so with any suit that has been turned up and is trumps.

When two persons play the non-dealer examines his hand and determines whether he wishes to play it or not. If he thinks he can win three tricks with it, he says, "I order it up." The dealer must then discard one card out of his hand, face downward, and in its place take up the card that was turned as trumps, and the game proceeds. It is often left lying until it is wanted to play, because it saves the continual question, "What's trumps?"

If the non-dealer thinks he has a poor hand, he says, "I pass." The dealer then has the option of taking up the trump card as though it had been ordered up, or of passing in his turn. If he takes it up the play commences; if he pass, he turns the trump card down on the top of the deck. Then the non-dealer has the option of naming any suit as trumps except the one turned down. Or, he may say, "pass again," and then the dealer has the option of naming the trump suit or passing. If either "makes it," the play begins. If both pass a second time the hands are thrown down and there is a new deal, and the one deals who did not deal before. When a trump suit is made of the same color as the card first turned, it is called "making it next."

In four-handed Euchre the partners sit opposite each other. If the first hand to the left of the dealer passes, then the dealer's partner, who comes next, may say, "I assist," which means that the dealer *must* take up the trump. The hand is then played, the hand first on the dealer's left having the first play, and each playing a card in turn, round from the dealer's left. Four cards constitute the "trick." Dealing goes in rotation to the left also. When any player announces he will play alone his partner must lay down his

hand, no matter how good it may be. A player can play alone (1) when he or his partner orders it up; (2) when his partner assists; (3) the dealer can when he takes up the trump card; (4) or when any player makes the trump, but not when the opponent orders up, or assists, or makes the trump.

The cards that are of suits, not trumps, rank ace highest and seven lowest. When a card is played the next player *must follow suit* if he has it; if not, he may play any card he pleases, and he is not bound to beat the last card played unless, in following suit, he is obliged to. If the left bower is played it demands a card that is trumps, it being a trump. The highest card of the suit led wins the trick, but a trump beats *any* card of any other suit. Whoever wins the trick leads again. The cards are turned over to the winner as he takes the trick. The object of the game is three tricks in five.

The Scores.—If the player, or side, ordering up, taking up, or making the trump, wins all five tricks, it is a "march," and scores *two*.

If he takes three tricks he makes a point, and scores *one*. Winning four tricks is no better than winning three.

If he fails to take three tricks he is *euchered*, and the opponents score *two*.

The idea is that the attacking and confident player undertakes to make three tricks, and if he fails he is punished by losing two points.

If a lone player wins all five tricks he scores *four*. If he wins only three he scores *one*. If he fails to win three tricks *the adversaries score two*.

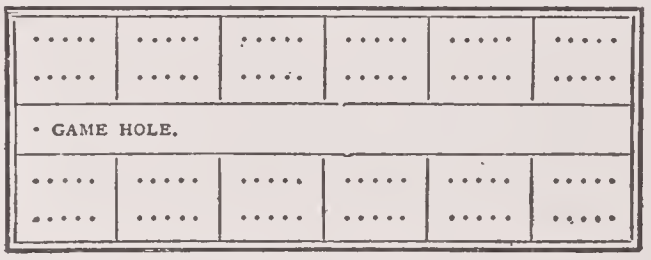
There are features of great and lasting popularity in the game of Euchre. Seeming so simple there are features that can only be acquired by experience and much playing. The game is short, quickly acquired to a certain point, lively, and a favorite with young people, ladies, and those who play cards only occasionally, and in a social way.

CRIBBAGE.

THIS game is usually played by two persons. It may be played by two, three or four persons. The game here described is the usual one; two-handed five-card cribbage.

All of the fifty-two cards are required, with a board of which a diagram is given below. This board is placed crosswise between the two players, the game-hole toward the edge of the table. Four pegs are used in scoring; two for each player.

The players cut for deal. A cut must consist of not less than four cards, and must not be more than one-half the pack. The ace is lowest, and the lowest has the deal. When there is any confusion, or showing of cards in cutting, there must be a new cut. The deal is alternate throughout the game. The cards are dealt alternately to each player, beginning with the dealer's antagonist, one at a time. If he deals two by mistake he may remove one of them, if he can do so by removing one card only. If in dealing he exposes only his own cards there is no penalty, but if he shows his adversary's there is an option of a fresh deal before the hands are looked at. In some plays it is allowed also for the person not dealing to peg two holes against the dealer for such a mistake. This ought not to be a rule in a merely social game. If six or more cards are dealt, the non-dealer has also the option, after looking at his hand, of a fresh deal, or of returning the surplus cards to the top of the pack without showing them to the dealer, and going on with the playing. If the dealer gives *himself* too many cards his adversary may mark up two holes and has the option, after looking at his hand, of a fresh deal, or of going on with the playing. If he does the latter, he may also draw as many surplus cards as there are from his opponent's hand, and may look at them. In the case of too few cards being dealt, the non-dealer may mark two holes, and after looking at his hand, may demand a fresh deal, or that the hand may be completed from the top of the pack. If a deal is made out of turn, the right party



CRIBBAGE BOARD.

may take the cards and deal, if the error is mentioned before the turning of the start, not after.

The undealt portion of the pack is placed face downward between the game-hole of the board and the edge of the table.

He who is non-dealer, and has lost the cut at the beginning of the game, is entitled to move his peg up three holes. This custom is almost universal in the United States. It is called the *three for last*, and is allowed only once, at the beginning of the game.

When the players take up their cards to play, they each sort out two cards, which are laid face downward on the table on the dealer's side. This is called *laying out for crib*. The four cards laid out are called the *crib*. Each lays out the two he deems to be of least value to him in playing the game. After the crib is laid out the non-dealer cuts the pack, and the dealer turns up the top card of the section left. This card is called the *start*. If it is a jack the dealer marks up two holes, called *two for his heels*.

The playing is conducted in this wise. The non-dealer plays any card he thinks best, placing it face upward on his side of the board, and calling out the number at which it is valued. The king, queen, jack and ten are valued at ten each, and all other cards are valued at the number of spots on them. The dealer, whose turn it now is, plays any card he thinks fit, calling out the number of it *added to that of the first card played*. The non-dealer now plays another card, and then the dealer, and so on as long as there are any cards in hand, or until a card cannot be played *without passing the number thirty-one in the successive counting*. When either player cannot out of his hand play any card without passing

this number he says "go." If his opponent has a card which he can play without passing thirty-one, he plays it. When there is a "go," or thirty-one is reached, the remaining cards in hand, if any, are not played.

Meantime there are certain combinations played for, namely; pairs, fifteen, sequences, and the "go," or thirty-one. *Pairs.*—If, when a card is played, say a four, and the next card pairs it, of any suit, by being also a four, the player so pairing is entitled to two points. But if the next card played is also a four, a *pair royal* is made, which gives the player making it six points, and if the card still following is of the same denomination it constitutes a *double pair royal*, which gives the player making it twelve points more. The mistake should not be made of trying to pair cards *not of the same kind.* Ace, jack, queen and king are valued at ten each, but they cannot be paired with a ten-spot, or with each other unless alike.

The *Fifteen* is made when, for instance, a nine is played on a six, or *vice versa*, or a ten on a five, etc. When a player makes such a play he calls "fifteen," and moves his peg up two holes.

Sequences occur when the successive cards played run according to value, as king, queen, jack, ten; or nine, eight, seven, six, etc. The ace does not count in cribbage sequences after the king and queen, etc., but after the deuce, and the sequence in which it is left out runs jack, ten, nine. If any three cards are played in such a way that they can be reserved in sequence order, either way, no third card intervening, the player of the third card can move his peg up three. If a fourth card is so played it is a run of four; if five, a run of five, and so on. But if there is a break in the sequence by one of the players, and the other player can in his next play continue this sequence, not having himself played any card to break it, he is entitled to one hole for every card of the sequence. *Example.* A plays a four; B plays a three; A follows with a deuce or a five, and he is entitled to a run of three. Suppose A does play a deuce, he has his run of three, but if B now plays an ace or a five, he gains a run of four, or if he plays a four he has made a run of three, and so on as long as either player plays a card that will "*come in.*" And it is not necessary that the cards forming a sequence should be played in order. A plays a four; B a deuce; A a five. B can then come in with a three, and make a run of two, three, four, five. This is an example. After the three is played, A can come in with an ace or a six, making a run of five, or with a four, making a run of four. If any card not in sequence intervenes, the run is stopped. If four, deuce, five, and five, are played, a three or a six cannot come in, because the second five, which has intervened, is not a part of the run. This rule is carried out in all cases in respect to sequences. *An intervening card which can not in any way be made a part of the sequence stops it.*

The Go.—The player who approaches most nearly to thirty-one during the play is entitled to mark *one* for the last card, *go*, or end hole. If he reaches thirty-one exactly, he marks *two.* Thus, if two cards counting ten each are played, and then a four, it makes twenty-four. If the next player has no card less than eight he cannot come in, and the other marks a *go*, one hole. But if he has a seven he can play that, and make thirty-one, and scores *two.* If he has a four, he plays it, and marks two for the pair, and then if his opponent has no card that will come in, no card under four, the last player can also mark one for the *go.*

Compound Scores.—It not unfrequently happens that more than one score can be counted at one time. The case last given is an instance—where a *pair* and a *go* were scored together. All combinations may be so counted.

Showing.—This is the final counting up of the hands. The non-dealer has the first showing. He places his hand face upward on the table, and counts up the points in it, using the card called the "start" as part of his hand, but not mixing it with his cards. He reckons aloud. The dealer then does the same thing, also using the start. He then shows the crib, and reckons whatever points, if any, can be made with it and the start. *Fifteens* in the hand or crib are counted by adding together all the different cards, including the "start," that will make fifteen without counting the same set of cards twice. Each fifteen that can be made with a different combination marks two. A flush is counted by a player whose entire hand consists of cards of the same suit. It counts three. If the start is also of the same suit he counts four. No flush can be counted in the case of the crib unless the start is of the same suit with the crib, in which case the flush counts five.

His Nob.—If the player holds in his hand or crib the jack of the suit turned up, he counts *one*, "for his nob."

POKER.

LET us suppose that A, B, C, D, and E, five being the best number of players, sit down to play a game of poker. A deals the cards. B, on his left, "antes;" puts up the first stake, say five cents. So far B has the "age." But C can "straddle," by putting up as ante say ten cents, or as much as he pleases, and then *he* has the "age." D can, in turn, straddle C, and so on.

In poker the deal is of no special moment, anybody may begin. He may shuffle and make up the cards himself, or it may be done by the player on the dealer's left, and then the player on his right must cut. He gives one card to each player until each has five, always going around from left to right. As above, the first player on his left must "ante," and then in succession each player, after looking at his hand, must determine whether he wishes to go in or not, and each one wishing to play for the pool must put in *twice as much* as the ante was. All who decline to play must place their cards face downwards on the table. When all who wish to play have gone in, comes the turn again of the man who put up the ante. He can now give up all interest in the pool, thus forfeiting the ante that has been put up, or else can play like the others who have gone in, by "making good"—that is, putting up, in addition to the ante, as much more as will make him equal in stake to the others. He must remember that half his stake is already up, and he can stay in for half as much as the others have had to put up. But this only applies where no one has "raised;" which is in meaning that no one has more than doubled the ante while the opportunity

has been going round the circle. Everyone, at the time of going in, must put up as much as *double* the ante, and may put in as much more as he wishes by way of "raising" it. In that case every other player must put in as much as will equal such increase, or else must decline to play, and abandon what has already been put up. When he does put in as much he may at the same time put in more, and then all the others must equal him or abandon their put-up.

All "going in," or raising the pool, and all betting done after this process has gone once round and ceased, must be in regular order from left to right, no one doing anything except by turn. When all who intend to play are in equally, each one will have the privilege of "drawing." This means the throwing away of any number of his five cards and drawing as many others. He has this chance of bettering his hand. The discarded cards are thrown face downward on the table, usually in front of the man who is to deal next. Then the dealer, taking up the deck face downward, will ask each man how many cards he wants, and give him that number from the top of the pack. If he wants any he will help himself to cards last. The cards discarded must be thrown down before any new ones are given to a player.

In poker every man is for himself against all others. Each man is careful not to let any of his cards be seen. He keeps his countenance also. He mystifies all his associates up to the time of "calling," when hands must be shown. It is not a silent game. Chaff and nonsense are much indulged in, and even story-telling. But the game must not be delayed. After all the drawing has ended the betting begins, from the man to the left of the dealer around in sequence. If this man has declined to play after his ante, the next man is the first. But the man who holds the "age," the manner of obtaining which has been described, has the privilege of refraining from betting until all the others that are in have bet round to him again. Each man who wants to put in more money must bet at least as much more as he has already put in, but he can increase this sum to suit himself. Then each bet, made in order, must equal the highest amount put in by any one so far; if not, the player must at that point retire from the game, forfeiting his interest in the pool. When he puts up the sum that equals, it is called "seeing" the bet. When he puts up more it is called seeing and "going better."

When the betting gets around to the last man of those who have stayed in, if this man does not wish to see and go better he simply sees and "calls." Then all hands must be shown, and the best hand takes all. When any man declines to see the bet, or to increase it, he "lays down" his hand; he throws it on the table with the cards face downward. If all the players throw down their hands the one who remains in to the last wins without showing his hand. Thus arise the terms, "bluff," "a bluff." To bluff is to take the risk of betting high enough on a poor hand to make all the other players lay down their hands without seeing you or calling. It is manifest to the reader that when a player bets high, and seems to be anxious to get all the money he can into the pool he *may* be doing so because he holds a hand very hard to beat. He is sure to do it if he has such a hand. But, he may also have a very poor one. Some one in the game thinks he has, or that he himself has a better one, or is bent upon pursuing precisely the same bluffing tactics. The game is finally narrowed down to those two. They may keep on seeing and raising each other as long as there is any money. Each is afraid to call on account of having a weak hand, and each tries to win by repeated "bluff."

When a player holds a hand that he thinks he could hardly better by drawing to, he is said to "stand pat." Another way of bluffing is to pretend to have a good hand and stand pat. A good poker player watches everything; what each player draws; the expression of his face; his manner of betting; and will from all signs try to judge what kind of hands his opponents have. No one is obliged to answer how many cards he drew when asked except the dealer, and he is not after betting has begun.

VALUE OF POKER HANDS.—A "*Sequence Flush*," or "straight flush," is a sequence of five cards, all of the same suit. This is the best hand. The values of other hands are as they follow each other below. Thus: "*Fours*," which is four of the five cards held being of the same denomination A "*Full*," consisting of three cards of the same denomination, and two of likewise equal denomination. A "*Flush*," which is all five cards of the same suit. A "*Sequence*," which is all five cards *not* of the same suit, as they must be in a sequence flush, but all in sequence. In computing sequences the ace counts as either the highest or the lowest card; it may be counted either below a deuce or above a king. "*Threes*," which is three cards of the same denomination, but the remaining two of different denominations from each other. "*Two Pairs*," "*One Pair*."

When a hand has none of the above, its value is counted by the cards of highest value or denomination. When two parties hold each a pair, the highest pair wins. It is the same as between threes and fours. When two pairs are held by each the highest pair of the two hands wins. When two hold sequences, the one commencing with the highest card of the sequences wins, and the rule is the same in flushes. The full counts highest of which the three cards of the same denomination are highest. The two remaining cards are necessary to make it a full, they do not add to the value of the hand. It almost never happens that two players hold hands of absolutely equal value. When they do the pool is divided. When a pair, or two pairs, of exactly the same value are held, the next highest cards in each hand determine which wins.

When General Schenck, while minister to the court of St. James, wrote the celebrated treatise on poker at the request of a lady, never intending it to be printed and regarding it merely as a bit of humor, and which is said to have really cost him his position and reputation, he added these axioms at the end. "The main elements of success in the game are (1) *good luck*, (2) *good cards*, (3) *plenty of cheek*, and (4) *good temper*."

In most games of poker it is usual to fix a limit of betting. It may be added that it is a good thing to do. All straddles and raises must be within this limit. When, within the limit, a player bets more than anyone else, and no one calls or sees him, he wins the game.

JACK-POT RULES.—Each player puts in as many chips as the one having the age. The opening hand must have a pair of jacks or better. If no player can come in, another chip is added by each player and the deal is made again. The game then proceeds as ordinarily. The opening bet must be put up before the draw, by the opener. If he makes an error in opening the jack-pot he must retire from the game, and the penalty is to put up a jack-pot equal in value to the one opened in error. After this any one to his left can open if he has the jacks or better.

THE KITTY, OR WIDOW.—This is a percentage taken in chips at certain times during a game of poker. Sometimes this accumulation of chips goes to the club or to pay general expenses. It is usually, however, finally played for by being made into a jack-pot, or a consolation stake to wind up the game with.

FREEZE-OUT.—The players each take a number of chips, and the game proceeds until they are all in the hands of one. It should never be played without the limit. Jack-pots should also be barred.

WHIST.

THIS is considered to be the most scientific game of cards. It requires great attention and silence, hence the name. It is played by four persons, who sit opposite to each other. In cutting, the lowest card gives the deal; the ace is lowest in this instance. Each player has a right to shuffle the cards before the deal, but it is usual for the elder hand only, and the dealer after him. The pack is then cut by the right-hand opponent of the dealer, and the cards are distributed one by one to each player, beginning with the one who sits on the left hand, till the last card is reached, and this is turned up, being the trump, and lies on the table till the first trick is played. The person on the left hand of the dealer is called the elder hand, and plays first; whoever wins the trick is then elder hand and plays again, and so on until the points are played out. The tricks won by each party should be collected and turned by the partner of the party winning.

The ace, king, queen and jack of trumps are called "honors," and if three of these honors have been won between or by either of the two partners, they reckon for four points toward the game.

The game consists of ten points.

No one, before his partner has played, may inform him that he has or has not won the trick. It is improper to attempt to take up a trick, though won, before the last partner has played. No intimations or hints between partners are allowed. But if a person does not follow suit, or trumps a suit, the partner is at liberty to enquire of him whether he has none of that suit in his hand. This indulgence arose from the penalties attached to revoking, affecting both partners equally.

GENERAL DIRECTIONS.—Several large volumes have been written on Whist. It is considered a scientific subject the theory of which will bear elaborate treatment. All that space will allow here is a summary of general directions.

Memory is a desideratum. Sort the cards you hold, carefully, both according to suit and rank, and count the number of each suit. This will greatly assist memory.

When you are not leading, always play the lowest of a sequence. According to modern usage this conveys information to your partner as to the contents of your hand.

Discard from short and weak suits, and not from long and strong ones. Your first discard should be a source of information to your partner.

Be careful in the management of your small cards.

Pay attention to the score. Remember, that the third trick saves the game when honors are equal; that the fifth saves it against two by honors, and the seventh against four by honors. The odd trick is twice as valuable as any other, as it makes a difference of two in the score. Note when you are near winning the game, how many tricks are wanting to that end. When you are wanting one trick take it in preference to making a less certain lead which *might* win you two. Gain the lead when you can, or give it to your partner.

BRIDGE.

INTRODUCTORY.

The game is played by four persons, and two separate packs of fifty-two cards should be used. Cutting for partners, as at Whist.

DEALING AND PLAYING.

The cards being shuffled and cut, are dealt as at Whist, except that the last card is not turned up. Should the dealer misdeal, he deals again. After the cards have been taken up, the dealer looks at his hand, and has the option of declaring what suit shall be trumps, or whether the hand shall be played *sans atout*—that is without trumps; or he may pass the option on to his partner, who must then declare what suit shall be trumps, or that the hand shall be played *sans atout.* The adversaries must then declare whether they will double; if so, the dealer or his partner may double again, and so on. When there is no doubling, or further doubling, the player on the dealer's left leads a card; the dealer's partner then places his hand face upward on the table, and the game is played in a similar manner to Dummy Whist, the dealer playing his partner's hand.

DECLARING TRUMPS.

The dealer having examined his hand, has the option of declaring what suit shall be trumps, or whether the hand shall be played without trumps. If he exercises that option he shall do so by naming the suit, or by saying "*Sans atout.*" If the dealer does not wish to exercise his option, he may pass it to his partner by saying "I leave it to you, Partner," and his partner must thereupon make the necessary declaration, in the manner provided in the preceding paragraph.

If any player makes the declaration out of his turn, either of the adversaries has the right, after looking at his hand, to claim a fresh deal. He may not consult with his partner as to exacting this penalty. A declaration once made cannot be altered.

Doubling and Redoubling.

The effect of doubling and redoubling, and so on, is that the value of each trick above six is doubled, quadrupled, and so on.

After the trump declaration has been made by the dealer or his partner, their adversaries have the right to double. The dealer's left-hand adversary has the first right. If he does not he shall say to his partner "May I play?" His partner shall answer "Yes," or "I double."

If either of their adversaries elects to double, the dealer and his partner have the right to redouble. The player who has made the trump declaration has the first right of redoubling. The question "May I play?" shall be addressed by the dealer's left-hand adversary (after a doubling by him or his partner) to the player who has made the trump declaration, who shall answer "I am satisfied," or "I redouble." If he answers "I am satisfied," the question shall then be addressed to his partner, who shall answer "Yes," or "I redouble."

If the dealer or his partner elects to redouble, their adversaries have the right of redoubling again. The original doubler has the first right. The process of redoubling may be continued indefinitely (but 100 points is suggested as a reasonable limit), the first right to continue the redoubling on behalf of a partnership being in that partner who last redoubled on behalf of that partnership. When he expresses himself satisfied, the right to continue the redoubling passes to his partner.

When the question "May I play?" has been finally answered in the affirmative, or when the dealer's left-hand adversary, being the last person who has the right to continue the redoubling, expresses himself satisfied, the dealer's left-hand adversary shall lead a card.

A declaration once made cannot be altered.

Dummy.

As soon as a card is led, the dealer's partner shall place his cards face upward on the table, and the duty of playing the cards from that hand, which is called Dummy, and of claiming and enforcing any penalties arising during the hand, shall devolve upon the dealer, unassisted by his partner.

After exposing Dummy, the dealer's partner may indicate to the dealer the hand from which the dealer has to lead, or if the latter has led from the wrong hand, may draw attention to the error, in which case the dealer must lead from the right hand, unless the second hand has played, when the error cannot be rectified; but the dealer's partner may take no other part in the play of the hand, other than the mechanical part of playing from Dummy any card named by the dealer.

The dealer's partner may ask if he (the dealer) has a card of the suit which he may have renounced; but if he calls attention to any other incident in the play of the hand, in respect of which any penalty might be exacted, the fact that he has done so shall deprive the dealer of the right of exacting such penalty against his adversaries.

When the dealer draws a card from Dummy, such card is not considered as played until actually acquitted.

The dealer's partner may not look over his adversaries' hands, nor leave his seat for the purpose of watching his partner's play.

Dummy is not liable to any penalty for a revoke, as his adversaries see his cards. Should he revoke, and the error not be discovered until the trick is turned and quitted, the trick stands good.

Dummy being blind and deaf, his partner is not liable to any penalty for an error whence he can gain no advantage. Thus, he may expose some, or all of his cards, or may declare that he has the game, or trick, etc., without incurring penalty.

Exposed Cards.

If after the deal has been completed, and before the trump declaration has been made, either the dealer or his partner exposes a card from his hand, either of the adversaries may, without consultation with his partner, claim a new deal.

If after the deal has been completed, and before a card is led, any player shall expose a card, his partner shall forfeit any right to double or redouble which he would otherwise have been entitled to exercise; and in the case of a card being so exposed by the leader's partner, the dealer may, instead of calling the card, require the leader not to lead the suit of the exposed card.

All cards exposed by the dealer's adversaries are liable to be called, and must be left face upward on the table; but a card is not an exposed card when dropped on the floor; or elsewhere below the table.

The Revoke

Is when a player (other than Dummy), holding one or more cards of the suit led, plays a card of a different suit. The penalty for a revoke—

I. Is at the option of the adversaries, who at the end of the hand, may, after consultation, either take three tricks from the revoking player and add them to their own—or deduct the value of three tricks from his score—or add the value of three tricks to their own score.

II. Can be claimed for as many revokes as occur during the hand.

III. Is applicable only to the score of the hand in which it occurs.

IV. Cannot be divided — *i. e.*, a player cannot add the value of one or two tricks to his own score and deduct the value of one or two from the revoking player.

V. In whatever way the penalty may be enforced, under no circumstances can the side revoking score Game, Grand Slam, or Little Slam, that hand. Whatever their previous score may be, the side revoking cannot attain a higher score toward the game than twenty-eight.

Scoring.

The rubber consists of the best of three games.

A game consists of thirty points obtained by tricks alone, exclusive of any points counted for Honors, Chicane, or Slam.

Every hand is played out, and any points in excess of the thirty points necessary for the game are counted.

Each trick above six counts two points when spades are trumps, four points when clubs are trumps, six points when diamonds are trumps, eight points when hearts are trumps, and twelve points when there are no trumps.

Honors consist of ace, king, queen, knave, and ten of the trump suit. When there are no trumps they consist of the four aces.

Honors in trumps are thus reckoned:

If a player and his partner conjointly hold—

I. The five honors of the trump suit, they score for honors five times the value of the trump suit trick.

II. Any four honors of the trump suit, they score for honors four times the value of the trump suit trick.

III. Any three honors of the trump suit, they score for honors twice the value of the trump suit trick.

If a player in his own hand holds —

I. The five honors of the trump suit, he and his partner score for honors ten times the value of the trump suit trick.

II. Any four honors of the trump suit, they score for honors eight times the value of the trump suit trick. In this last case, if the player's partner holds the fifth honor, they also score for honors the single value of the trump suit trick.

The value of the trump suit trick referred to in the preceding paragraphs is its original value — *e. g.*, two points in spades and six points in diamonds; and the value of honors is in no way affected by any doubling or redoubling that may take place.

HONORS, when there are no trumps, are thus reckoned:

If a player and his partner conjointly hold —

I. The four aces, they score for honors forty points.

II. Any three acres, they score for honors thirty points.

If a player in his own hand holds —

The four aces, he and his partner score for honors one hundred points.

CHICANE is thus reckoned:

If a player holds no trump, he and his partner score for Chicane twice the value of the trump suit trick. The value of Chicane is in no way affected by any doubling or redoubling that may take place.

SLAM is thus reckoned:

If a player and his partner, independently of any tricks taken for the revoke penalty, make —

I. All thirteen tricks, they score for Grand Slam forty points.

II. Twelve tricks, they score for Little Slam twenty points.

Neither honors, Chicane, nor Slam contribute to the score of each game, but are scored on the block upward, commencing immediately above the double line, and are reckoned in the score at the end of the rubber. The tricks are scored on the block below the double line, and at the end of each game a line is drawn below the score for tricks. After the best of the three games has been played, the entire score, including the score for honors, etc., above the double line, is added up. One hundred points are then added to the score of the winners of the rubber and the score of one side is deducted from the other.

If an erroneous score affecting tricks be proved, such mistakes may be corrected prior to the conclusion of the game in which it occurred, and such game is not concluded until the last card of the following deal has been dealt, or, in the case of the last game of the rubber, until the score has been made up and agreed.

If an erroneous score affecting honors, Chicane, or Slam be proved, such mistake may be corrected at any time before the score of the rubber has been made up and agreed.

Hints.

1. The importance of playing to the score cannot be too strongly impressed on the player.

2. At the commencement of a game the dealer should not declare trumps in clubs or spades, even though he may have four honors. If he cannot declare hearts or diamonds trumps, or *sans atout*, he should pass the declaration to his partner; and in almost every other case, unless he can win the game by declaring a black suit of trumps, it is advisable to pass the declaration to his partner.

3. As a general rule, when the dealer's score is near thirty, he and his partner should play a safe game — *e. g.*, if the dealer's score is twenty-six or over, and he has a very strong suit in clubs or spades, he should generally declare one of these suits trumps, instead of passing the option to his partner, who might declare a red suit, be doubled by one of the adversaries, and so lose, instead of saving or perhaps winning, the game.

4. Should the dealer have four aces, however weak otherwise, he should declare *sans atout.*

5. Should the dealer have three aces, it is generally desirable to declare *sans atout.*

6. The advice about the declaration of *sans atout* under Hints 5 and 6 also applies to the dealer's partner.

7. If the dealer's partner has a strong suit of hearts or diamonds, he should usually declare one of those suits; and if he has four honors in either of the above suits, he should declare the suit in preference to *sans atout*, unless he has at least three aces, and in many cases, even then.

8. If the dealer's partner is strong in both red suits, and has not four honors in one of those suits, but has one ace, it may be advisable to declare *sans atout.*

9. The dealer's partner, when it is the deciding game of the rubber, may, with a fair all-round hand and one ace, in the absence of a very strong suit in hearts, declare *sans atout.*

HEARTS.

The rules are the same fundamentally as whist, only that there are no partners, each one playing for himself, and also that the number of tricks taken do not count, and that there is no trump.

Hearts is played by four persons, usually, each one taking care of his own interests. The full pack is used. The ace is the highest card, then the king, queen, jack and so on down to two. Cards are shuffled, cut by the player to the right of the dealer, and dealt to the left one card at a time, each player getting thirteen cards. No last card is turned up, for there are no trumps. The first player to the left of the dealer leads. Players must follow suit. If they have no suit they play as they please. A player taking a trick has the lead. When the thirteen cards are played the game ends, the penalties are paid, and the next round begins.

The object of the game, explicitly stated, is to get rid of the hearts in one's hand. You may take any number of tricks in other suits, but you must try and take no hearts. If you have none there are no penalties to pay. As the player has the privilege to discard hearts, when a suit is played in which he is short he naturally discards his hearts; or, if he takes a trick in some other suit and fears that in leading he may give his adversaries an opportunity to unload their hearts upon him, he may lead a small heart, and so give four higher hearts to some other player. To get rid of hearts, and not take any, is the sole object of the game.

Penalties. — Counters or "chips" are used. Each player takes as many chips as he wishes, and the round being ended, the hearts each player has taken are counted. There are thirteen in the fifty-two cards. If one player has taken them

all, he pays thirteen chips to the three other players, four to each, making twelve in all, and there is one chip over, which is left on the table and added to the payments made on the next round. Thirteen is not divisible by four, and there is always an odd number of hearts in somebody's hand. The person or persons taking the least number of hearts wins. Supposing four players. A ends with one heart, B with two, C with four, D with six. A wins, for B pays him two chips, C four, and D six, and A gets twelve chips. But A may have two hearts, B two hearts, C three and D six hearts. So C pays for three, D for six, and A and B divide the penalty, nine chips, each taking four.

PHILOSOPHY OF THE GAME.—Hearts, played well, requires a certain amount of study and observation. The player sorts his cards as in whist, and can tell at a glance whether he has a good hand or not. Unlike most games, a bad hand is the best hand. The lead is in hearts a misfortune, and is to be avoided as long as possible. A very good hand would be to hold the thirteen hearts, provided you did not lead, for then no one could make you take a heart, but if with the same hand you had the lead, you would be forced to take every card. Everything depends on the judgment shown in the leads and on skill in discarding, and good playing can only come, as in whist, by keeping an accurate run of the cards as they have been played.

An understanding of, and practice in, the games of cards so far described, will give one a fair idea of the philosophy of cards, as used in any game. The number of these games is very large. Practice, and the love of such amusements, are the means of acquiring skill. It is impossible to describe all games, or even whist alone at length, in less than the space of a volume.

INDOOR GAMES

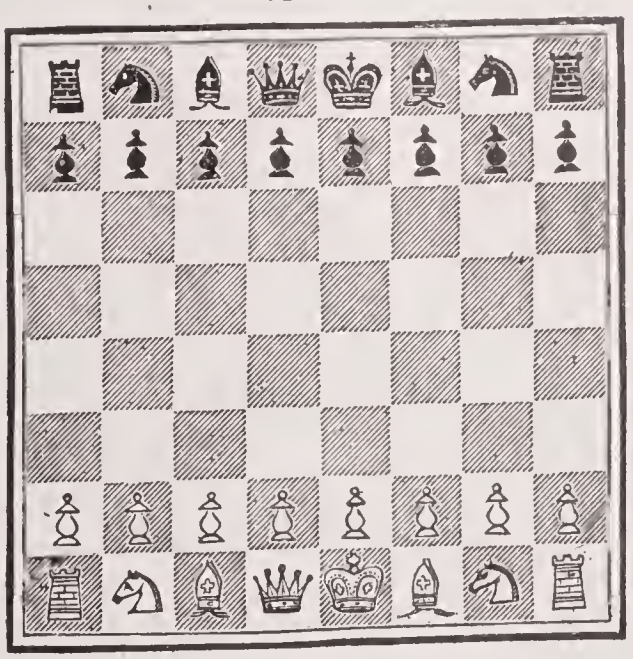
NOT PLAYED WITH CARDS.

CHESS, BACKGAMMON, DOMINOES, DRAUGHTS.

CHESS.

IN this ancient game the first requisite is a chessboard and chessmen.

BLACK.



WHITE.

The board is placed so that the white square is in the right-hand corner to each player. The two players then agree, or determine by lot, which of them shall have the white men and which the black. The men are then placed as shown in the diagram. The rooks occupy the corner squares, the knights the next squares, the bishops the next, the king and queen the center, the king having the right and the queen the left of the two squares. The pawns occupy every square in front of these pieces. The game is opened by one player moving one of his men from the square in which it stands to some other square. The manner of such moving, and the limitations and rules governing it, are stated below. The other player is then entitled to a move, and so on. The game proceeds *until one of the kings occupies a position from which he cannot escape.* The game is then won or drawn.

NAMES OF MEN AND SQUARES.—The pieces to the right of the white king are called the king's bishop, king's knight, and king's rook respectively. Those to the left of the white queen are similarly named for the queen, as queen's bishop, etc. The black pieces are similarly named. The king's knights and rooks are usually stamped or marked in some way to distinguish them from the queen's.

Note.—The pieces are not always black and white, but often black and red. Any two colors serve to distinguish them.

The square on which each piece stands at the beginning of the game is called his square. The king stands on the king's square, the king's rook on the king's rook's square, and so

on. The rows of squares running across the board in front of the players are called *ranks*. The rows running diagonally across the board, cornering to each other, are called *diagonals*. The rows running straight between the players, alternate black and white squares, are called *files*. The file proceeding from each piece straight across the board between the players is his file, as the king's file, the queen's file, etc. There are eight squares in each file, rank, or diagonal, the diagonals all beginning and ending in the *same* color; the files and ranks always beginning with one color and ending with another.

THE MOVES.—The king may be moved *only one square at a time in any direction*. The queen may be moved *any number of squares in any direction*, straight or diagonal. The rook may be moved *any number of squares in a straight line*. The bishop may be moved *any number of squares diagonally*. The knight's move may be made *one square diagonally and one square straight*. But in the second half of his move he must not return to the square adjacent to the one from which he started. The pawn may be moved *one square forward*, but if it is his first move he may be moved either one square or two. All following moves are for one square at a time.

So far it is assumed that such moves are permissible; that there is no obstacle. But there are other considerations produced by the men of the other player. In most cases a player has choice of several moves. When it happens that there is only one move that he can make under the laws of chess, the move is said to be a "forced move." If a player touches a man, he must move it, unless it was an accident. No piece can be moved to any square already occupied by another piece of the same color. No man of any color can pass another man of *any* color except the knight. The knight can make his move independently of the position of other men; can leap over them. Any man when moved may, at the same time, capture or "take" any adverse man that is situated on a square to which the piece can be legally moved. But a player is not compelled to so take a man if he has any other move. He may take his choice of either of two such moves also. "Taking" is effected by removing the man taken from the board, and placing the moved piece on the same square.

All the pieces move in precisely the same way when taking other pieces that they do at other times, *except the pawns*. The pawn's march, when not taking, is straight forward; but he *takes* diagonally, being in such a case moved one square to the right or left of the one on which he stands. If a pawn is advanced to the eighth rank he may be exchanged for any piece, except a king, which the player selects. This is called "queening," because a queen is the piece usually selected.

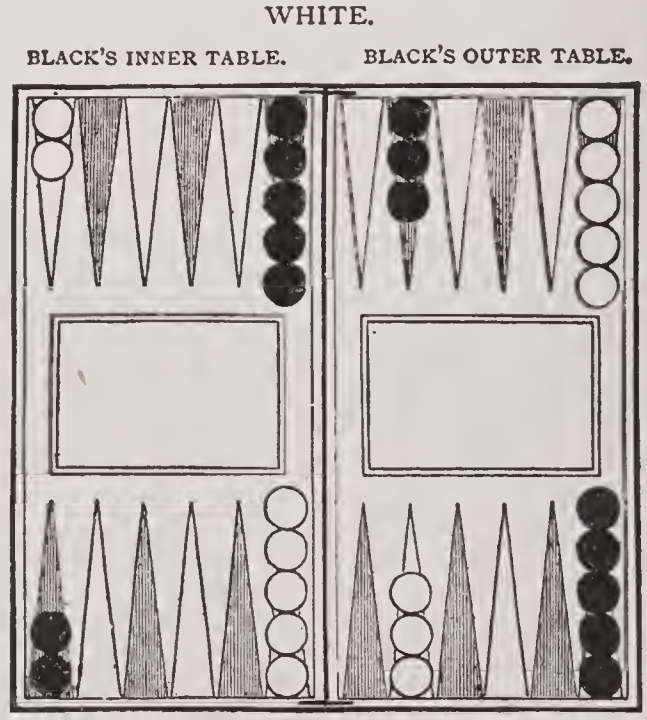
Once only in the game the king is allowed to move two squares in conjunction with one of the rooks. This is "castling." The king's moves are restricted because he cannot be captured, and he is not allowed to be moved to any square that is guarded by an adverse man.

If the king is attacked by any man except the adverse king, which cannot attack him, he is said to be "in check," and as a king must not remain where he can be captured, he must be removed "*out of check*," or some man must be interposed between him and the checking piece, or the attacking man must be taken. The player attacking must warn his adversary of the danger to his king by calling "check." If the king is checked and cannot be moved to a square that is not guarded, and no man can be interposed, and the checking man cannot be captured, he is "checkmated." The player giving a checkmate wins the game. The king always remains on the board and cannot be taken like other pieces.

ADVICE TO LEARNERS.—It is almost impossible to learn to play chess entirely by the study of rules. Such instructions as are here given are intended to assist, to give some idea of the game, so that an easier and less tedious beginning may be made. When you begin to play with someone, study the game before you. See that none of your principal pieces are in danger; play slowly, but when you have decided upon a move make it. Accustom yourself to play with either color. Protect your pawns, for toward the end of a game a pawn is often as valuable as a piece.

BACKGAMMON.

A BACKGAMMON BOARD, usually made hinged like a book, so as to shut up and make a shallow box, is marked for twenty-four points, colored alternately white and red. These points are sufficiently long to hold five men laid on them, about half of the last man projecting beyond the point. Between the two sets of points there is a space on which the dice are thrown.



The *men* are the same as those used in checkers, but there are fifteen of them white and fifteen black, thirty in all. There is a dicebox for each player. The dice are two in number. Two persons play, sitting opposite each other. At the be

ginning of the game the men are placed as shown in the diagram. He who plays *white* has the five white pieces arranged at the left as shown, and he who plays *black* has the five black pieces on his right on the same side of the board, as shown.

To begin, each player takes one of the diceboxes and shakes *one* of the dice in it, putting two fingers over the end to prevent the die from shaking out. The die is thrown on the board. He who throws the higher number has first play. He may now either adopt the two numbers thrown by both, or he may put the *two* dice in the box and throw them again. He should now call the numbers thrown, the higher number being called first, and proceed to play any of his men the number of points corresponding to the number thrown. The white and black men are played in opposite directions, for the course of the men around the board is from the opponent's inner table to his outer table, then to the player's or caster's outer table, and lastly to his home table. One man, piece, may be played the whole throw, or one man one of the numbers thrown and the other man the other. Thus, if a four and deuce are thrown one man may be carried six points, or one man may be played two points and another four points. When men are played in this last-named way, so as to occupy a previously blank point with two men, it is called *making a point*. If two similar numbers are thrown, "doublets," the thrower plays *double* what he throws. While one player is playing, the other puts the dice in his box and shakes them, and as soon as his opponent's play is completed, throws, calls his throw, and plays it. The throws and plays are alternate throughout the game.

The limitations to the game are that neither player can play beyond his own home table, nor on any point occupied by two or more of his adversary's men. Any part of a throw which cannot be played is lost, but the whole throw must be played if possible.

The game proceeds as described until one player has carried all his men to his home table. Then comes the process of *bearing*; that is, of taking all his men off the board. Suppose his home table is made up and he throws four, three. He bears one man from his four point and one from his three point. Or he may play a four from his six or five point, and a three from his six, five or four point. If he cannot play any part of the throw he must bear it; thus, if he has, in the case described, no man on his six or five point, he must bear the four. If he throws a number which is higher than any point on which he has a man, he must bear the man from the highest occupied point.

He who first bears all his men wins the game.

COUNTING.—The game counts a single "hit" if the opponent has borne any of his men, and "gammon" if he has not borne a man, and "backgammon" if at the time the winner bears his last man the opponent, not having borne a man, has a man up, or one on the winner's inner table.

There is one feature of the progress of the play which requires notice. If a thrower plays a man to a point which is occupied by a single adverse man, he is said to "hit a blot," and the man hit is taken off and laid on the bar, and has to be played into the opponent's inner table at the next throw. If the ace is thrown he goes on the ace point, and so on. Of course he cannot be entered on any point that is occupied by two or more of opponent's men. When a man on the bar cannot find a point where he can be entered his owner cannot play any other man, and his throw is void, and when such is the case his opponent continues throwing and playing until he opens a point on his home table.

DOMINOES.

EVERYBODY knows by sight the oblong squares of white with spots on their faces, and usually backed with black, which are called *dominoes*. They are twenty-eight in number, and the face of each is divided into two compartments, each being either blank or furnished with the spots mentioned, running from one to six.

There are at least seven different games played with dominoes. In all these the pieces are laid on the table face down, and stirred about, or "shuffled." Any number of persons can play.

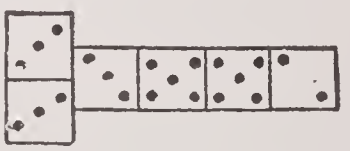
One of the simplest of the games with dominoes is BLOCK. Seven pieces are drawn by each player and set on edge before him on the table. The one who has the highest double plays first, and afterwards the players lead in rotation. The next man on the left matches one end or the other of the piece laid down, or of the spots at either end of the row of pieces already played. If he cannot do this he says so, and the next man plays. The first player who can get rid of all his pieces says "Domino," and places to his account the number of spots on the unplayed pieces of his opponents. If at any time no one can play, the game is "blocked," the pieces left are exposed face upward, and he who has the fewest spots left adds the number of those in the opponents' hands to his count. The score is usually one hundred, and may be any number agreed upon.

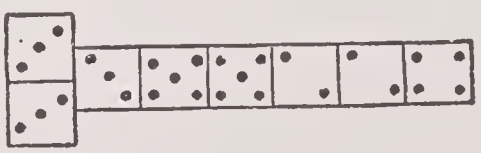
Another game is DRAW, and the only difference between the block and the draw game is, that in the latter when a party cannot play he draws from those pieces still turned down until he can find a piece to match. These pieces of course may be counted against him in the end, as above.

In MUGGINS, or Fives, five pieces are drawn by each player. In setting, the player who can make the two ends count five, or any multiple ot five, adds that number to his score.

Thus: five-deuce being led, and five-trey being set to it, the trey at one end is added to the two at the other, and counts five to the one who led the five-trey.

If six-trey or double-trey be now played it counts nothing, because the sum of the two ends is only eight, which is not a multiple of five; but if four-deuce or double-deuce be now played, the one who plays it will count ten, for that is the sum of the ends.





CHECKERS OR DRAUGHTS.

A DRAUGHTBOARD and draughtsmen are required. The first is made of wood or pasteboard, and is divided into 64 squares of equal size. These are colored alternately, usually red and white, or black and red. The men are usually of wood, but sometimes of celluloid or hard rubber, of two colors, 12 of one color and the same number of the other. The game is played by two persons with the board between them, usually placed with a white square in the right-hand lower corner. There should, when the men are laid, be no piece on the right-hand corner square. The game is usually opened by the player using the black pieces moving one of his men into an adjacent square of the same color, *diagonally*, either to the right or left. The game proceeds until one of the players, in his turn to move, has all his pieces so *blocked* that he cannot move any, or until all his pieces are *captured*. Either of these cases is the loss of the game. Sometimes the game cannot be won by either player, and is then a drawn game.

When a man is met by a man of the other color, he cannot move farther in that direction, unless there is a vacant square immediately beyond. In the latter case, the player can capture the piece by placing his own piece in the open square immediately beyond and removing the "jumped" piece from the board. If more than one adverse piece is so placed, he can take them all in succession, moving diagonally as he is allowed by rule, and no other way. If a player can capture on more than one square he can choose which one he will take. "Huffing" is allowed when a player neglects to capture when he can, and then his opponent has the option of allowing the move to stand, or of requiring the player who moved to replace his man, or the play is allowed to stand, and the "huff" is exercised; the man that could have been captured is removed from the board as a penalty for not taking.

KINGS.—When a piece belonging to either player reaches one of the squares farthest from his own end of the board, either by moving or capturing, it becomes a "king." Then the piece is "crowned" to distinguish it from others, by having another piece placed on top of it. A king is like other pieces except that he can move either backward or forward and capture in any direction. But he can be captured by the enemy the same as any other piece, in the same way as others.

RECENT RULES

OF THE

MORE PROMINENT GAMES AND PASTIMES.

THE LAWS OF WHIST.

As Revised and Adopted at the Second American Whist Congress, July 23, 1892.

SCORING.

1. A game consists of seven points, each trick above six counting one. The value of the game is determined by deducting the loser's score from seven.

FORMING THE TABLE.

2. Those first in the room have the preference. If, by reason of two or more arriving at the same time, more than four assemble, the preference among the last comers is determined by cutting, a lower cut giving the preference over all cutting higher. A complete table consists of six; the four having the preference play.

3. If two players cut intermediate cards of equal value, they cut again, and the lower of the new cut plays with the original lowest.

4. If three players cut cards of equal value, they cut again. If the fourth has cut the highest card, the lowest two of the new cut are partners, and the lowest deals. If the fourth has cut the lowest card, he deals, and the highest two of the new cut are partners.

5. At the end of the game, if there are more than four belonging to the table, a sufficient number of the players retire to admit those awaiting their turn to play. In determining which players remain in, those who have played a less number of consecutive games have the preference over all who have played a greater number; between two or more who have played an equal number, the preference is determined by cutting, a lower cut giving the preference over all cutting higher.

6. To entitle one to enter a table, he must declare his intention to do so before any one of the players has cut for the purpose of commencing a new game or of cutting out.

CUTTING.

7. In cutting, the Ace is the lowest card. All must cut from the same pack. If a player exposes more than one card, he must cut again. Drawing cards from the outspread pack may be resorted to in place of cutting.

SHUFFLING.

8. Before every deal, the cards must be shuffled. When two packs are used, the dealer's partner must collect and shuffle the cards for the ensuing deal, and place them at his right hand. In all cases the dealer may shuffle last.

9. The pack must not be shuffled during the play of a hand, nor so as to expose the face of any card.

CUTTING TO THE DEALER.

10. The dealer must present the pack to his right-hand adversary to be cut; the adversary must take a portion from the top of the pack, and place it towards the center of the table; at least four cards must be left in each packet; the dealer must reunite the packets by placing the one not removed in cutting upon the other.

11. If, in cutting or in reuniting the separate packets, a card is exposed, the pack must be reshuffled and cut; if there is any confusion of the cards or doubt as to the place where the pack was separated, there must be a new cut.

12. If the dealer reshuffles the cards after they have been properly cut, he loses his deal.

DEALING.

13. When the pack has been properly cut and reunited, the dealer must distribute the cards, one at a time to each player in regular rotation, beginning at his left. The last, which is the trump card, must be turned up before the dealer. At the end of the hand, or when the deal is lost, the deal passes to the player next to the dealer on his left, and so on to each in turn.

14. There must be a new deal by the same dealer:—

I. If any card except the last is faced in the pack.

II. If, during the deal or during the play of the hand, the pack is proved incorrect or imperfect; but any prior score made with that pack shall stand.

15. If, during the deal, a card is exposed, the side not in fault may demand a new deal, provided neither of that side has touched a card. If a new deal does not take place, the exposed card cannot be called.

16. Any one dealing out of turn or with his adversaries' cards may be stopped before the trump card is turned, after which the deal is valid, and the cards, if changed, so remain.

MISDEALING.

17. It is a misdeal:—

I. If the dealer omits to have the pack cut, and his adversaries discover the error before the trump card is turned, and before looking at any of their cards.

II. If he deals a card incorrectly and fails to correct the error before dealing another.

III. If he counts the cards on the table or in the remainder of the pack.

IV. If, having a perfect pack, he does not deal to each player the proper number of cards, and the error is discovered before all have played to the first trick.

V. If he looks at the trump card before the deal is completed.

VI. If he places the trump card face downward upon his own or any other player's cards.

A misdeal loses the deal, unless, during the deal, either of the adversaries touches the cards, or in any other manner interrupts the dealer.

THE TRUMP CARD.

18. The dealer must leave the trump card face upward on the table until it is his turn to play to the first trick. If left on the table until after the second trick has been turned and quitted, it becomes an exposed card. After it has been lawfully taken up, it must not be named, and any player naming it is liable to have his highest or his lowest trump called by either adversary. A player may, however, ask what the trump suit is.

IRREGULARITIES IN THE HANDS.

19. If, at any time after all have played to the first trick, the pack being perfect, a player is found to have either more or less than his correct number of cards, and his adversaries have their right number, the latter, upon the discovery of such surplus or deficiency, may consult, and shall have the choice:—

I. To have a new deal; or

II. To have the hand played out; in which case the surplus or missing card or cards are not taken into account.

If either of the adversaries also has more or less than his correct number, there must be a new deal.

If any player has a surplus card, by reason of an omission to play to a trick, his adversaries can exercise the foregoing privilege only after he has played to the trick following the one in which such omission occurred.

EXPOSED CARDS.

20. The following are exposed cards:—

I. Every card faced upon the table otherwise than in the regular course of play, but not including a card led out of turn.

II. Every card thrown with the one led or played to the current trick. The player must indicate the one led or played.

III. Every card so held by a player that his partner admits he has seen any portion of its face.

IV. All the cards in a hand so lowered or held by a player that his partner admits he has seen the hand.

V. Every card named by the player holding it.

21. All exposed cards are liable to be called by either adversary, must be left face upward on the table, and must not be taken into the player's hand again. A player must lead or play them when they are called, provided he can do so without revoking. The call may be repeated until the card is played. A player cannot be prevented from leading or playing a card liable to be called; if he can get rid of it in the course of play, no penalty remains.

22. If a player leads a card better than any his adversaries hold of the suit, and then leads one or more other cards without waiting for his partner to play, the latter may be called upon by either adversary to take the first trick, and the other cards thus improperly played are exposed cards; it makes no difference whether he plays them one after the other or throws them all on the table together; after the first card is played, the others are exposed.

23. A player having an exposed card must not play until

the adversary having the right to call it has stated whether or not he wishes to do so. If he plays another card without so waiting, such card also is an exposed card.

LEADING OUT OF TURN.

24. If any player leads out of turn, or before the preceding trick has been turned and quitted, a suit may be called from him or his partner when it is next the turn of either of them to lead. The penalty can be enforced only by the adversary on the right of the player from whom a suit can lawfully be called.

If a player so called on to lead a suit has none of it, or if all have played to the false lead, no penalty can be enforced. If all have not played to the trick, the cards erroneously played to such false lead cannot be called, and must be taken back.

PLAYING OUT OF TURN.

25. If the third hand plays before the second, the fourth hand may also play before the second.

26. If the third hand has not played, and the fourth hand plays before the second, the latter may be called upon by the third hand to play his highest or lowest card of the suit led, or if he has none, to trump or not to trump the trick.

REVOKING.

27. A revoke is a renounce in error, not corrected in time. A player renounces in error, when, holding one or more cards of the suit led, he plays a card of a different suit.

28. A renounce in error may be corrected by the player making it, before the trick in which it occurs has been turned and quitted, unless either he or his partner, whether in his right turn or otherwise, has led or played to the following trick, or unless his partner has asked whether or not he has any of the suit renounced.

29. If a player corrects his mistake in time to save a revoke, the card improperly played by him becomes an exposed card; any player or players who have played after him may withdraw their cards and substitute others; the cards so withdrawn are not liable to be called.

30. The penalty for revoking is the transfer of two tricks from the revoking side to their adversaries; it can be claimed for as many revokes as occur during the hand. The revoking side cannot win the game in that hand; if both sides revoke, neither can win the game in that hand.

31. The revoking player and his partner may require the hand in which the revoke has been made to be played out; if the revoke loses them the game, they nevertheless score all the points made by them up to the score of six.

32. At the end of a hand, the claimants of a revoke may search all the tricks. If the cards have been mixed, the claim may be urged and proved if possible; but no proof is necessary, and the revoke is established, if, after it has been claimed, the accused player or his partner mixes the cards before they have been examined to the satisfaction of the adversaries.

33. The revoke can be claimed at any time before the cards have been presented and cut for the following deal, but not thereafter.

MISCELLANEOUS.

34. If a player is lawfully called upon to play the highest or lowest of a suit, or to trump or not to trump a trick, or to lead a suit, and unnecessarily fails to comply, he is liable to the same penalty as if he had revoked.

35. Any one during the play of a trick and before the cards have been touched for the purpose of gathering them together, may demand that the players draw their cards.

36. If any one, prior to his partner playing, calls attention in any manner to the trick or to the score, the adversary last to play to the trick may require the offender's partner to play his highest or lowest of the suit led, or, if he has none, to trump or not to trump the trick.

37. In all cases where a penalty has been incurred, the offender must await the decision of the player entitled to exact it. If the wrong player demands a penalty, or a wrong penalty is demanded, none can be enforced.

38. When a trick has been turned and quitted, it must not again be seen until after the hand has been played. A violation of this law subjects the offender's side to the same penalty as in case of a lead out of turn.

39. If any player says, "I can win the rest," "The rest are ours," "We have the game," or words to that effect, his partner's hand must be laid upon the table, and treated as exposed cards.

40. League clubs may adopt any rule requiring or permitting methods of scoring or of forming the table, different from those above prescribed.

THE LATEST LAWS OF CRIBBAGE.

SHUFFLING.

1. Each player has a right to shuffle. The dealer has the right of shuffling last.

CUTTING.

2. A cut must consist of at least four cards. In cutting for deal, the player cutting first must not cut more than half the pack.

3. The player who cuts the lower Cribbage card deals. The Ace is lowest. The other cards rank in sequence order, the King being highest.

4. The cut for deal holds good even if the pack is incorrect.

5. If, in cutting for deal, a player exposes more than one card, his adversary may treat whichever of the exposed cards he pleases as the one cut.

6. If, in cutting to the dealer a card is exposed, or if, in reuniting the separated packets, a card is exposed, or there is any confusion of the cards, there must be a fresh cut.

7. There must be a fresh cut for deal after each game, unless rubbers are played.

DEALING.

8. The players deal alternately throughout the game.

9. The dealer must deal the cards by one at a time to each player, commencing with his adversary. If he deals two together, he may rectify the error, provided he can do so by

moving one card only; otherwise there must be a fresh deal, and the non-dealer marks two holes.

10. If the dealer exposes any of his own cards, there is no penalty. If he exposes one of his adversary's, the adversary marks two holes, and has the option of a fresh deal, prior to looking at his hand. If a card is exposed through a non-dealer's fault, the dealer marks two, and has the option of dealing again.

11. If it is discovered while dealing that there is a faced card in the pack, there must be a fresh deal.

12. If the dealer gives his adversary too many cards, the non-dealer marks two holes, and has the option, after looking at his hand, of a fresh deal, or of returning the surplus cards to the top of the pack without showing them to the dealer, and of standing the deal.

13. If the dealer gives himself too many cards, his adversary marks two holes, and has the option, after looking at his hand, of a fresh deal, or of standing the deal. If he stands the deal, he has the right of drawing the surplus cards from the dealer's hand, and of looking at them.

14. If the dealer gives his adversary or himself too few cards, the non-dealer marks two holes, and has the option, after looking at his hand, of a fresh deal, or of allowing the imperfect hand to be completed from the top of the pack.

15. If a player deals out of turn, and the error is discovered before the start is turned up, the deal in error is void, and the right dealer deals. After the start is turned up it is too late to rectify the error.

LAYING OUT.

16. If either player lays out when he holds too many cards, the adversary marks two holes, and has the option of a fresh deal, or of standing the deal. If he stands the deal, he has the right of drawing the surplus cards from the offender's hand, and of looking at them.

17. If either player lays out with too few cards in hand, he must play out the hand with less than the right number of cards.

18. The dealer may insist on his adversary's laying out first.

19. If a player takes back into his hand a card he has laid out, his adversary marks two holes, and has the option of a fresh deal.

20. The crib must not be touched during the play of the hand.

THE START.

21. In cutting for the start, the non-dealer must cut at least four cards, and must leave at least four in the lower packet.

22. If the dealer turns up more than one card, the non-dealer may choose which of the exposed cards shall be the start.

23. If a Knave is turned up, and the dealer plays his first card without scoring his heels, he forfeits the score.

PLAYING.

24. If a player plays with too many cards in hand, his adversary marks two holes, and has the option of a fresh deal. If he elects to stand the deal, he has the right of drawing the surplus cards from the offender's hand and of looking at them, and the option of playing the hand again, or not.

25. If a player plays with too few cards, there is no penalty.

26. If a card that will come in is played, it cannot be taken up again. If a card that will not come in is played, no penalty attaches to the exposure.

27. If two cards are played together, the card counted is deemed to be the one played, and the other must be taken back into the player's hand.

28. If a player neglects to play when he has a card that will come in, his opponent may require it to be played, or may mark two holes. (This rule does not apply to the player who has the *go* at Two-handed Five-card Cribbage.)

29. There is no penalty for miscounting during the play.

SHOWING AND SCORING.

30. When reckoning a hand or crib, the cards must be plainly shown, and must remain exposed until the opponent is satisfied as to the nature of the claim.

31. If a player mixes his hand or crib with each other, or with the pack, before his claim is properly made (*see* Law 30), he forfeits any score the hand or crib may contain.

32. If a player scores more points than he is entitled to, the adversary may correct the score and add the same number to his own score. This law applies even if a player, in consequence of over-scoring, places his foremost peg in the game-hole.

33. There is no penalty for scoring too few points. A player is not bound to assist his adversary in making out his score.

34. When a peg is quitted the score cannot be altered, except as provided in Law 32.

35. If a player touches his opponent's pegs (except to put back an over-score), or, if he touches his own pegs, except when he has a score to make, his adversary marks two holes.

36. If a player displaces his foremost peg, he must put it behind the other. If he displaces both his pegs, his adversary is entitled to place the hindmost peg where he believes it to have been, and the other peg must then be put behind it.

37. A lurch (or double game) cannot be claimed, unless by previous agreement.

38. In the five-card game, three for last may be scored at any time during the game, but not after the opponent has scored sixty-one.

SIX-CARD CRIBBAGE.

Is the game chiefly played in the United States. In that the following is an example of the playing of a first hand: A and B are playing.

A, being dealer, deals six cards to each, one at a time, the Cribbage-board being placed for counting in the usual way between them.

Having made the deal, each player discards two cards for the crib, and the start-card being cut, and turned, the play begins; the hand of each consisting obviously of four cards.

B leads (suppose) a King, and says "ten."

A answers with a Five, and says "fifteen," and marks two for it.

B rejoins with another King, saying, "twenty-five."

A plays a Six, and marks two points for making thirty-one.

Each player now turns face downward the cards he has so far played.

B continues the play, putting down a Nine, and says "nine."

A follows with an Eight, saying, "seventeen."

B answers with a Ten, and marks three points for the sequence of three cards, composed of the Eight, Nine, and Ten. He calls at the same time, "twenty-seven."

A's last card being a Five, he cannot come in under thirty-one, and therefore declares it to be a "go," on which B takes another point for the "go."

The cards are now all played out, with the exception of A's solitary Five, which he throws down, and marks one for the *last card*.

The hands and crib are then reckoned, and scored, each party making similar use of the start or turn-up card. Another deal is made, and passes alternately, until victory is proclaimed by the conqueror's attaining the sixty-first, or game-hole.

THE VALUES OF CRIBBAGE HANDS.

The following tables indicate the method of counting now universally followed. The highest score is twenty-nine. If the jack and start be of different suits it can be twenty-eight only, but in that case, the dealer will have already scored "two for his heels," so that the value is thirty.

	Points.
Four Fives (*Fifteen eight and a double pair-royal*)	20
Three Fives and a Ten (*Fifteen eight and a pair-royal*)	14
Two Fives, a Four, and a Six Two Fours, a Five, and a Six Two Sixes, a Four, and a Five } *Fifteen four, pair, and double run of three*	12
Three Threes and a Nine Three Sixes and a Nine Three Sixes and a Three Three Sevens and an Eight Three Eights and a Seven Three Nines and a Six Three Sevens and an Ace } *Fifteen six and a pair-royal*	12
Two Eights, a Six (or Nine), and a Seven Two Sevens, a Six, and an Eight Six, Five, and two Fours } *Fifteen four, pair and double run of three*	12
Two Fives, and two Tens or court cards of like denomination (*Fifteen eight and two pairs*)	12
Two Nines and Two Sixes (*Fifteen eight and two pairs*)	12
Two Fives, a Ten, and a court card (*Fifteen eight and a pair*)	10
Two Sixes, a Seven, and an Eight (*Fifteen two, pair, and double run of three*)	10
A Five and any three court cards in sequence, or Ten, Knave, Queen (*Fifteen six and run of three*)	9
A Five and three court cards, or a Ten and court cards, in sequence (*Fifteen six and run of three*)	9
Any sequence of three cards, with a duplicate of one of them, but no "fifteen" (*Pair and double run of three*)	8

The above-hand, which is given by way of illustration, will suffice to show the number of really high scores which can be made with five cards. As for combinations of minor value, they are almost innumerable. The manner of counting scores cannot be mistaken.

SOME OF THE LAWS OF CHANCE IN POKER.

The game of poker is not treated in this volume with a view of instructing those who desire to use that, or any game of cards, for the purpose of winning money. To such it may be said that while there is such a thing, theoretically, as a Law of Chance, there is, also, long since determined by the statisticians, a law of accidents. But the calculating to certainly win "in the long run" on a certain supposed "system," of which there are hundreds, has led to ruin many thousands of persons who were disposed to possess themselves of its imagined advantages. In a record of tossing a coin 16,317 times only two instances occurred in which tails were tossed fifteen times in succession. In 271 cases tails were tossed five times in succession, and the next series of tossings gave heads in 132 cases and tails in 139 cases.

There have been many tables devised setting forth in figures the chances in poker. Here is one of them. Given 2,598,960 hands:

Of flush sequences there may be	40
Of fours	624
Of full hands	3,744
Of common flushes	5,108
Of common sequences	10,200
Of triplets	54,912
Of two pairs	123,552
Of pairs	1,098,240
Of other hands	1,302,540
Total number of possible hands	2,598,960

Something more practical may be found in considering how to play the average hand which the non-gambling player finds himself in possession of, and the average of a proper "go-in" hand will be considered. Many persons estimate it at a pair of Eights, which is obviously incorrect, because this would imply that all other players were going in upon pairs only, which is not the case, because they are liable to go in upon four of a kind, fulls, flushes, straights, triplets, and two pairs. Hence, the average upon even the roughest calculation must be above Eights.

There are six denominations above Eights, and six below. Tens have four above them and eight below. Hence, they are nearly forty per cent. above the average of pairs, a pair of Eights being represented by fifty in the hundred, and a pair of Tens by sixty-nine and three thirteenths. The reader will notice the very rapid growth of percentages as we take leave of the value of the average pair. It certainly appears to be a startling discovery that a pair of Tens in the "go-in" are worth forty per cent. more than a pair of Eights, yet it is as positively true as that two and two make four. The real value of this percentage may be estimated from the proportion which Tens bear to Aces. If A stands on Aces, and B on Eights, A will beat B with perfect regularity five times in six, if both

draw three cards; hence, although A's percentage is only a hundred per cent. over B's, and this is weakened by the draw, still the result is a victory for A five times in six. Now, if one hundred per cent. advantage on the "go-in" beats five times in six after the draw, forty per cent. advantage on the "go-in" will beat twice in three times after the draw.

If it were not for the draw the weaker hands would have no chance at all; and the draw, although it strengthens the weak hands and weakens the strong ones, both in inverse ratio, cannot in the long run overcome the initial momentum and value of the above-named percentages.

There is no chance in a pair of Aces which you hold; they have a definite value; *the chances lie in the draw*, and in the hands of your opponents. Reduce, therefore, the chances in the draw, and in the hands of your opponents, by rapid calculation to the comparative definiteness which the laws of averages afford. Suppose you have a pair of Aces and three others are drawing cards; as you stand on the deal, it is 20 to 1 that no other given player has two pairs, 6 2-3 to 1 that they are not out at all; it is 22 1-2 to 1 that no other given player has Aces, and nearly 8 to one that they are not out against you at all. Leaving out the rare pat hands, then, you start against the field with a ratio of nearly 7 to 1 against the most *probable* hand that is capable of beating you. But you will find that to combine the *definite* with the *indefinite* reduces the *definite* in inverse ratio to its value; so that we here evolve this law, namely: *The draw weakens a strong hand and strengthens a weak one, in inverse ratio to the weakness and the strength.* In other words, the stronger your original hand the less the draw benefits it.

By not observing this law, many Poker players are continually misled. The principle is not that Aces are not definitely good to go in on, but that they must not be confided in to an extent that is not warranted by the laws of averages that regulate the indefinite chances of the three cards to be drawn. The definite value of this pair, as well as that of any other pair, needs to be carefully estimated in connection with the law here laid down. The chance of a pair on the "go-in" is three sevenths on a closely approximate fraction. The sum total of all the values on the "go-in" is sufficiently near one-half to reckon at one-half. Now one-half is three and a half sevenths; hence the chance of a pair is to all the chances of the valuable hands known as "fours of a kind," "fulls," "flushes," "straights," "triplets," "two pairs," and "pairs," as three to three and a half; so that the hand containing a pair of Eights is about sixteen per cent. below the average of values. This fixes the average pair at Nines, and as the player will not enter upon a mere average, the law we evolve is, that in *the game of Draw Poker, Tens are the lowest hand to go in with, unless your skill is superior to the combined skill of the table.*

The reader will see the importance of a correct estimate of the value of the "go-in" hand, in the light of the fact that all the average possible strength of all possible hands, added to the value of the average pair, which is a pair of Eights, simply raises the average to a pair of Nines. This would appear to be a paradox if it had not been proved by the severest reasoning.

THE LATEST RULES OF AMERICAN FOOT-BALL.

The autumn of 1894 has seen a much-increased interest in this game, and with the more athletic class of young men, and those who have an interest in them, it seems likely to rival the game of baseball in its palmiest time.

Nevertheless, there has been a change of sentiment in regard to the game. Teachers are naturally interested in that which is best for the students under their charge. Fathers have become concerned for their sons at school. The general public wishes to see a more open game, and one in which there is less violence and less risk of personal injury. All classes, including the players themselves, are interested in this last feature.

In 1894 a committee on Rules was appointed by the University Athletic Club. The rules formulated by that committee follow. There had, among other things, grown up an abuse of what was called the Momentum Mass Play. An attempt has been made to eliminate that feature as much as possible. The time allowed for a game was reduced from forty-five to thirty-five minutes. There is a disposition to return to the kicking of the ball, meaning a more open game, rather than to the picking up and running with it which has been the cause of unnecessary violence.

The following are the

REVISED RULES.

RULE 1.—(*a*) A drop-kick is made by letting the ball fall from the hands and kicking it at the very instant it rises from the ground.

(*b*) A place-kick is made by kicking the ball after it has been placed on the ground.

(*c*) A punt is made by letting the ball fall from the hands and kicking it before it touches the ground.

(*d*) Kick-off is a place-kick from the center of the field of play, and cannot score a goal.

(*e*) Kick-out is a drop-kick, place-kick or punt, made by a player of the side which has touched the ball down in its own goal, or into whose touch-in-goal the ball has gone.

(*f*) A free-kick is a term used to designate any kick where the opponents are restrained by rule from advancing beyond a certain point.

RULE 2.—(*a*) In touch means out of bounds.

(*b*) A fair is putting the ball in play from touch.

RULE 3.—A foul is any violation of a rule.

RULE 4.—(*a*) A touch-down is made when the ball is carried, kicked, or passed across the goal line and there held, either in goal or touch-in-goal. The point where the touch-down is marked, however, is not necessarily where the ball is carried across the line, but where the ball is fairly held or called "down."

(*b*) A safety is made when a player, guarding his goal, receives the ball from a player of his own side, either by a pass, a kick, or a snap-back, and then touches it down behind his goal line, or when he himself carries the ball across his own goal line, and touches it down, or when he puts the ball into his own touch-in-goal, or when the ball, being kicked by

one of his own side, bounds back from an opponent across the goal line, and he then touches it down.

(*c*) A touch-back is made when a player touches the ball to the ground behind his own goal, the impetus which sent the ball across the line having been received from an opponent.

RULE 5.—A punt-out is a punt made by a player of the side which has made a touch-down in its opponents' goal to another of his own side for a fair catch.

RULE 6.—A goal is obtained by kicking the ball, in any way except a punt, from the field of play, over the cross-bar or post of the opponents' goal.

RULE 7.—A scrimmage takes place when the holder of the ball puts it down on the ground, and puts it in play by kicking it forward or snapping it back.

RULE 8.—A fair catch is a catch made direct from a kick by one of the opponents (or a punt-out by one of the same side), provided the man intending to make the catch indicates that intention by holding up his hand when running for the ball, and also makes a mark with his heel upon catching it, and no other of his side touches the ball. If he be interfered with by an opponent who is off side, or, if he be thrown after catching the ball, he shall be given fifteen yards, unless this carries the ball across the goal line. In that case he shall be given but half the intervening distance. After having raised his hand he cannot run with the ball, but must take his fair catch if he succeed in making one.

RULE 9.—Charging is rushing forward to seize the ball or tackle a player.

RULE 10.—Foul interference is using the hands or arms in any way to obstruct or hold a player who has not the ball. This does not apply to the man running with the ball; that is, the runner may push off his adversaries.

RULE 11.—The ball is dead.

I. When the holder has cried down, or when the referee has called a down, or when the umpire has called foul.

II. When a goal has been obtained.

III. When it has been downed after going into touch, or touch-in-goal.

IV. When a touch-down or safety has been made.

V. When a fair catch has been made.

VI. When time has been called by the umpire or referee. No play can be made while the ball is dead, except to put it in play by rule.

RULE 12.—The grounds must be 330 feet in length and 160 feet in width, with a goal placed in the middle of each goal line, composed of two upright posts, exceeding 20 feet in height, and placed 18 feet 6 inches apart, with a cross-bar 10 feet from the ground.

RULE 13.—The game shall be played by teams of eleven men each, and in case of a disqualified or injured player, a substitute shall take his place. Nor shall the disqualified or injured player return to further participation in the game.

RULE 14.—There shall be an umpire, a referee and a linesman.

RULE 15.—(*a*) The umpire is the judge of the conduct of the players, and his decision is final regarding fouls and unfair tactics. The umpire may appeal to both the linesman and referee for testimony regarding cases of unnecessary roughness, off side play, or holding, but they shall not volunteer their opinion, nor can they be appealed to upon these points by the captains or players.

(*b*) The referee is judge of the position and progress of the ball, and his decision is final in all points not covered by the umpire.

(*c*) Both umpire and referee shall use whistles to indicate cessation of play on fouls and downs. The linesman shall use a stop watch in timing the game.

(*d*) The umpire shall permit no coaching, either by substitutes, coaches, or any one inside the ropes. If such coaching occur he shall warn the offender, and upon the second offense must have him sent behind the ropes for the remainder of the game.

(*e*) The linesman shall, under the advice of the referee, mark the distance gained or lost in the progress of the play, and upon the request of the umpire shall give testimony upon any unnecessary roughness, off side play, or holding; but he may not be appealed to by any player or captain. He shall, also, under the direction of the referee, keep the time.

(*f*) Only one official representative for each side shall come upon the field of play in case of an accident to a player.

RULE 16.—(*a*) The time of a game is seventy minutes, each side playing thirty-five minutes from each goal. There shall be ten minutes' intermission between the two halves. The game shall be decided by the final score at the end of even halves. Either side refusing to play after being ordered to by the referee, shall forfeit the game. This shall also apply to refusing to commence the game when ordered to by the referee. The linesman shall notify the captains of the time remaining not more than ten nor less than five minutes from the end of each half.

(*b*) Time shall not be called for the end of a half until the ball is dead; and in the case of a try-at-goal from a touch-down the try shall be allowed. Time shall be taken out while the ball is being brought out either for a try, kick-out or kick-off, and when play is for any reason suspended.

RULE 17.—No one wearing projecting nails or iron plates on his shoes, or any metal substance upon his person, shall be allowed to play in a match. No sticky or greasy substance shall be used on the person of players.

RULE 18.—The ball goes into touch when it crosses the side line, or when the holder puts part of either foot across or on that line. The touch line is in touch and the goal line is in goal.

RULE 19.—The captains shall toss up before the commencement of the match, and the winner of the toss shall have his choice of goal or of kick-off. The same side shall not kick-off in two successive halves. In all cases where the rules provide for a kick, the ball must be actually kicked a distance of at least ten yards into the opponents' territory, unless stopped by the opponents.

RULE 20.—The ball shall be kicked off at the beginning of each half; and whenever a goal has been obtained, the side which has lost the goal shall kick off. If the ball go into touch before it is touched by an opponent, it shall be brought

back and kicked off over again. If it be kicked into touch a second time, it shall go as a kick-off to the opponents.

RULE 21.—The side which has a free-kick must be behind the ball when it is kicked. At kick-off the opposite side must stand at least ten yards in front of the ball until it is kicked.

RULE 22.—A player who has made and claimed a fair catch shall take a drop-kick, or a punt, or place the ball for a place-kick. The opponents may come up to the catcher's mark, and the ball must be kicked from some spot behind that mark on a parallel to touch line.

RULE 23.—Charging is lawful for the opponents if a punter advance beyond his line, or, in case of a place-kick, as soon as the ball is put in play by touching the ground. In the case of a punt-out, however, not until the ball is kicked.

RULE 24.—(*a*) A player is put off side, if, during a scrimmage, he get in front of the ball, or if the ball has been last touched by one of his own side behind him. No player can, however, be called off side in his own goal. No player when off side shall touch the ball, or with his hands or arms interrupt or obstruct an opponent until again on side.

(*b*) A player being off side is put on side when the ball has touched an opponent, or when one of his own side has run in front of him, either with the ball, or having been the last player to touch it when behind him.

(*c*) If a player when off side touch the ball inside the opponents' ten-yard line, the ball shall go as a touch-back to the opponents.

RULE 25.—No player shall lay his hands upon, or, by the use of his hands or arms, interfere with, an opponent, unless he himself or that opponent, has the ball. That is, the players of the side which has possession of the ball can obstruct the opponents with the body only. But the players of the side which has not the ball can use the hands and arms, as heretofore; that is, to push their opponents out of the way in breaking through when the ball is snapped.

RULE 26.—(*a*) A foul shall be granted for intentional delay of the game, off side play, or holding an opponent, unless he has the ball. No delay arising from any cause whatsoever shall continue more than three minutes.

(*b*) The penalty for fouls or violation of rules, except where otherwise provided, shall be, when the offending side has the ball, the immediate surrender of it to the opponents for a down, or when the offending side has not the ball, the advance of the ball ten yards. In this, as in other penalties of a similar nature, if the distance given would carry the ball across the goal line, only half the intervening distance shall be given.

(*c*) The offended side may refuse to accept the penalty where it is to its disadvantage, but in the case of a run resulting, should it be over fifteen yards, that distance shall be the limit allowed.

RULE 27.—(*a*) A player shall be disqualified for unnecessary roughness, hacking or striking with closed fist.

(*b*) For the offenses of throttling, tripping up or intentional tackling below the knees, the opponents shall receive twenty-five yards, or a free-kick, at their option. In case, however, the twenty-five yards would carry the ball across the goal line they can have half the distance from the spot of the offense to the goal line, and shall not be allowed a free-kick.

RULE 28.—A player may throw or pass the ball in any direction except towards the opponents' goal. If the ball be batted in any direction or thrown forward, it shall go down on the spot to the opponents.

RULE 29.—If a player when off side interfere with an opponent trying for a fair catch, by touching him or the ball, or waving his hat or hands, or deliberately getting in his way, the opponent may have an advance of fifteen yards and a free-kick, or down, from where the interference occurred.

RULE 30.—(*a*) If a player having the ball be tackled and the ball fairly held, the man so tackling shall cry "held," the one so tackled must cry "down," and some player of his side put it down for a scrimmage. As soon as a runner attempting to go through is tackled and goes down, the referee shall blow his whistle and the ball shall be considered down at that spot. Any piling up on the man after that, shall be punished by giving him fifteen yards, unless this carry the ball across the goal line, when he shall have only half the intervening distance. The snapper back and the man opposite him cannot pick out the ball with the hand until it touch a third man; nor can the opponents interfere with the snapper back by touching the ball until it is actually put in play. Infringement of this nature shall give the side having the ball five yards at every such offense. The snapper back is entitled to full and undisturbed possession of the ball. If the snapper back be off side in the act of snapping back, the ball must be snapped again, and if this occur three times on the same down the ball goes to the opponents. The man who first receives the ball when snapped back from a down, shall not carry the ball forward under any circumstances whatever. If, in three consecutive fairs and downs, unless the ball cross the goal line, a team shall not have advanced the ball five or taken it back twenty yards, it shall go to the opponents on the spot of the fourth down. "Consecutive" means without going out of the possession of the side holding it, and by a kick giving the opponents fair and equal chance of gaining possession of it. When the referee or umpire has given a side a distance penalty, the resulting down shall be counted the first down.

(*b*) The man who puts the ball in play in a scrimmage cannot pick it up until it has touched some third man. "Third man" means any other player than the one putting the ball in play and the man opposite him.

(*c*) No momentum-mass plays shall be allowed. A momentum-mass play is one where more than three men start before the ball is put in play. Nor shall more than three men group for that purpose more than five yards back of the point where the ball is put in play.

RULE 31.—If the ball go into touch, whether it bound back or not, a player of the side which touches it down must bring it to the spot where the line was crossed, and there either

I. Touch it in with both hands, at right angles to the touch line, and then kick it; or

II. Walk out with it at right angles to the touch line, any distance not less than five nor more than fifteen yards, and there put it down for a scrimmage, first declaring how far he

intends walking. The man who puts the ball in must face the field or the opponents' goal, and he alone can have his foot outside the touch line. Anyone, except him, who puts his hands or feet between the ball and his opponents' goal is off side.

RULE 32.—A side which has made a touch-down in their opponents' goal *must* try at goal, either by a place-kick or punt-out. If the goal be missed, the ball shall go as a kick-off at the center of the field to the defenders of the goal.

RULE 33.—(*a*) If the try be by a place-kick, a player of the side which he has touched the ball down shall bring it up to the goal line, and making a mark opposite the spot where it was touched down, bring it out at right angles to the goal line such distance as he thinks proper, and there place it for another of his side to kick. The opponents must remain behind their goal line until the ball has been placed on the ground.

(*b*) The placer in a try-at-goal may be off-side or in touch without vitiating the kick.

RULE 34.—If the try be by a punt-out, the punter shall bring the ball up to the goal line, and, making a mark opposite the spot where it was touched down, punt-out from any spot behind the line of goal, and not nearer the goal post than such mark, to another of his own side, who must all stand in the field of play not less than fifteen feet from the goal line. If the touch-down be made in touch-in-goal, the punt-out shall be made from the intersection of the goal and the touch lines. The opponents may line up anywhere on the goal line, except the space of five feet on each side of punter's mark, but cannot interfere with the punter, nor can he touch the ball after kicking it until it strikes or is touched by some other player. If a fair catch be made from a punt-out, the mark shall serve to determine positions as the mark of any fair catch. If a fair catch be not made on the first attempt, the ball shall go as a kick-off at the center of the field to the defenders of the goal.

RULE 35.—A side which has made a touch-back or a safety must kick out, except as otherwise provided, from not more than twenty-five yards outside the kicker's goal. If the ball go into touch before striking a player, it must be kicked out again; and if this occur twice in succession, it shall be given to the opponents as in touch on the twenty-five yard line on the side where it went out. At kick-out the opponents must be on the twenty-five yard line or nearer their own goal, and the kicker's side must be behind the ball when kicked, or be adjudged off side. Should a second touch-back occur before four downs have been played, the side defending the goal may have the choice of a down at the twenty-five yard line or a kick-out.

EXCEPTION.—Whenever a side has tried a drop kick at the goal upon a first down inside the twenty-five yard line, and the result has been a touch-back, the line of kick-out shall be the ten yard instead of the twenty-five yard line in determining the positions of the opponents and the kicker's side must be behind the ball when it is kicked.

RULE 36.—The following shall be the value of each point in the scoring:

Goal obtained by touch-down,	6
Goal from field kick,	5
Touch-down failing goal,	4
Safety by opponents,	2

SOME OF THE MINOR GAMES OF CARDS.

The Games which best embody the general principles of Cards have been previously given. Following are some of those most commonly played for social amusement and family pastime, as SEVEN UP, PITCH, CINCH, etc.

Seven Up.

Also known as OLD SLEDGE, and ALL-FOURS, is usually played by two players, with the full pack of fifty-two cards, which rank in play as at Whist, the Ace being the highest and the Two the lowest. The game is usually seven points.

There are four different points which count toward the score, whence the name ALL-FOURS. Such points are as follows:—

HIGH.—The highest trump out, scoring one to the original holder.

LOW.—The lowest trump out, scoring one to the original holder.

JACK.—The Knave of Trumps, scoring one to the dealer if turned up; if otherwise, to the winner of the trick to which it falls.

GAME.—Scoring one to the ultimate holder of the more valuable cards in the tricks won by him, according to the following scale:

For each Ten (trump or otherwise),		10
For each Ace	"	4
For each King	"	3
For each Queen	"	2
For each Knave	"	1

The other cards do not count towards game.

When a tie for game occurs, the non-dealer or eldest hand scores the point.

METHOD OF PLAYING.—The players cut for deal, the highest card having the preference. The dealer gives six cards to each, three at a time, turning up the thirteenth as trump. If the elder hand is dissatisfied with his cards, he may say, "I beg," in which case the dealer is bound either to allow him (by the phrase, "Take one") to score one point, or to give each player three more cards from the pack, turning up that next following by way of fresh trump card. If this should chance to be of the same suit as the original trump, the dealer is bound to give three more cards to each, again turning up the seventh, until a new suit does actually turn up. If the turn-up card be a Knave, the dealer scores one, this taking precedence of any other score. If, by reason of the elder hand "begging," there is a further deal, and the dealer a second time turns up a Knave, he again scores one. The elder hand leads any card he pleases. His antagonist must follow suit or trump, his right to do the latter not being affected by his holding cards of the suit led. If, however, having a card of the suit led, he neither follows suit nor trumps, he becomes liable to the penalty of a revoke.

The player of the highest card of the suit led, or a trump, wins the trick, which is turned down as at Whist, and so on throughout all the tricks. In scoring, the order of precedence is (1) *High*, (2) *Low*, (3) *Jack*, (4) *Game;* subject as we have seen, to the contingency of "Jack" having been the turn-up card, the point for this being scored before the hand is played.

The play is mainly directed to capturing the Jack, and such cards as may score toward game.

FOUR-HANDED SEVEN UP.

The players cut to decide who shall be partners; the two highest playing against the two lowest, and facing each other, as at Whist. The right to the first deal is decided by the cut, the highest dealing. Afterwards each player deals in rotation.

The dealer and the elder hand alone look at their cards in the first instance, the option of begging resting with the latter. The other two players must not take up their cards till the dealer has decided whether he will "give one," or "run the cards" for a new trump.

The players play in succession as at Whist, four cards constituting a trick. In other respects the play is the same as in the two-handed game.

THE SCORE.—The points score in the following order of precedence: 1st, *High;* 2d, *Low;* 3d, *Jack;* 4th, *Game.*

Thus it will be seen that if two parties are playing, and the game stands six points each, he who scores high goes out first, as that takes precedence of the other points, unless Jack is *turned up* by the *dealer*. The same is the case when the game stands *five* to *six;* the former goes *out* on *High* and *Low*, although the latter may make *Jack* and *Game* in *play;* but if the former make *High*, *Jack*, the latter will go out on *Low*.

Each Jack turned up by the dealer counts one point for him in the game, unless a misdeal should occur *before* the Jack is turned.

If the dealer turns Jack, and a misdeal should occur afterwards, even though it be in the same hand, or if he turns Jack and the cards run out by reason of the same suit being turned, he is not debarred from scoring the point.

Should there be a tie for *Game*, the non-dealer or eldest hand scores the point.

THE BEG.—If a player beg, it is at the option of the dealer to give him one point or run the cards for a new trump. When playing three-handed, if the dealer give one player he must give both.

Running the cards is accomplished in the following manner: The dealer having laid aside the old trump, deals three more cards to each player, and then turns up the next card for the new trump. If, however, the card turned up should be of the same suit as the original trump, the dealer must repeat this operation until the trump suit is changed.

No player may beg more than once in each hand.

There is nothing to prevent the dealer and the eldest hand from *bunching the cards*, *i. e.*, having a fresh deal, after the latter has begged and the cards have been run by the former, provided they mutually agree to do so; or if the new trump is unsatisfactory to both, they may agree to run them again instead of bunching; but a suit cannot become trump that has once been turned down during the deal; this, however, is more a matter of agreement than of actual law.

Should the same suit be turned until the cards run out, then the cards must be bunched, and dealt anew.

The dealer *must* give each player three cards *before* turning for a new trump, and continue doing so until a trump is obtained. When he cannot comply with this condition, a new deal ensues.

When playing the four-handed game, the *dealer* and the player on his *left only* are permitted to look at their cards previous to the latter deciding upon his hand. Should he beg, the other players must not raise their cards until the dealer announces whether he will "give one," or run the cards to another trump.

Pitch.

This is played the same as the game of All-Fours, with the following exceptions: 1st. There is no begging. 2d. No trump is turned. 3d. The eldest hand has the privilege of making any suit he chooses trump, the first card he leads or *pitches*, being trump. 4th. In the event of a tie in counting Game, no Game is scored by either party.

In all other particulars Pitch is played precisely the same as regular All-Fours, and all the laws of the latter game apply to it with equal force, except the modifications enumerated and explained above.

AUCTION PITCH.

Auction Pitch is played with a pack of fifty-two cards, which rank as at Whist, and by any number of persons, from four to eight.

DEALING.—The deal is determined by cutting; the player cutting the highest card deals. Ace is high. Ties cut over.

The cards are dealt the same as at All-Fours. No trump is turned. After the first hand has been played, the deal passes in rotation to the left.

SELLING THE PITCH.—After the cards have been dealt, the *eldest hand* (the player to the left of the dealer) proceeds to sell the privilege of pitching the trump.

Each player in turn has the right to make one bid, but no more.

The bidding proceeds in rotation, beginning with the player to the left of the eldest hand. The eldest hand has the last say, and may either sell to the highest bidder, or decline to sell, and pitch the trump himself.

If the seller decline to entertain the highest bid, and pitch the trump himself, he is entitled, if successful, to score all the points he may make; but if he fail to make as many points as the highest number offered, he must be *set back* just that number of points, and he cannot score anything he may have made during the play of that hand.

A player whose bid has been accepted may score not only the number of points he bid, if he make them, but also any points he may make in excess thereof.

If a player buy the privilege of pitching the trump and fail to make or save the necessary number of points, he must be set back the number of points he bid, and he cannot score anything he may have made during the play of that hand.

The seller, when he accepts a bid, scores the points at once, and before a card is led.

If no bid is made, the seller must pitch the trump himself.

SCORING.—The game is ten points. All points a player may make are deducted from his score. All points a player may be set back are added to his score. The player whose score is first reduced to nothing wins the game.

The points rank and are scored in the following order of precedence: 1. *High* (the highest trump out). 2. *Low* (the lowest trump out). 3. *Jack* (the Knave of trumps). 4. *Game*.

Case.—A, B, and C are playing Commercial Pitch. They are each nine. It is A's sell. B offers one; C offers two, which A takes. B holds the Deuce of trumps, and C makes High-Game. Who is beat? *Decision.*—C was out before B. All that C was called upon to do was to make good his bid of two in the play, and when he did that his high counted him out before B's low.

Low scores for the player who originally held it. *Jack* may be taken with any superior trump, and scores for the player who makes or saves it.

After it has been determined who is to pitch the trump, the player having that privilege must lead a card of the suit he makes trump. Each player, beginning with the player to the left of the leader, plays a card to the lead. When all the players have played to the lead, that constitutes a trick.

Cinch or High-Five.

This is also sometimes known as *Double Pedro.*

Cinch is played with a pack of fifty-two cards, which rank the same as at Whist.

The game may be played by two, three, or four persons. Four-handed Cinch is usually played with partners, and is by far the most interesting game.

THE DEAL.—The deal is determined by cutting, and the player who cuts the lowest card has the deal.

The dealer shuffles the cards, and after the player to his right has cut he deals to each player nine cards, three at a time; alternately, if two are playing; or in rotation, beginning with the player to his left, if three or four are playing. No trump is turned.

The deal, after the first hand has been played, passes to the left.

BIDDING FOR THE TRUMP.—After the deal has been completed, the players proceed to bid for the privilege of naming the trump suit. Each player is entitled to *one bid* only.

The bidding is commenced by the eldest hand, and passes in rotation to the left, the dealer having the last bid.

After a player has made a bid he cannot change it.

The player who bids the highest number of points names the trump suit.

If no other player bids, the dealer must bid one point and name the trump.

DISCARDING AND DRAWING.—The successful bidder has the lead.

Before leading he must announce the trump suit, and discard from his hand to the table, face upwards, three cards, or as many more as he pleases, the dealer discarding last.

Six cards constitute a hand, and if a player discards more than three, the dealer must give him sufficient cards to make up the deficient hand to the correct number (six). The cards are helped in rotation to the left, the dealer helping himself last.

Sometimes the following variation is played: The successful bidder for the trump does not name the trump suit until all the cards remaining in the pack are dealt, two at a time to each player, thus giving each player thirteen cards. The trump suit is then declared, and each player retains in his hand six cards, discarding all the others.

PLAYING THE HAND.—The successful bidder leads to the first trick any card that he pleases, there being no compulsion to lead a trump.

Some coteries insist that the first lead must be a card of the trump suit. This point must be determined previous to the first bid, otherwise the above rule governs.

The other players, in rotation, beginning with the player to the left of the leader, must each play a card to the lead.

The highest card of the suit led, unless trumped, wins the trick.

A player must follow suit if he can, unless he chooses to trump; in this latter case, trumping when able to follow suit is allowable and does not constitute a revoke. If unable to follow suit, he may trump or trash as he chooses.

The winner of the trick has the next lead.

When a trick is taken it must be gathered and immediately placed face downwards by the winner or his partner.

Any player may demand to see the last trick, but no more.

After the hand is played to a conclusion, the player, or side, if playing partners, who has named the trump suit, may search the discard pile and add to his or their score any points that may be contained therein.

The points score in the following order of precedence: 1. *High;* 2. *Low;* 3. *Jack;* 4. *Game;* 5. *Pedro;* 6. *Cinch.* Thus: If two players or sides have already reduced their score to two, and one of them has made High, Game, Pedro, and Cinch, the other side could go out before them with Low and Jack.

The score is kept by one of the players chosen by mutual agreement. It is the duty of the scorer to see that the point or points claimed by each side are in accordance with the cards in their possession after the hand has been played.

At the beginning of the game each side commences with fifty-two points, and all the points either side may make or take during the play of the hand are deducted from their score as soon as possible after the hand has been played out. When either side cancel the fifty-two points by deductions, they win the game.

If the successful bidder and his partner succeed in taking or saving the number of points bid, they not only deduct from their score the number bid, but all points in excess thereof. If they fail to save or take the necessary number of points, the whole number of points bid are added to their score.

When the side having the privilege of making the trump fail to make or save the necessary number of points, they are not permitted to score anything that hand.

THE FLATIRON BUILDING, NEW YORK CITY

ARCHITECTURE

WHILE the aim of this department is to give a practical exposition of the science of Architecture as modified by modern thought and necessity, and more especially in its relation to the building of country homes, a brief introductory allusion may be made to the general principles of architectural beauty, which, though founded upon ideas evolved and matured by the ancients, are to-day the main sources of inspiration for the builder who seeks to render what he builds beautiful as well as convenient and comfortable. Many as may be the styles of architecture, the science is divided into five great original divisions, known as the Doric, Ionic, Corinthian, Tuscan, and Composite orders. Of these, the first three named are of Greek origin; the last two are Roman adaptations of the former, the Composite order being a rich and glowing union of the Ionic and Corinthian, while the Tuscan is merely an elaboration of the Doric. With the political partition of the Roman Empire came a division of its architecture into the Byzantine, which became tinged with Orientalism, indicated in its richness of color and decoration, and the Early Christian and Romanesque, both of which are more simple. Among other styles which strongly influence modern building are the Gothic, and the Renaissance, which is a revival of Grecian architecture adapted to modern requirements. Other styles, which are very seldom resorted to, are the Egyptian, marked by sloping walls, great solidity, and ornamentation in hieroglyphics and the lotus-flower; the Assyrian, of fantastic design with hugh flights of stairs and lengthy terraces; the Chinese, characterized by curling eaves and a succession of roofs tapering one above the other; the Indian, exemplified by temples cut from the solid rock; and the Moorish, richest of all in its combination of light colors and elaboration of minute and beautiful details.

AMERICAN HOMES

"Who creates a home creates a potent spirit
Which in turn doeth fashion him that fashioned."

HOUSES have undeniably a past and we need be no prophet to maintain that they will have a future. The comforts which the modern householder has, the superiority of his home over that of his father, has been obtained only through many years of progress. The advantages of the modern house may be summed up in the two words "better sanitation." The old houses were smaller in every respect—the rooms were smaller, windows were smaller, ceilings were lower, dimensions were more cramped.

The house of the average citizen was distinctly unpretentious. The house of to-day is, of course, a very different structure from the house of a hundred years since. In some respects it is better, in some respects it is not so good. The chances are it is not so well built. But all the faults of machine-made material, machine-made ornaments, and rapid building are more than compensated for by what is known as better and improved sanitation. The bathroom, the water pipes, the cemented cellar, the wonders of modern plumbing, to speak nothing of all the conveniences and luxuries that electricity has brought to the age are gifts of modern science to the betterment of the home.

The modern house has improvements, conveniences, and devices which the old house knew nothing of and the absence of which makes the latter, with all its gentle grace of refined old age, ill-suited for modern needs. The average home of to-day is esthetically far in advance of the average home of twenty-five years ago. In the matter of design we have decidedly moved on. A survey of the architecture of the last hundred years will show a veritable medley of styles which will be seen to change almost as frequently and rapidly as the styles of dress.

The modern home is but a mile-stone in future progress. Every day brings advance in design, in equipment, in construction. The importance of the house as an aid to life and as a help to civilization is now universally acknowledged and largely dwelt upon. Vast industries have grown up in household equipments, great interests are concerned with household betterment, art and science have joined hands in making the modern home a beautiful, convenient, and safe structure. And if science has predominated in the work it is because the age is essentially scientific in temperament rather than esthetic. The best of modern houses are but steps in an evolution of American architecture the end of which we cannot see and about which we can only venture to surmise. So persistent is house betterment that the home of to-day becomes the home of yesterday the moment its neighbor is erected. The most prodigal expenditure is apt to find itself in a few years far behind the times; let every refinement of art and science be lavished upon it, ten years later it will be found lacking in certain equipments that many less pretentious structures have as a matter of course. The progress in private structures has been as marked as that in public buildings. More and more things are added, newer devices are introduced, new contrivances are procured, and modern ingenuity apparently exhausted until the next house is erected, when something newer still is provided. All these steps of progress merely point the way to the furtherance of architectural ingenuity and give us a faint idea of the possibilities of the new type of dwellings to be erected in America during the next fifty years.

America has had her Dark Ages of workmanship and design when houses were filled with ugly, ill-made furniture and crude decorations. The exquisite grain of the natural wood was covered with paint and varnished with heavy glaze; the beautiful lines of the colonial mantelpiece were concealed with hideous lambrequins; the side-boards and rocking chairs had no semblance of beauty or usefulness. Happily these are things of the past. Chairs and tables of exquisite design and honest purpose take the place of flimsy and over decorated furniture. Hand-made articles begin to have a new value and significance in the face of so much that is cheap and worthless. Twenty-five years ago nearly all of the better classes of American country houses were built in a romantic and picturesque style. Since then a great change has taken place, especially in the cases of larger and more costly homes. They have become more formal, more stately, more pretentious. It will be noted from the following models that there has been a decided revival in the colonial style. Also there will be noted a growing favor of plaster and

rough cast for the exterior finish of frame houses. Practically and esthetically it finds ample justification and is to be highly recommended. It is not expensive, it is tight, warm, and enduring. It needs no renewals, and tones beautifully with age. It will stand the severity of northern climates, and will look as good and sound after forty years as the day it was put on. The dash is composed of fine gravel cleanly washed from all earthly particles, or screened cinders are largely used. These are mixed with water and are thrown on the plastered wall.

On the following pages will be found some of the most charming homes in America, as varied in style, arrangement, and cost as is possible within the limits of this article. There will be found a few elegant mansions whose cost of construction is in the neighborhood of $25,000; there will also be found beautiful and desirable little homes, the cost of which will not exceed $4,000. The controlling and determining ideas according to which all of these houses have been designed are three in number: first, to get the maximum of accommodation with the minimum of cost; second, to obtain an effect of exterior size and interior spaciousness in a building actually small; and third, to produce an effect of beauty and distinction by simple means and with inexpensive material.

A few models have been given of the pretentious mansion type but it is proposed in the majority of these designs to give models of houses suitable for an average family and it is assumed that the sum available for that purpose will range from four to ten thousand dollars. Our American civilization is producing an increasing number of men and women of cultivation and refinement to whom beauty and dignity in their surroundings and mode of life seem no less imperative a need than are the so-called "necessities of existence" to others differently educated and endowed, yet who are unable by reason of lack of fortune or a limitation of income to gain for themselves that happy environment which will satisfy them in a country where every sort of beauty must be purchased at a price. To this class our last three designs will appeal strongly. Take for example the models K and L. Four thousand will be found a sum sufficient with ordinary economy to build structures of this kind that will be in the best sense of the word "homely"; a house that will be convenient, harmonious, and related in all its parts. A structure "fit" and therefore a work of art, for nowhere is the maxim of "fitness is beauty" so obvious as in a domestic structure.

The first principle in erecting any home is —what is a house for and how may its varying functions best be accommodated to the all-important consideration of price? The cheapest as well as the most convenient house is one which is planned a parallelogram nearly approaching a square, all rooms being centrally located, long corridors and other waste places thus being avoided. It possesses the further advantage of permitting such an arrangement of bedrooms that each may have a window in two directions. A roof consisting of a single unbroken gable is the cheapest, the most easily constructed, and the tightest; it gives a larger attic and it is best from a standpoint of design because a simple roof makes a small house look larger. If the exterior is finished rough cast it will be handsome, durable, and only a little more expensive than shingles or clapboards. For the interior finish of a house white wood and pine are the cheapest woods obtainable. The white wood takes stain very nicely. A house of this description could be built complete for from four to five thousand dollars and in some localities for less. A few years ago it would have been called a twenty-five hundred dollar house, but the price of labor and materials has advanced very greatly in the last few years.

The following handsome designs and plans we are able to present through the courtesy of F. O. Weary, architect, Akron, O. Their

excellence, beauty of design, and convenience of structure speak for themselves. They need little or no description.

Model A.

Is modelled upon the Romanesque style and serves for formality and domesticity alike, the very best quality of brick and tile is used throughout; the estimated cost of construction is $25,000. The roof is of soft colored tile, and the tall chimney is a beautiful piece of masonry. The foundations and massive porch are of brown stone. Note the large fireplaces in parlor and dining-room. Nothing adds so much to adornment in a dwelling in these days of ornamental interiors as a mantel. The attractive mantel surmounting the fireplace lends charm and dignity to the embellishment of the rooms, gives a key to its appropriate furnishings and decoration. There is a wide range of choice among the many artistic designs of exceptional quality made in various richly colored grained woods. They range from the chaste and artistic designs with Ionic or Doric columns, to the daintily carved and mirrored cabinet mantels that possess the highest excellence of the cabinet maker's art.

Model B.

Is a beautiful spacious, homelike residence; is entirely of frame on a rich stone foundation. It is of colonial style; cost of construction is $16,000. The house is fitted with every possible improvement and convenience. The third story, the plans of which are not given, is devoted to an elegantly appointed ballroom. The interior of the house is well shown by the plans. Attention is drawn to N of first floor plans; that wing being designed particularly with a view to the comfort of the children. Individual lockers and closets are ranged along two sides of the nursery. The downstairs lavatory and bathroom leads off from the nursery, while the room has its own entrance and porch. A handsome mantel ornaments the library. The large airy porch gives opportunity for a convenient and beautifully fitted balcony above.

Model C.

Is colonial in style, of beautifully stained shingles. The main feature of the exterior is the foundation, porch wall, and columns of broken field stone. Interior is convenient and natural; combination front and rear stairs. The leaded windows in second story give an added touch to an already exceptionally artistic home. Cost of construction, $12,000.

Model D.

The first story is veneered with pressed brick, that on the bay extending to roof. Gables and roof are composed of stained shingles. Foundation is of broken field stone. Note the chimney of stone extending up the side. Cost of construction, $12,000.

Model E. and G.

Are fine examples of straightforward, characteristic treatment of plasterwork, which offers almost unlimited possibilities in the matter of color. Model E. presents a foundation of field stone, and has as its most striking feature the deep massive porch and porte cochere of pressed bricks. Second story and gables are of the plaster. The interior is clearly illustrated by the plans. A convenient arrangement of bedroom and bath will be found on first floor, and a delightful little den fitted up leading from the living room. Cost of construction, $11,000.

Model F.

Is particularly fitted for a long, narrow lot, and is distinctly colonial in style. Cost of construction, $10,000.

Model G.

First story of dark green shingles, second story and gables are of plaster. The dash in this instance being made of screened cinders. Foundations are of pressed brick. Cost of construction, $8,000.

Model H.

Colonial style; cost of construction, $6,000. The peculiar disposal of stairways gives the rooms a unique arrangement. The grouped windows in second story impart a particularly pleasing effect.

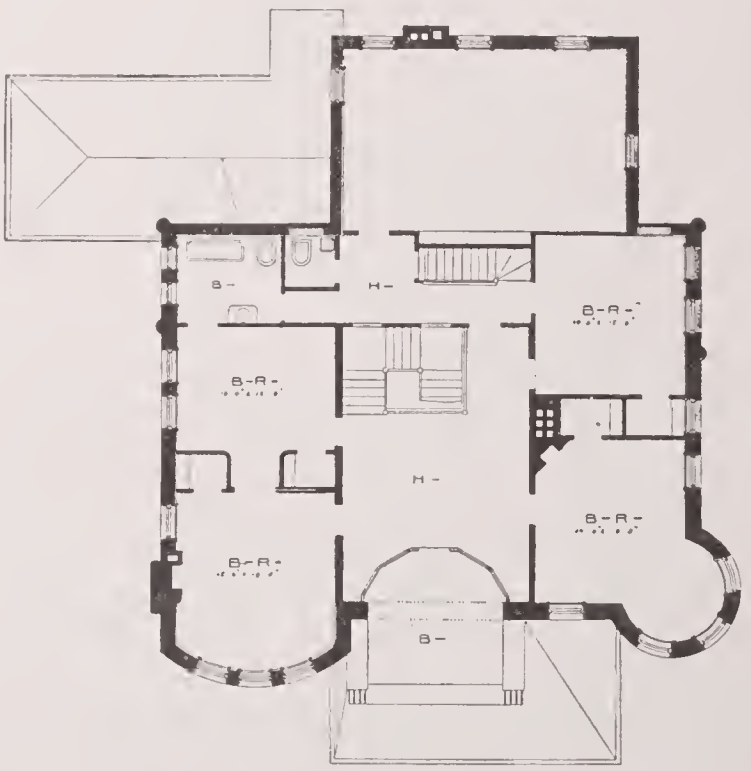
Model K.

A house of simple classic design, of stained shingles, inexpensive, and complete in every particular, practically and esthetically. The living room extends the whole length of the house with beamed ceiling, and ornamented with an exquisite fireplace. The angle bays in the upper front rooms give a unique and beautiful touch to the structure. Cost of construction, $4,000.

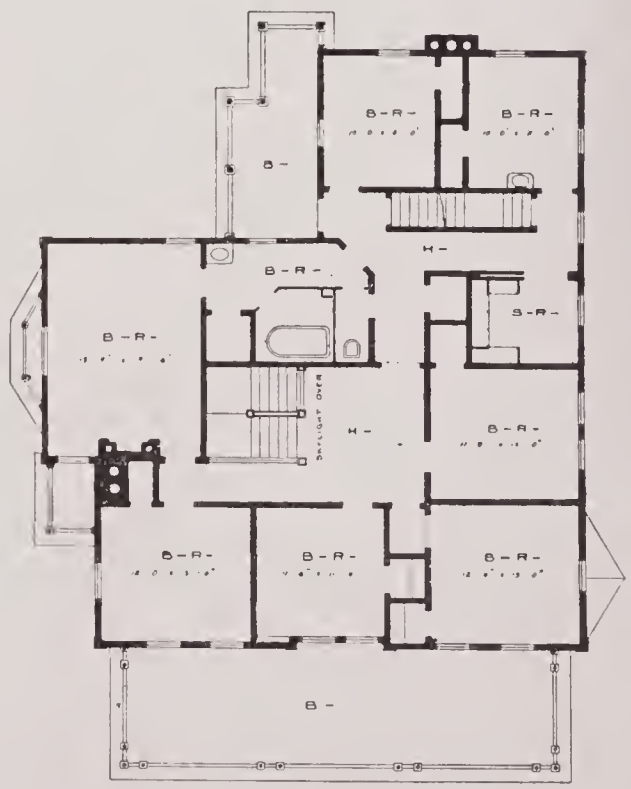
Model L.

Is a narrow frame building with stained shingles, the main exterior feature being the deep secluded porch. Cost of construction, $4,000.

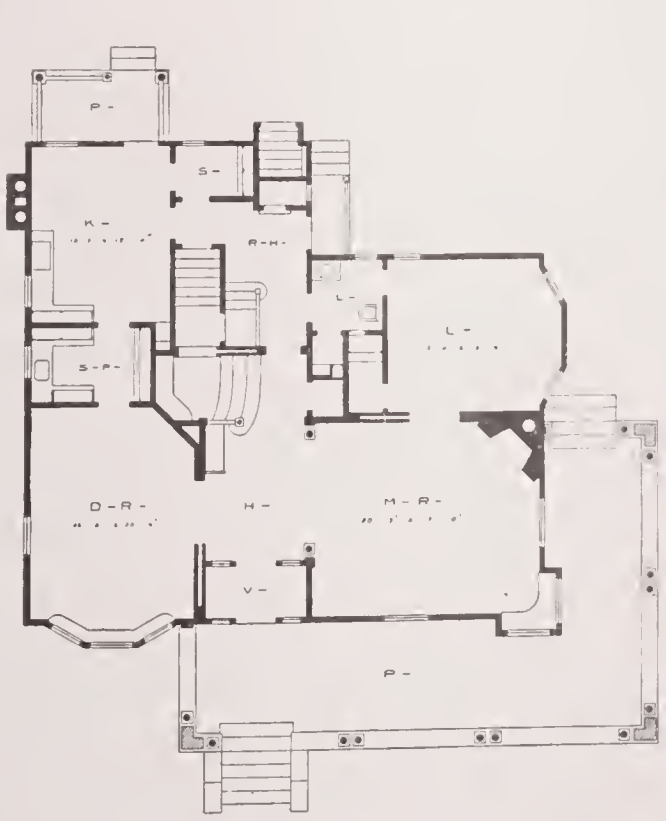
MODEL A.

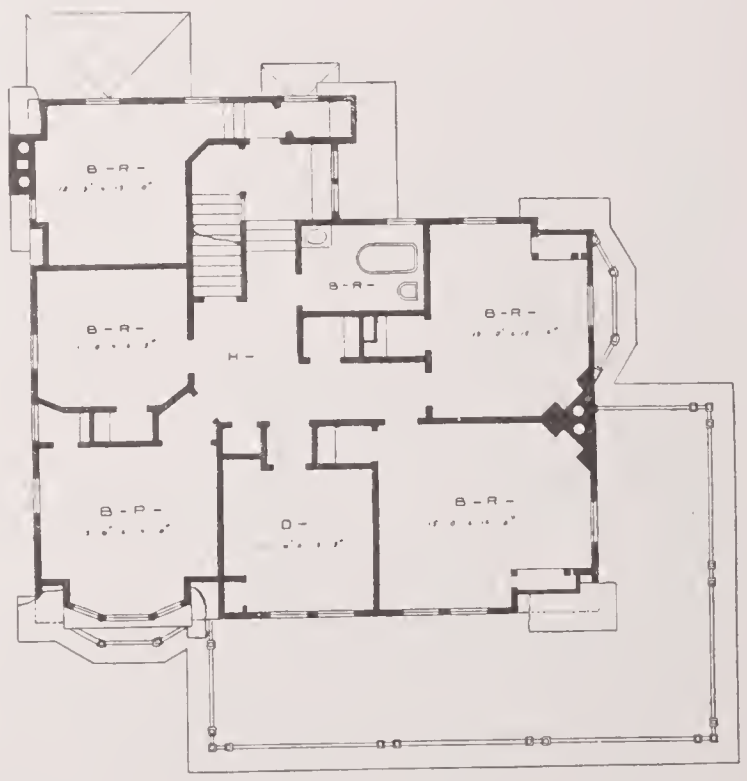


MODEL B.

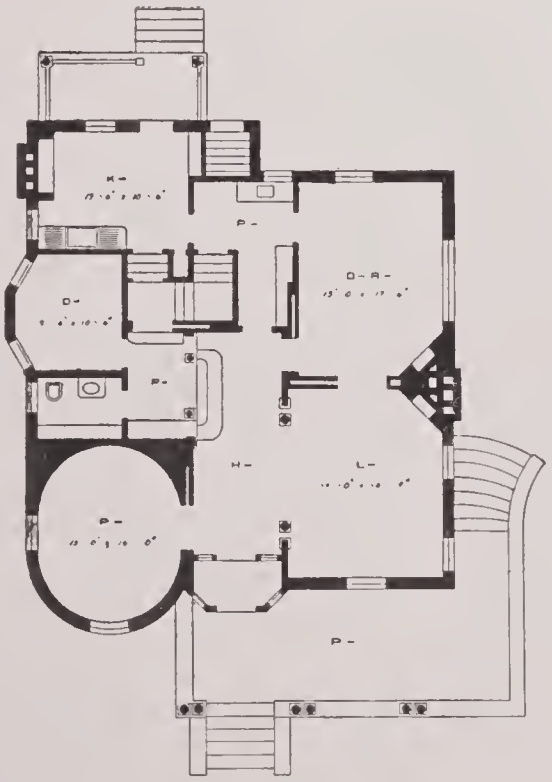


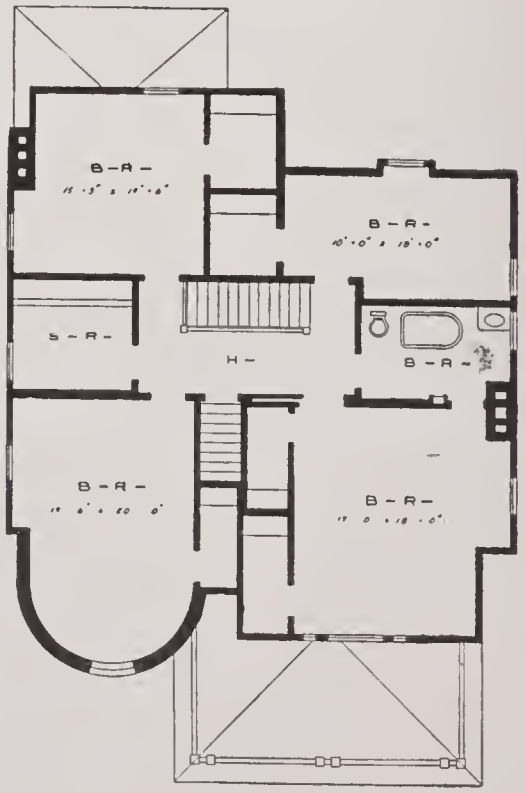
MODEL C.





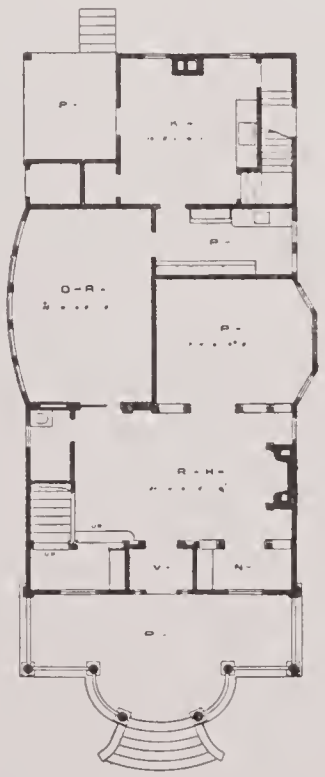
MODEL D.

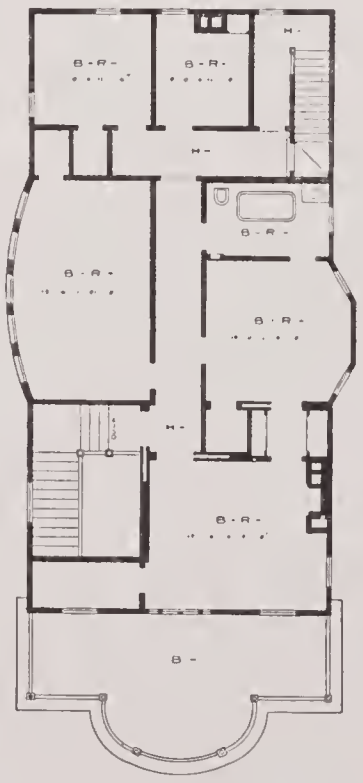




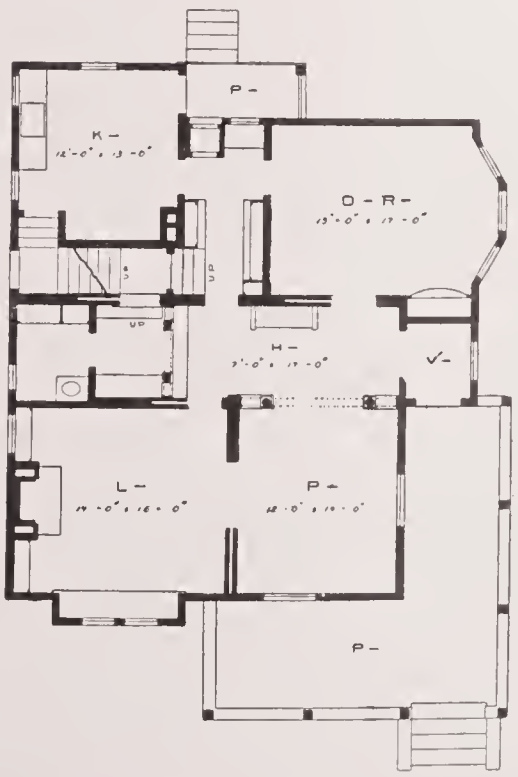
MODEL E.

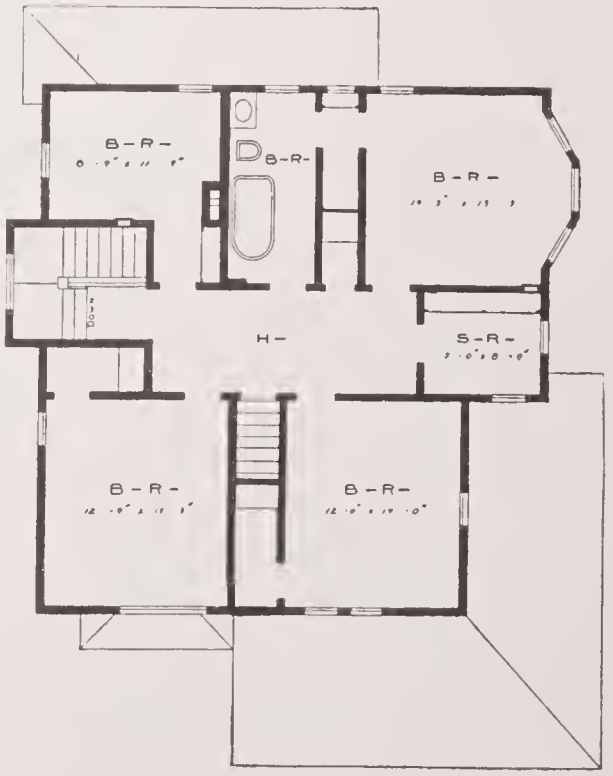
MODEL F.





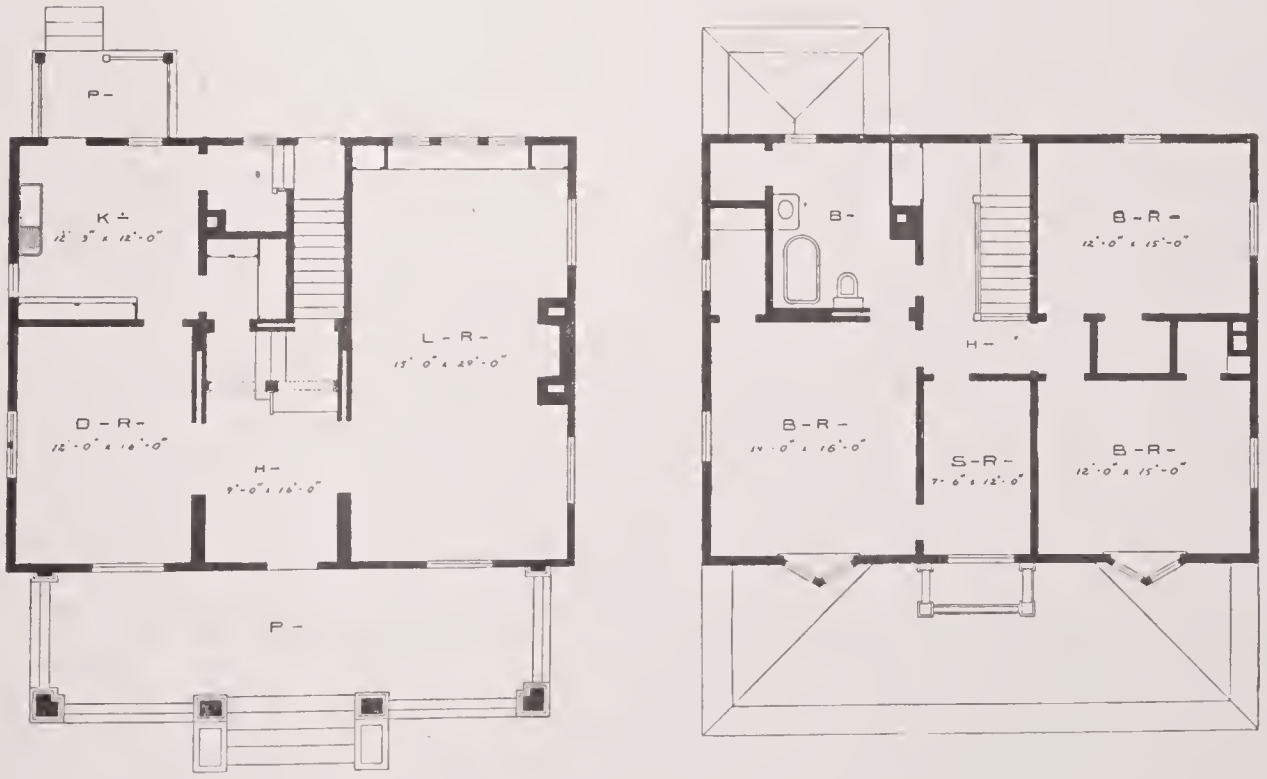
MODEL G.



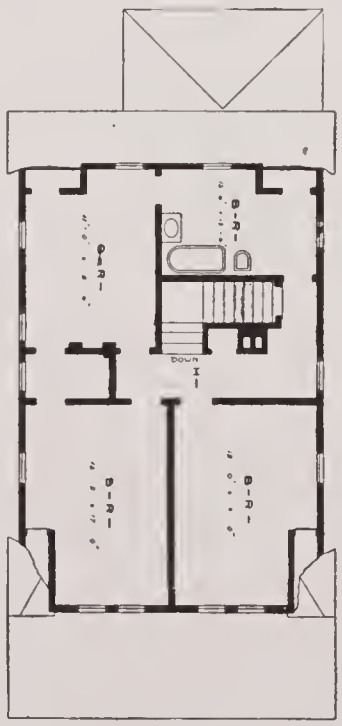


MODEL H.

MODEL K.


P –
K –
12' 3" x 12'-0"
L – R –
15' 0" x 20'-0"
D – R –
12'-0" x 10'-0"
H –
9'-0" x 16'-0"
P –
B –
B – R –
12'-0" x 15'-0"
H –
B – R –
14'-0" x 16'-0"
S – R –
7'-0" x 12'-0"
B – R –
12'-0" x 15'-0"

MODEL L.



THE LAWS OF ETIQUETTE

A Compendium of

The Rules and Habits of Polite Society.

"God may forgive sins, but awkwardness has no forgiveness in heaven or earth."—*Hawthorne.*

On manners, refinement, good breeding, and even the forms of Etiquette, we are forever talking. We judge our neighbors severely by the breach of written or traditional laws, and choose our society, and even our friends, by the touchstone of courtesy. The importance, therefore, of a thoroughly systematized code of manners, in this day of rapidly widening circles of society, can scarcely be overestimated. Men are continually rising from the workshop to that position of prominence which great wealth, in this country particularly, invariably insures. A few words as to the value of good manners may not be out of place, since it is too often the habit of those who have most need of them to undervalue their importance.

The true spirit of good manners is very closely allied to that of good morals. No stronger proof of this assertion is required than the fact that the Messiah himself, in His great moral teachings, so frequently touches upon mere manners. He teaches that modesty is the true spirit of decent behavior, and openly rebukes the forward manner of His followers in taking the upper seats at banquets and the highest seats in the synagogues. In condemning the habits of the Pharisees, it was not their scrupulous cleanliness that He objected to, but their attaching too much importance to mere form. As to the philosophers, although they were seldom distinguished for fine manners themselves, they did not fail to teach the importance of them to others. Socrates and Aristotle have left behind them a series of ethics that might easily be turned into a "Guide to the Complete Gentleman;" and Lord Bacon has written an essay on manners, in which he reminds us that a stone must be of very high value to do without a setting. Johnson doubtless considered himself one of these unset gems when he made such a speech as "Sir, you are a fool," and unfortunately Johnson has too many imitators among those of greatly inferior value.

The motive in cultivating good manners has too often been misrepresented by writers upon this subject. Chesterfield states the motive for politeness to be a desire to shine or to raise one's self into a society supposed to be better than one's own. It is unnecessary to state that Lord Chesterfield's good manners, fine as they appear, have not the ring of the true metal about them. Another and very excellent definition of Etiquette is: "A shield against the intrusion of the impertinent, the improper and the vulgar." But a man's best and only right motive in the cultivation of good manners should be to make himself better than he is, to render himself agreeable to every one with whom he has to do, and to improve, if necessary, the society in which he is placed. With these objects in view, it is plainly as much a moral duty to cultivate one's manners as one's mind, and no one can deny that a man is a better citizen for being a gentleman in the sense that true courtesy makes the gentleman.

The Art of Conversation.

THE art of expressing one's thoughts in clear, simple, elegant English is one of the first to be attained by those who would mix in good society. You must talk, and talk fairly well, if you would not altogether fail of producing some kind of impression upon society. To have something good to say, and to say it in the best possible manner, is to ensure success and admiration.

The first thing necessary for the attainment of this valuable accomplishment is a good education. An acquaintance with the current literature of the day is absolutely essential to a good talker. A perfect familiarity with the English language, its grammar, pronunciation, etc., is indispensable. Those who have to contend with a lack of early advantages in this respect can supply the deficiency by private study, and close observance wherever good English is spoken. Above all should they avoid associating with those who express themselves incorrectly and vulgarly.

Nothing is so infectious as a bad accent or incorrect form of speech.

All affectations of foreign accent, mannerisms, exaggerations and slang are detestable.

Equally to be avoided are inaccuracies of expression, hesitation, and undue use of French or other foreign words, and anything approaching to flippancy, coarseness, triviality or prevarication.

The voice should never be loud, no gesticulation should accompany the speech, and the features should be under strict control. Nothing is more ill-bred than a half-opened mouth, a vacant stare, a wandering eye or a smile ready to break into a laugh at any moment. Absolute suppression of emotion, whether of anger, laughter, mortification or disappointment, is one of the most certain marks of good-breeding.

Next to unexceptionable grammar, correct elocution, and a frank, easy bearing, it is necessary to be genial. If you cannot be animated, sympathetic and cheerful, do not go into society. Dull and stupid people are but so many clogs to the machinery of social life.

The *matter* of conversation is as important as the *manner*. Tact and good feeling will, in people of sound sense, indicate the shoals and quicksands to be avoided in conversation, but for safety's sake it will be best to enumerate a few of them.

Complimentary speeches should be avoided, unless, indeed, so delicately put as to be scarcely discernible. Flattery is suggestive of snobbery, particularly if it be paid to people of great wealth and high position. It induces disgust on the part of the receiver, and insincerity on that of the giver.

The habit of "fishing" for compliments is notably vulgar, and it is one in which a certain class of vain young people are very apt to indulge, especially among themselves in private. It indicates vanity in the angler and begets contempt on the part of the one who from interested motives nibbles gently at the bait.

All "slang" is vulgar. This fact cannot be too forcibly impressed upon the minds of the young people of this day, as the alarming prevalence of slangy conversational phrases is enough to cause our decorous forefathers and mothers to rise in their graves.

Many of the daughters of our most wealthy and influential citizens have an idea that their position will excuse or gloss the vulgarity of a "cant" phrase now and then. Nothing was ever more erroneous. No position, however high, can excuse the vulgarity of this practice, and it is a grand mistake also to imagine slang to be a substitute for wit. I refer particularly to this habit among young ladies, as it is more reprehensible in them than in the opposite sex, although it indicates bad breeding on their part as well.

Scandal should be avoided above all things. It is a sin against morality as well as good taste.

Punning is a most objectionable habit in society. An inveterate punster is an intolerable bore, and unless a pun amounts to a positive wittlcism it should never be propounded in company.

Long arguments should be avoided in general company. They become tiresome to the hearers. Always endeavor to change the subject after it has continued a reasonable length of time.

Religion and politics are two subjects to be avoided in general conversation. People usually have strong prejudices on both these points, and it is a rule of good breeding to respect the prejudices of those about you.

Never interrupt the speech of another. This is an unpardonable sin against good breeding.

A good listener is more to be desired than a good conversationalist. In order to be a good listener you must appear to be interested, answer appropriately, briefly and to the point, and give your companion generally the impression that you are in perfect sympathy with, and highly entertained by, what he is saying.

Avoid pedantic displays of learning.

All topics specially interesting to gentlemen, such as the farm and business matters generally, should be excluded in general society.

The expression of immature opinions is always in bad taste. Persons, young or old, should not attempt to criticise books or art unless positively certain that their knowledge of the subject is sufficient to justify the criticism.

Be very careful of introducing long-winded anecdote into the conversation. Nothing is more awkward than to find an array of bored faces when one is not more than half through a long story.

Repartee should be indulged in only moderately. Otherwise it may degenerate into flippancy, a habit much to be condemned in a certain class of young ladies who think themselves unusually clever, or, as our American word goes, "smart."

In using titles, such as "General," "Doctor," etc., you must always append the surname if you are a stranger or any other than a most intimate friend. For example, you should say, "What did you observe, Doctor Gray?" not, "What did you observe, Doctor?" Names should be used as little as possible, and never familiarly. Few solecisms give greater offense than a liberty taken with a name.

In addressing a person of title in England, "My Lord" and "My Lady" are seldom used except by servants. The Prince of Wales may be addressed as "Sir," and the Queen as "Madame." A Frenchman, however, whatever his rank, is addressed as "Monsieur," and a Frenchwoman, whether

duchess or dressmaker, as "Madame." It would be as ill-bred to omit to say Monsieur, Mein Herr, and Signor, in France, Germany and Italy, respectively, as it would to say, Sir, Ma'am and Miss, as the servants do in this country.

The great secret of talking well is to adapt your conversation to your company as skillfully as may be.

People take more interest in their own affairs than in anything else which you can name. A wise host or hostess will, then, lead a mother to talk of her children, an author of his book, an artist of his picture, etc. Having furnished the topic, you have but to listen, and acquire a reputation for being amiable, agreeable, intelligent and well-bred.

If you would not be unpopular, do not always be witty, no matter what your natural abilities may be in that line. People do not like to be always outshone.

Do not too officiously supply a word or phrase if a speaker hesitate for a moment; he will think of the one he wants or supply another in good time.

Never correct a fault in pronunciation or in facts, in company or in private, if you wish to retain a friend.

Avoid such colloquialisms as "says I," "you know," and other senseless repetitions that might be mentioned. Never speak of a person as "a party," nor refer to absent persons as "he" or "she." Give the name of the lady or gentleman referred to.

In telling a joke, do not laugh yourself before the point is reached. If the joke be original, do not laugh at all.

In *téte-à-téte* conversation it is ill-bred to drop the voice to a whisper.

Egotism is always in bad taste. Allow others the privilege of proclaiming your merits.

Never speak of personal or private matters in general company.

Avoid as much as possible beginning a conversation with stale commonplaces, such as, "It is a fine day," "The weather is charming," etc.

Do not speak slightingly of the city or neighborhood in which you may be visiting. By offending the prejudices of those about you, you render yourself extremely disagreeable.

Avoid all excitability and dogmatism in conversation. Nothing is more annoying than to converse with an arrogant, loud-speaking person.

Always yield the point in conversation if you find the argument is likely to become violent.

Avoid lavishing praise on the members of your own family. It is almost as bad as praising yourself.

It is exceedingly bad taste to parade the fact that you have travelled in foreign countries, or that you are acquainted with distinguished or wealthy people, that you have been to college or that your family is distinguished for gentility and blue blood.

In speaking of husband or wife, do not use the surname alone. To say "I was telling Brown," is extremely vulgar. Always prefix the Mr.

Always endeavor to contribute your quota to the general conversation. It is as much your duty to entertain as to be entertained. Bashfulness is as much to be avoided as too much assurance.

Never ask questions of a personal nature, such as what a certain article cost, or why so-and-so did not go to the opera. They are decidedly impertinent.

Look at the person with whom you are conversing, but do not stare.

Avoid loud laughter in society.

If you carry on the thread of a conversation after the entrance of a visitor, you should always recapitulate what has been said before his or her arrival.

Remember that "an excellent thing in woman is a voice low but sweet," and cultivate a distinct but subdued tone.

Emerson says: "You cannot have one well-bred man without a whole society of such." Elsewhere he says: "It makes no difference, in looking back five years, how you have dieted or dressed; but it counts much whether we have had good companions in that time—almost as much as what we have been doing."

Rules of Presentation

AT THE

White House, at the English Court and the Papal Court.

THERE is very little ceremony about a presentation to the Chief Executive of the United States. On public occasions you will simply be presented by the master of ceremonies, while at any other time, by sending in your card, you will secure the desired interview.

THE COURT OF ENGLAND.

The wives and daughters of the clergy, of military and naval officers, of physicians and barristers, can be presented. The wives and daughters of general practitioners, and of solicitors, of merchants, and of all business men, with the exception of bankers, are not entitled to be presented. No divorced woman can be presented to the Queen.

A lady must be presented by another lady, and a gentleman by a gentleman. In seeking a lady for a sponsor, it should be remembered that, the higher her rank and social standing, the better for the one presented.

Any lady who has once been presented at court can present others.

All wraps are left in the carriage before entering the palace.

As her name is called by the Lord Chamberlain the lady advances toward the throne. If a peeress, the Queen kisses her forehead; if a commoner, she kisses the Queen's hand.

On leaving the royal presence, you must back out.

A stranger must have the credential of the American Ambassador in order to be presented at the English court.

THE PAPAL COURT.

Foreigners obtain access to the Pope through their Ambassador.

Ladies very seldom have private audience of the Pope.

The lady's toilette, be the audience public or private, must always consist of black dress, long black veil and white gloves.

When the Pope enters the gallery where those to be presented are collected, they fall on their knees, and do not rise until bidden.

Gentlemen kneel on one knee, and do not rise until desired to do so.

The proper form of address in English is "Your Holiness."

It is best to consult some local authority upon the etiquette of many petty courts, as the rules are frequently much complicated.

The lady must always be in full dress, and the gentleman in black clothes, white cravat and gloves.

Home Etiquette.

CHILDREN should speak respectfully to parents and obey the slightest command immediately.

Parents should address a child in a mild, pleasant, but firm manner. Issue no orders but those of a just and reasonable nature, and then see that they are obeyed.

Govern with justice and kindness and home will be indeed a little heaven on earth.

THE LADY'S TOILET

Cleanliness is the outward sign of inward purity. Cleanliness is health, and health is beauty.

The first business of the dressing-room is the bath, and this should be a complete bath, and not simply a hasty washing of the face. It is not to be supposed that a lady washes to become clean, but simply to remain clean. A bathing of the entire body at least once a day is essential to health. It is not necessary to have a bath tub for this purpose, but merely an ordinary basin of tepid water, with soap, sponge and clean towels.

The whole body may be quickly sponged off, or the sponge may be dispensed with and the hands alone used to convey the water to the body, after which dry the body thoroughly with a soft towel, and then use a coarse Turkish towel vigorously until the skin is red from the friction. In lieu of the coarse towel, a liberal use of the flesh-brush may be made, but either one or both must be regularly used, as nothing tends to keep the complexion in good condition so much as the daily use of the flesh-brush.

Persons living in cities where Turkish baths are established will find a bath of this kind once a week very beneficial to their health. Oftener than this the baths would be apt to have an enervating effect. But an occasional Turkish bath is the most effectual cleanser in the world.

Early rising contributes not only to the preservation of health, but the proper condition of the mental faculties. Too much sleep induces minor ailments both of the body and mind. Fresh air, moderate exercise and good ventilation, together with the daily bath, are the great health-preservers.

THE TEETH.

Scrupulous care is necessary to the preservation of the teeth. The teeth should be carefully brushed, not only every night and morning, but after every meal.

The best and only needful tooth powder is a simple preparation of chalk. The numerous dentifrices advertised are most of them worthless and many of them positively injurious.

A good tooth-brush, not too stiff, is necessary. Very hot and very cold things and a great deal of sweets are injurious to the teeth.

Upon the first indication of decay, a good dentist should be consulted; cheap dentistry is bad economy.

THE BREATH.

It goes without saying that a sweet breath is one of the essentials of happiness, and should therefore be carefully looked to. The principal causes of a bad breath are a disordered stomach, decaying teeth and catarrhal affections. In the latter case a good specialist should be consulted. When it arises from digestive difficulty, the diet should be changed to one better suited to the system.

The eating of anything that will give an unpleasant odor to the breath is to be avoided.

THE NAILS.

Much care and attention is given to the nails by those who are particular in matters of the toilet. Of late years the care of the nails has been elevated to a profession, and persons calling themselves "manicures" make it their business to dress the nails of ladies of fashion.

It is sufficient, however, if you keep the nails carefully and evenly trimmed—great care, however, being required to preserve the correct shape, and keep all superfluous skin entirely removed. Plenty of warm water, Windsor soap and a nail-brush are all that is required to keep the hands in good condition.

THE HAIR.

The hair should be regularly brushed, morning and evening, with a clean hair-brush. It is important that the brushing be frequent; it is also important that the brush be quite clean.

The brush should be washed every day with hot water and soda, in order to preserve a glossy appearance to the hair. Occasionally the hair may be cleansed with a mixture of glycerine and lime juice. Pomades and oil should be carefully avoided.

Never attempt to change the color of your hair by means of dyes and fluids. Your own hair, as nature colored it, is apt to be the only shade that will correspond with your eyes, eyebrows and complexion. Practices of this kind are much to be condemned. They indicate a senseless desire for fashion, and an equally unladylike desire to attract attention. The use of hair dyes, false hair, etc., is almost as much to be condemned as painted cheeks and pencilled brows.

THE COMPLEXION.

As to the art of obtaining a good complexion, all the recipes in the world can have but little effect compared with the excellence of early rising, regular habits, careful diet and absolute cleanliness. The various lotions recommended by Madame Rachel, and others of her ilk, the milk bath, pearl powders and washes of every kind, would never be needed if ladies were always careful to take plenty of exercise in the open air, wear broad-brimmed hats in the sun and veils in the wind.

The face should never be washed when heated from exercise. Wipe the perspiration from the skin and wait until it is sufficiently cool before you bathe even in warm water. Rain-water is the best for bathing purposes. If an eruption break out on the skin, consult a physician.

DRESS

IN dress, as in other things, society has passed under that wave of new impulse which has so much changed the appearance of our houses, the arrangement of our interiors, and even the texture and fashion of manufactures.

That which we wore placidly, and even with a little complaisance and sense of superior good taste, twenty years ago, would fill us with alarm and horror now. The change which has taken place is more than a change of fashion: it is a change of principle. The differences of shape and form, which vary from one three-months to another, are but fluctuations of the standard, but the alteration which we have recently arrived at is fundamental. It has affected not only the cut, but the color, the fabric, the kind of our garments, and has relieved the severity of rule and left such a margin for individual fancy as was not dreamed of twenty years ago.

STYLISH AND NEAT.

The change is chiefly visible in feminine apparel. Where are now the fine full tones of blue and of green, the bright pinks, the orange yellow, in which we once flaunted in happy ignorance, knowing no better and believing, with some show of reason, that we were imitating the tints of nature, the color of the flowers and of the birds? Where are now our apple-green gowns and our silk shawls "shot" with blue and yellow?

The world has paled since those favored days; even the vaporous tarlatan of the ball-room has sunk into softer tints, and in daylight no color affronts the eye of heaven that is not neutral.

The result of the new impulse is to make Art the guide in matters of dress; but with all due respect to that divine Priestess of the Beautiful, we cannot but believe that she would prove a dangerous guide in a matter that involves so many practical features and so many individual peculiarities.

Whatever painters may think, there are many costumes effective in a picture which would not be at all beautiful upon a living woman, and indiscriminate following of the fancies of Art would not be much less fatal than the usual indiscriminate following of fashion.

No dress can be good which is not useful and into which the elements of individuality do not enter. The garments adapted for the slim and the tall and the graceful will never, however admirable in themselves, agree with the dowdy, the dumpy or the ordinary.

Fashion, indeed, throughout all its vagaries, has this one principle of humanity in it, that it is almost always designed to help those who want help, to cover deficiencies of nature, to conceal the evils wrought by time, and to make those look their best to whom no special charms have been given.

Beautiful persons are free of all such bonds. Whatever they wear becomes them—they confer grace, they do not receive it; therefore fashion is immaterial to them. The time has never been when they were not allowed to flout it at their will. What saying is more general than, "She can wear anything?" It is said in admiration, in enthusiasm, in envy, and in spite, but still it is said constantly of these favorites of Nature. And youth, even when not beautiful, has, to a certain extent, the same privilege.

As a matter of fact, dress is by no means an unimportant item in human well-being, and it may fairly claim to be considered in the light of a fine art.

To dress well requires something more than a full purse and a pretty figure. It requires taste, good sense and refinement.

A woman of taste and good sense will neither make dress her first nor her last object in life. She will remember that it is her duty to her husband and to society to always appear well dressed.

Dress, to be in perfect taste, need not be costly, and no woman of right feeling will adorn her person at the expense of her husband's comfort and her children's education.

The toilet of a well-dressed woman will be as well-chosen at the breakfast-table as at ball or reception.

If she loves bright colors and can wear them with impunity, she will combine them as harmoniously as an artist does his colors. If she is young her dress will be beautiful; if she is old she will not affect simplicity.

GENERAL SUGGESTIONS ON DRESS.

The golden rule in dress is to avoid extremes.

Always follow rather than lead the prevailing fashion in dress.

Do not be so original in dress as to be peculiar, and do not affect fashions that are radically unbecoming to you.

Ladies who are neither very young nor very striking should wear quiet colors.

It is not necessary to be rich in order to dress well. A little care in the choice and arrangement of materials is all that is necessary.

Be sure that your dressmaker is a woman of taste and perfectly mistress of her art. Do not trust to any ordinary sewing-woman who may know nothing about harmony of colors and grace of outlines.

A faultless morning toilet in summer should consist of the freshest of muslins, white or of delicate tints, with a tasteful arrangement of fresh, new ribbons, and plain linen collar spotlessly laundered. These, however, are better suited to young unmarried or married ladies.

Ladies of more advanced years may wear dark silks in the morning, but all jewelry, hair ornaments and fine laces should be eschewed for morning wear.

AN OVER-DRESSED WOMAN.

Street costumes should always be quiet in tone. Fine woolen materials, in some shade of brown, gray, olive, dark green or dark blue, make the most suitable and natty street costumes. Any lady of taste who has once seen herself in some such costume, well-made and fitting to perfection, with hat and gloves to correspond, will never sigh for anything richer or more expensive for street wear.

A lady of refinement will never wear a very expensive toilet of velvet or of silk or brocade of any light and conspicuous shade upon the street. Such costumes are exclusively for the carriage, for calling or for receptions.

Much jewelry is out of place in the daytime, whether on the street or for indoor wear. It is particularly out of place in church. A handsome brooch and small, unpretending ear-rings are the only jewelry permissible in the daytime. Heavy bracelets, necklaces, a profusion of diamonds and finger-rings should be reserved for evening wear.

English ladies are much more strict in this matter than American ladies. According to their code it is never allowable to wear diamonds, pearls and other precious stones in the daytime. Custom, however, supports the wearing of a pair of solitaires in the ears at any time and in any place in America.

Young ladies should not wear much jewelry at any time.

Mere costliness in jewelry is not always the best test of value. A rare intaglio or finely-wrought cameo, being a work of art, is a more desirable possession than a large diamond which any one might purchase.

A stone of exquisite loveliness and by no means common is the opal.

Ball dresses may be composed of any rich materials, either silk or satin, cashmeres, velvets or diaphanous materials, but they are usually of some light shade. It is not customary in America to go *decolettè* to balls. In England court etiquette prescribes bare neck and arms for full-dress.

Dinner and reception dresses should be as rich and elegant as you can afford. Natural flowers are appropriate for dinners; artificial ones for balls.

In dressing the hair, be careful not to adhere too closely to the prevailing fashion if it is not becoming to you. Considerable latitude is always allowed in this respect.

A WELL-DRESSED MAN.

The dressing of the neck affords much opportunity for the display of taste. If the shoulders are broad, care must be taken not to enlarge the effect by too much trimming.

Short persons should be careful not to diminish their height by numerous flounces, horizontal stripes or much trimming of any description. Stripes (perpendicular) have a tendency to increase the height and should therefore be worn by short and avoided by tall people.

Every lady will pay especial attention to her gloves and shoes. Nothing more emphatically marks the lady than to be well shod and immaculately gloved. Both gloves and shoes should fit closely, but not be too tight. For evening wear the gloves cannot be too light, nor for street wear too dark. Slippers should never be worn upon the street. Black boots of soft French kid are the most genteel for all occasions except parties and balls.

It is needless to say that a refined lady will give as much attention to the quality and finish of those garments which are not visible as to those which are.

Dark shades are best adapted to stout people.

Light shades and delicate tints are suited to the thin blonde type.

The complexion, however, must always decide the question of color.

THE BRUNETTE'S COLORS.

Scarlet, orange and yellow are the brunette's colors *par excellence*, but she also looks well in glossy black and white. The tasteful *brune* will always manage to have a scarlet blossom deftly twisted in her dark hair, or an orange knot looped at her throat. Dark green also sets off a dark complexion.

Dark green and red will improve a sallow complexion, while those rich, creamy complexions one sees occasionally are set off by a reflection of yellow.

THE BLONDE'S COLORS.

The golden-haired blonde is charming in a setting of dark violet which may shade off into lilac or blue. Either light or dark shades of green look well with the ruddy face of the blonde, but the delicate, shell-pink complexion and fair hair of the very light blonde are exquisite in a dress of pale Nile green.

The blonde may also wear all the neutral colors, such as gray, drab, fawn, and the russets and browns as well; in fact, there is very little except bright reds that blondes cannot wear.

CONTRAST AND HARMONY IN COLORS.

Ladies should be particularly careful in selecting contrasting colors for the same costume that they will harmonize as well; else the beauty of the garment is utterly destroyed. We have often heard it said, "The color of that feather absolutely kills the rest of the dress." This is when the wearer knows nothing of the rules which govern the harmony of colors, and for the benefit of such we affix the following brief table of harmonizing colors:

Black and orange; black and white; black and maize; black and scarlet; black and lilac; black and pink; black and slate color; black and buff; black, white, yellow and crimson; black, orange, blue and yellow.

Green and gold; green and yellow; green and orange; green and crimson; green, yellow and scarlet; green, yellow and crimson.

Blue and gold; blue and orange; blue and salmon color; blue and drab; blue and stone color; blue and white; blue and gray; blue and straw color; blue and maize; blue and chestnut; blue and brown; blue and black.

Crimson harmonizes with purple, with gold, with orange, with maize, with black and with drab.

Lilac harmonizes with gold, with maize, with cherry, with scarlet, with crimson.

Purple harmonizes with gold, with orange and with maize.

Yellow harmonizes with red, with brown, with chestnut, with violet, with crimson and with black.

Red harmonizes with gold, with green and orange, with black and yellow, with white or gray, and with yellow, black and white.

PERFUMERY

IN the use of perfumery ladies must be extremely moderate.

Perfumes should properly be used only in the evening, and then they should be of the most *recherché* kind.

Many ladies have a special perfumery, such as violet, or white rose, which they use invariably in a very delicate manner, so that it becomes individualized, and their friends come to associate them, insensibly, with the flower whose perfume they exhale.

THE DUDE.

THE GENTLEMAN'S DRESSING-ROOM.

THE first requisite of the male toilet is, of course, the bath, and this should be as bracing as the constitution will allow.

The cold-water bath the year round is the best where the constitution will endure it, but there are very few physiques, especially among Americans, that will admit of it.

A sponge bath once a day, with a liberal use of the flesh-brush and a coarse huckaback towel, will answer every purpose.

A sun and air bath after the water bath is an excellent thing, and is frequently recommended by physicians. A fresh-water bath should always be taken after bathing in the sea.

The teeth should be cleaned at least twice a day, and smokers should rinse the mouth well after smoking.

Keep the nails clean and short. Long nails are vulgar.

The beard should be kept well-trimmed and well-combed, and plenty of warm water and soap are necessary to keep them thoroughly clean.

Do not indulge in long hair, thinking it gives you an artistic look. Painters and poets of eminence may be excused for wearing flowing locks, but in men of less degree it is a ridiculous affectation.

The mustache should be neat and not over-large. A mustache *à l'Empereur* is absurd and smacks of the fop.

The dress of a gentleman should be perfectly unobtrusive, in entire harmony and becoming.

Above all things should he avoid the extremes of fashion, such as wearing his coat extremely or absurdly short. When fashion dictates tight pantaloons let him not have his so tight that he cannot bend in them; nor, if broad ones be the mode, shall he have them so wide as to resemble his wife's gown.

Loud patterns in cloth and glittering trinkets on the watch-chain are indications rather of the gambler than the gentleman.

A gentleman will have his clothes made by a good tailor, easy of fit and excellent in quality, but subdued and quiet in tone, and neither too much in nor too far behind the prevailing style. Bulwer says, "A gentleman's coat should not fit too well," and he is right, as no self-respecting man wants to be taken for a tailor's dummy.

The regulation dress for evening wear—but it should never be worn before sundown, no matter how ceremonious the occasion—is black. swallow-tail coat, black trowsers, black vest, cut low to show the shirt-front, thin patent-leather boots, a white cravat, and light kid gloves.

A gentleman should wear no jewelry but such as has a use, except it may be a handsome ring. His sleeve-buttons and collar-studs should be of plain gold, but genuine. False jewelry is vulgar, and elaborate ornamentation is foppish. It is more genteel even to dispense with a gold watch-chain and wear only a plain black guard.

If a ring is worn, good taste would suggest that it be a fine antique intaglio rather than an expensive diamond.

ETIQUETTE OF Engagements and Marriage.

TO lay down a set of rules for the regulation of courtship would prove as hopeless a task as Mrs. Partington's attempt to mop up the Atlantic Ocean. The best and only reliable counsellors at this crisis of a young man's or young woman's life are feeling and good sense.

No wise man will intrude himself upon the presence of a lady, nor risk being regarded as a bore, neither will a modest woman receive the attentions of a man too eagerly, however agreeably she may regard them.

A woman of tact can let a gentleman see that his attentions are not disagreeable to her without actually encouraging him. It is equally possible for a man to be quite *devoté* without becoming a lover.

Unless a woman is a downright coquette, a man of sense ought to be able to judge whether his proposal will be favorably received or not. It is exceedingly dishonorable for either a man or a woman to trifle with the affections of the other.

THE PROPOSAL.

The manner of making the offer of marriage must always be regulated by circumstances. If the case be a genuine love affair, the time and place and language of the proposal are apt to be the result of chance and impulse, rather than of premeditation on the part of the lover.

If the gentleman be ready of speech and attractive in person, it is best for him to plead his cause in *persona propria*, and receive his acceptance with the added sweetness of smile and blush and love-lit glance, or his rejection, if such it must be, with the tender, saving grace of sadly-murmured regrets.

If the suitor, however, be of a nervous temperament, or "fears his cause too much" to risk a personal interview, he should make his proposal in writing.

In making his offer of marriage, however, a man should always bear in mind that he is a petitioner, that he is begging of the woman to grant him her liberty, her obedience, her very life, and he should comport himself with suitable humility and accept her acquiescence with becoming gratitude.

DEPORTMENT OF THE ENGAGED.

UPON the conduct of both parties during the preparatory stage of the engagement depends in a great measure the probability of its being carried to the desired consummation of marriage. The gentleman in particular should be careful to observe the following directions:

He should be tender and devoted to his bride-elect.

He should treat her family with the greatest respect.

He should particularly guard against acting as though he were already a member of the family by taking liberties that he is not justified in taking.

He should be always on the alert to do any member of his *fiancée's* family a service; in fact he should play the devoted friend to his betrothed and all her relatives.

He should conform to all the rules of the household, being punctual at meals, never intruding at unseemly hours; kind to the children and courteous toward the servants.

He should not compromise the reputation of his future wife by keeping her up until a late hour. His visits may be as frequent as he pleases, but should always be short. The custom of lovers staying until a late hour of the night is no longer permitted in genteel society.

He should be attentive and gallant toward other ladies, but not sufficiently so to excite the jealousy of his betrothed.

He should not monopolize her company in general society, but should always be accorded the first place as her escort by the lady, and should be watchful of all her wants.

He may send her few or many presents, as she seems disposed to accept them. If the lady or her family object to her receiving costly gifts he may keep her supplied with flowers, with books, and with sweetmeats if she have a taste for bon-bons.

An engagement is usually sealed by the wearing of a ring. If the accepted lover be wealthy a brilliant of rare value is the correct thing for the engagement ring, and should be worn upon the first finger of the left hand. If, however, his means are limited, a less expensive ring will answer the purpose.

In the matter of gifts, too, a sensible man will not give more than he can afford, nor run into debt in order to procure them.

The lady must be careful not to excite the jealousy of her lover by flirting with other men.

She must carefully avoid any undue familiarity and effectually check any attempt toward such on his part.

She should remember that nothing so soon disgusts a man with a woman as any indications of untidiness or uncleanliness on her part. She should therefore be exceedingly neat and clean in his presence, and have her dress always chosen with taste.

Let their conduct generally toward each other be such as to inspire confidence, and in case of a misunderstanding let her not hesitate to make the advance toward reconciliation.

THE WEDDING

IT is not usual for the lady to visit any but her intimate friends after the announcement of the engagement. She should, however, leave her visiting-card at the residence of her friends just previous to the sending of the invitations, which should be sent at least two weeks prior to the wedding.

The invitations should be engraved in a rich, heavy script, and should be of such shape as to fold in a long, narrow envelope, not square, for the latter shape is now somewhat out of date.

The quality and tint of the invitations, "At Home" and church cards should be uniform with the envelopes, as the slightest difference would spoil their beauty.

The invitations, the "At Home" cards and the church cards are all placed in one envelope, bearing the name only of the parties to whom sent. The full address is placed on the outside envelope.

Invitations should be delivered by the footman at the residence of the parties for whom intended. The footman, too, should always be in full livery. The invitation should be in this form:

Mr. & Mrs. Charles Corey
request your presence
at the marriage of their daughter,
Miss Clara,
to
Mr. Clarence Wilde,
Tuesday afternoon, Jan. 6, 19—
at 4 o'clock,
St. George's Church,
St. Louis.

If a reception be given at the residence of the bride's parents, a card to those whose presence is desired should be enclosed in the envelope with the invitation; thus:

Mr. & Mrs. Charles Corey,
At Home,
Tuesday afternoon, Jan. 6, 19—
from 4:30 until 10 o'clock,
2360 Olive St.

Or:

Reception,
from half after four until ten,
2360 Olive St.

It is quite customary at large weddings to issue usher or church cards, thus avoiding the crowd of curious sight-seers who cause much annoyance by filling all the best seats. This card should be small and engraved in script, with crest or monogram. In form:

St. George's Church,
Ceremony at four o'clock.

In case of the reception being given on the return of the bridal party the card should read:

Mr. & Mrs. Clarence Wilde,
At Home,
Tuesday mornings in January,
from 8 until 10,
2360 Olive St.

Should the bride's parents decide to give her a reception on her return to the city, the "At Home" card will contain the bride's name below her mother's; in all other respects the same as model given.

When the wedding is at the house, the form of invitation is same as at church, except that the number of residence is substituted for name of church.

For "At Home" weddings, combining ceremony and reception, the form is:

Mr. & Mrs. Charles Corey
request the pleasure of your
company at the
Wedding Reception of
Mr. & Mrs. Clarence Wilde,
Tuesday afternoon, Jan. 6, 19—
at half past four,
2360 Olive St.

NOTES OF CEREMONY AND FAMILIAR INVITATION.

THE form of the note is most frequently adopted by ladies, who in this way generally issue invitations to parties. It is, however, on many general occasions extremely useful, as in returning thanks for any courtesy shown, or when any misunderstanding has arisen between friends, in which case it tends to guard against personalities. It is a form useful, also, as being intermediate between the distant and the familiar styles, though it is not usually employed when the communication is of any length. Notes must be written in the third person throughout, any departure from this rule, either in allusion to the writer or to his correspondents, being a fault of the most glaring kind. It is necessary, also, to avoid the too frequent use of the personal pronouns, which may be effected by occasionally repeating the names of writer aud correspondent when the length of the note requires this expedient. The date and the address of the writer should always be at the foot of the note. The established forms for notes of invitation to dinner, to evening parties, etc., are given under the division of Etiquette. A note of invitation from an intimate friend may be appropriately written in whatever style the degree of mutual understanding between the parties may justify. The chief reason for introducing this class of letters is to point out that they should always be *definite*, however brief, and however freely written. The best guide in these cases is to consider for a moment the time and circumstances under which the letter will be received. How often has unnecessary trouble and doubt been caused by a note without date or even the day of the week, inviting the recipient to come and dine with the family *to-morrow!* Another infallible recipe for obscurity in this class of notes is to write on a Tuesday afternoon, for example, and write your friend to come *next Wednesday.*

An Invitation to a Bachelor Party.

Sept. 20th, 19—

MY DEAR ALF: My festive self and half-a-dozen other good fellows are going to devote a few hours on Thursday evening to the enjoyment of a few glasses of wine, a game of bridge, and so on. I hope you will make one, as we have not enjoyed "the feast of reason and flow of soul" in each other's company for some time past. Believe me, dear Alfred,

Yours ever,

HARRY HUNTER.

To Alfred Bellville, Esq.,
No. 19 Madison Av., N. Y.

A Lady to Her Friend in the City, Inviting Her to Spend a Month in the Country.

EDDINGTON, BUCKS CO., PA., June 4th, 19—

MY DEAR FRIEND: I need scarcely tell you that I always feel the greatest pleasure in your society, and am selfish enough on the present occasion to covet it for a month, or for a longer period, should it suit your convenience. If, therefore, you are not so wedded to the attractions of a city life as to be loth to leave them for a short time, I think you would gather some amusement, and also, perhaps, improve your health, by a sojourn in the country. Will you, then, do us the favor of making our rural retreat your temporary abode, assuring yourself that your presence will enliven our family circle, and be a source of real enjoyment to

Your sincere friend,

ELIZA HOOPER.

To Mrs. Letty Davidson, Fifth Av., N. Y.

Answer to the Same, Affirmatively.

FIFTH AVENUE, N. Y., June 5th, 19—

MY DEAR ELIZA: I have just received your kind letter inviting me to spend a short time at your pleasant home. Though I live so much in New York, I assure you that there are few who feel more delighted with the country than myself, and I could be well contented to make it my residence during a larger part of every year, and should certainly do so did the pursuits of Mr. Davidson allow us to live out of the city. However, my domestic duties are not at present of so pressing a nature as to force me to decline your friendly invitation, and Mr. Davidson, so far from offering any obstacle to my absence from home for a short time, has urged me to send you an affirmative answer, as he thinks that, in addition to the enjoyment which I cannot fail to experience in the society of yourself and family, I shall benefit my health by a change of air and scene. I therefore accept your kind invitation most cheerfully, I may add gratefully. And I am,

My dear Eliza,

Your ever affectionate friend,

LETTY DAVIDSON.

To Mrs. Eliza Hooper, Eddington, Pa.

An Invitation to a Water-Party.

August 10th, 19—

DEAR CHARLIE: Jack Halcoll, myself and four others are going down the bay in a six-oared boat next Wednesday. Now, you're a jolly fellow and a good steersman, so I hope you will give us your company and your services; indeed, we will take no excuse. We shall set out from my rooms at 7:30 p.m. without fail. Do not disappoint us.

Yours truly, in haste,

EDWARD NEVILLE.

To Charles Ellwood, Esq., Pine St., Philadelphia.

C·A·R·D·S

When, Where and How to Use Them.

TO a refined and cultivated person the visiting-card is indicative of the personal characteristics of the person whose name it bears.

Its quality should be of the finest; in color white (not cream), and in shape it should be long and narrow. Gilt bevel and colored designs are never used by refined society.

The visiting card of a married lady should be in size a little larger than that of "Miss," and engraved in pure, rich script:

Mrs. Charles Corey.
19 Olive St.

Or, with reception days:

Mrs. Charles Corey.
Tuesdays in May. 19 Olive St.

For young ladies the cards should be engraved in a lighter script than that of "Mrs." For the eldest daughter the last name only should be used:

Miss Corey.

With or without the address.

For other than the eldest daughter, the full name; as:

Miss Anne Corey.

Mother and daughters calling together, the engraving is on a card in size between the "Mr. and Mrs." and "Miss":

Mrs. Charles Corey.
Miss Corey.
119 Olive St.

Or:

Mrs. Charles Corey.
Misses Corey.
119 Olive St.

The form "Mr. and Mrs." is used only a short time after marriage. The engraving should be in bold, rich script:

Mr. & Mrs. Charles Corey.
119 Olive St.

On all formal occasions, married ladies should leave their husbands' cards with their own when calling.

The handsomest style of cards is that which is engraved, but it is permissible for persons to write their own cards if they can write prettily.

A gentleman's cards should be small, fine in texture, and of five or six ply, and always white in color. The "Mr." should be prefixed in every instance; as:

Mr. Charles Corey.
119 Olive St.

Or, with club address:

Mr. Charles Corey.
St. Louis Club.

A physician may have his professional title; as:

Dr. John Wells.
309 Madison Ave.

Or:

John Wells, M.D.
309 Madison Ave.

Officers of the army and navy may have their titles:

Lieut. Frank Thompson, U.S.N.
Lieut. Edward Welsh, U.S.A.

Etiquette of the Table

THE etiquette of the dinner-table should be mastered by all who aspire to the *entrée* of good society.

Ease, *savoir-faire* and good breeding are nowhere more indispensable than at the dinner-table, and the absence of them is nowhere more apparent. How to eat soup and what to do with cherry-stones are weighty considerations when taken as the index of social status.

No greater test of the culture, refinement and good breeding of a person can be found than the dinner hour. In the following rules, therefore, will be found a brief compendium of the most approved etiquette of the table, which those who have not had the educational advantages of polite society will do well to read and "inwardly digest."

RULES —OF— Conduct at Table.

SEAT yourself in an upright position—not too close to nor yet too far from the table.

Take your napkin, partially unfold it and lay it across your lap. It is not the correct thing to fasten it in your buttonhole or spread it over your breast.

Do not trifle with your knife or fork, or drum on the table, or fidget in any way, while waiting to be served.

Keep your hands quietly in your lap, your mind composed and pleasantly fixed upon the conversation. Let all your movements be easy and deliberate. Undue haste indicates a nervous lack of ease.

Should grace be said, you will give the most reverent attention in respectful silence during the ceremony.

Exhibit no impatience to be served. During the intervals between the courses is your opportunity for displaying your conversational abilities to those sitting near you. Pleasant chat and witty remarks compose the best possible sauce to a good dinner.

A COZY DINING-ROOM.

Eat slowly; it will contribute to your good health as well as your good manners. Thorough mastication of your food is necessary to digestion. An ordinary meal should occupy from thirty minutes to an hour.

You may not desire the soup, which is usually the first course, but you should not refuse to take it. You can eat as much or as little as you please, but you would look awkward sitting with nothing before you while the others are eating.

When eating soup, take it from the side of the spoon, and avoid making any noise in so doing.

Should you be asked by the host what part of the fowl you prefer, always have a choice, and mention promptly which you prefer. Nothing is more annoying than to have to serve two or three people who have no preferences and will take "anything."

Never place waste matter on the table-cloth. The side of your plate, or side-dishes that have contained sauces or vegetables, will answer as a receptacle for bones, potato skins, etc.

You will use your fork to convey all your food to your mouth, except it may be certain sauces that would be more conveniently eaten with a spoon. For instance, you should not attempt to eat peas with a fork. If you are not provided with a spoon, ask for one.

The knife is used only for cutting meat and other articles of food, for spreading butter upon the bread, etc.

HOW TO SET THE TABLE

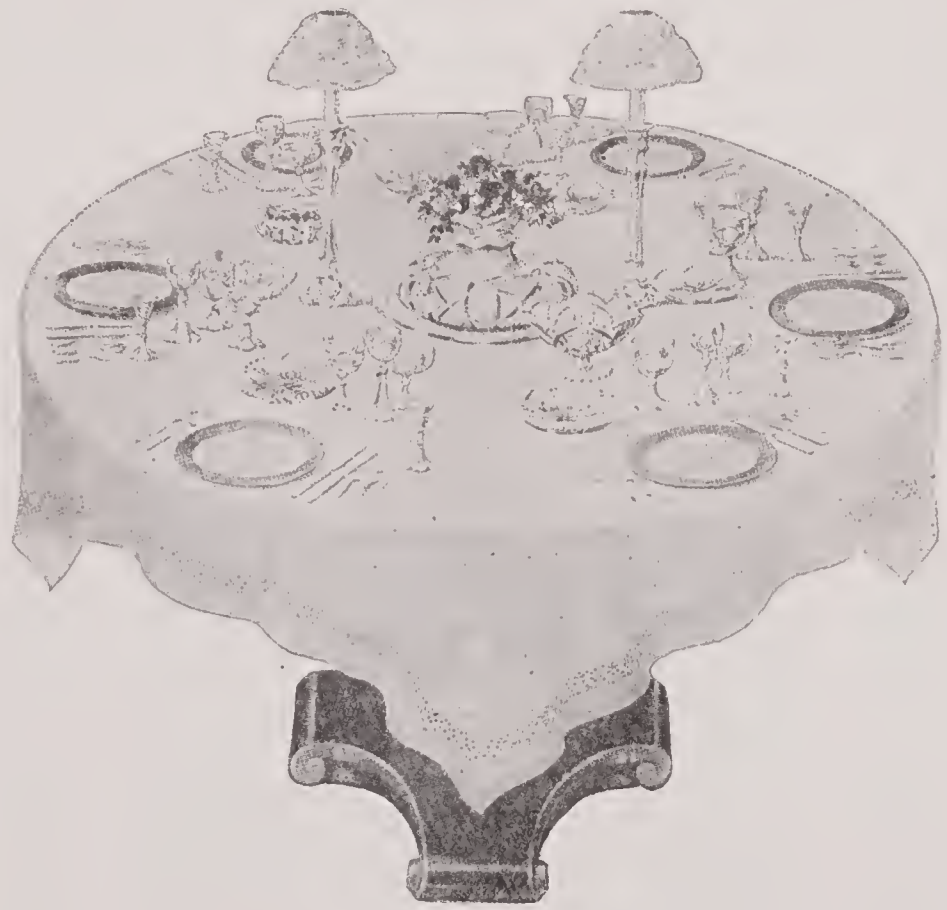
YOUR dining-table should be round or oblong.

Use only the whitest and finest of linen. Let your silver and cutlery be highly polished, and your glass and china rubbed until they fairly shine. Your table will then present a brilliant and elegant appearance.

For ordinary home occasions you will put at each person's place a knife and fork, napkin, salt-cup and goblet. The order of arrangement is according to one's taste.

The plates, if not brought in afterward by a servant, are piled up at the right hand of the host. The gentleman of the house occupies the seat at the side of the table in the center; opposite him is seated his wife or whatever lady occupies the position as head of his household. In front of *paterfamilias* is placed the joint for carving. In front of the mistress of the house is the tray containing the tea and coffee cups. The side-dishes are disposed around the table according to taste.

In the centre is usually placed an artistic centerpiece of some kind. If flowers are obtainable a pretty bouquet will be found to furnish the most desirable and appropriate decorations that can be chosen.



A TABLE *comme il fant.*

Fashion, who is at best but a fickle jade, has decreed of late that the old-time caster be abolished, and in place thereof you shall stand at each person's place a small ornamental pepper-bottle in addition to the salt-cup and other articles, while the oil and vinegar shall be placed in handsome pitcher-shaped bottles of cut-glass and disposed at each end of the table.

In arranging the table, too, whether for the family alone or for ceremonial occasions, it must be remembered that the individual taste of the lady of the house may be brought into play with excellent effect. General rules, of course, will be followed; but results of one who has naturally an artistic eye for those things will be very different from the work of one whose eye has never been trained to harmonizing lines and colors.

As it is customary at the mere family dinner to have the carving done upon the table, it is very essential that the master of the house should thoroughly understand how to carve meat; and expeditious carving may be acquired only by practice. It would be well, therefore, if young ladies and gentlemen were more frequently initiated into the art while at home, so that they might find it less awkward when obliged to do it at their own tables.

DINNER-GIVING

AN invitation to dinner is the highest social compliment, and should be so received and treated.

While nearly all other social invitations are given in the name of the hostess alone the invitation to dinner is given in the joint name of host and hostess.

The host, in this case, occupies the position of chief entertainer. It is his duty to go first to the dining-room, taking the principal lady guest on his right arm and giving her the seat of honor on his right hand. He is expected, too, to contribute much to the entertainment of the guests.

A good dinner does not consist alone of the meat and drinks, although they must also be considered, but of the proper seating of the guests at table, of the etiquette to be observed toward them, and the perfection of arrangement in general.

Many ladies who give dinners observe the habit of keeping a book in which they record the name of every guest whom they have dined, the names of their neighbors at other dinner parties, and the names of hosts to whom they owe return dinners; for this is an attention which must be returned by those who pretend to go in society. This record is convenient for reference in arranging for guests at another dinner.

The hostess attends to the writing and sending out of invitations. The form of invitation, which should be printed from engraved plates on square cards with stamped or illuminated crest on the top centre, is as follows:

Mr. & Mrs. Charles Corey
request the pleasure of
Mr. & Mrs. Chas. Powers' company
at Dinner, on
Thursday, November 2, 19—
1753 Olive Street.
From 4 until 6 o'clock.

READY FOR GUESTS

The spaces containing guest's name and date are left blank on the engraved card and are filled out in writing. When the dinner is given in honor of some distinguished guest, the fact, with the guest's name, is also placed upon the card of invitation.

Invitations to dinner should be accepted or declined immediately. Never let more than a day pass before writing a note of reply, in which you positively accept or decline the invitation. There is no greater rudeness than neglecting to observe this rule. The form of acceptance of an invitation to dinner is:

Mr. & Mrs. Chas. Powers accept with pleasure Mr. & Mrs. Charles Carey's invitation to Dinner, at eight o'clock, Monday evening, January second.

Or, declining, the form is:

Mr. & Mrs. Chas. Powers regret that a previous engagement prevents the acceptance of Mr. & Mrs. Charles Carey's invitation to Dinner, Monday evening, January second.

These should be written on square cards, with monogram or crest stamped on the top centre.

The hostess having selected the ladies whom the gentlemen are to escort to dinner, their names are written on a small card, with crest or monogram in the upper left-hand corner; the card is enclosed in envelope of appropriate size, and superscribed with the gentleman's name who is to be the lady's escort. These cards are placed on a table in the gentlemen's dressing-room.

Dinner cards, with guest's name placed at each plate, designate the seats at the table.

The dinner card is kept as a souvenir of the occasion, and each hostess endeavors to procure the most unique and beautiful designs in decoration. Hand-painted cards are very popular. There should be no two alike, and each should, as near as possible, represent some personal characteristic of the guest whose name it bears.

The invitations should be sent a fortnight in advance. Many ladies drive to the houses of the guests and have the footman deliver the invitations, to be certain that they reach their destination properly. The English transmit theirs through the mail, but that plan is not usually adopted on this side of the water.

It is not best to invite too many members of one family, but it is highly improper to ask the husband without the wife, or the wife without the husband.

Punctuality, always a necessary courtesy, is specially required at a dinner party. One author goes so far as to say that if you do not reach the house until dinner is served, it is better to retire and send an apology than to interrupt the harmony of the courses by awkward excuses and cold acceptance.

Within five minutes of the dinner hour is a good time for arriving.

Husband and wife should not enter the reception-room arm-in-arm, as that is considered vulgar. The wife should go first, and the husband follow her into the room. A servant is stationed near the door to open it for the lady and announce her to the host and hostess, who stand near each other ready to receive their guests. If necessary the host introduces the guests to his wife, as it often happens, particularly at official dinners at Washington, that she is not acquainted with them.

The gentleman, having read on his card the name of the lady whom he is to escort, if he does not know her, will request the hostess to introduce him, and will begin a little conversation with her before dinner is announced.

The hostess will shake hands with each guest upon his or her arrival.

As there is no question of rank to determine precedence in America, the lady to be taken in first is the one to whom the dinner is given. In case there is no guest of honor, the oldest lady in the room is the one chosen for the honor.

If a dinner party be short of gentlemen, there should be no effort to go in in order; but the host, offering his arm to some lady, will request the others to follow, which they will do without regard to order, the hostess bringing up the rear.

The Duties of a Hostess at a Dinner

SHE should use a woman's tact in placing her guests so that those who may prove agreeable to each other shall be placed in the same neighborhood. She shall also adroitly start the conversation for them, and by well-directed remarks assist the diffident and remind the selfish *gloutон* that she is observant of him. The hostess' manner should present a simple dignity and an equal interest in all her guests. If she observe some one lingering over his plate, she shall appear to be eating, so that he may not make the mortifying discovery that he is the last to be eating.

A ready wit and a merry laugh are great aids to a hostess in entertaining a party of this description.

Ceremonious dinners in the large cities are all served now *à la Russe;* that is, nothing is put on the table but the dessert, and all the other viands are served in courses by waiters. This mode has a decided advantage over the old method of putting the meats and vegetables on together, as it does away with the awkwardness and confusion of carving and serving, and keeps the table in a much neater condition.

The modern dinner table is made very attractive by an elaborate display of cut-flowers, which, taken with the requisite cut-glass and beautifully decorated china now in use, give an æsthetic aspect to what might be otherwise merely the gratification of a sensual appetite.

Habits to be Avoided at Table

DO not eat fast.

Do not make noise with mouth or throat.

Do not fill the mouth too full.

Do not open the mouth in masticating.

Do not leave the table with food in your mouth.

Be careful to avoid soiling the cloth.

Never carry anything like food with you from the table.

Never apologize to the waiters for making them trouble; it is their business to serve you. It is proper, however, to treat them with courtesy, and say "No, I thank you," or "If you please," in answer to their inquiries.

Do not introduce disgusting or unpleasant topics of conversation.

Do not pick your teeth or put your finger in your mouth at the table.

Do not come to table in your shirt-sleeves, or with soiled hands or tousled hair.

Do not cut your bread; break it.

Do not refuse to take the last piece of bread or cake; it looks as though you imagined there might be no more.

Do not express a preference for any part of a dish unless asked to do so.

Etiquette of the Ball and Party.

AN invitation to a ball signifies that the entertainment is exclusively for dancing.

The invitations to a ball should be delivered by a footman at least two weeks before the evening appointed, and should receive an immediate answer.

These invitations are from engraved plates, on note sheets, and white in color. They are worded thus:

Mrs. Frank Royal
requests the pleasure of your
company, on
Wednesday evening, December 1st.
At _____
Dancing at ten. 2862 Fine St.

The form of acceptance or declination is much the same as in the dinner invitations, substituting "ball" for "dinner."

The first requisites for a pleasant ball are good rooms, good music and plenty of good company. No one should attempt to give an entertainment of this sort without being fully prepared for considerable expenditure of time, money and patience. If you wish your friends to enjoy the dancing, you must give them good music, a good floor, and plenty of good and suitable partners. The supper, to be enjoyable, must be well served and abundant in quantity.

As you wish your ball to be the event of the season, you must have your rooms handsomely decorated. An abundance of cut flowers should be artistically scattered around, with here and there a tropical plant in hall and ball-room, on the stairs, in recesses, and wherever they can conveniently be placed with good effect and not be in the way. The fire-places should be screened by flowers in summer and by guards in winter, unless heaters are in use, in which case the latter precaution is unnecessary. By the help of screens and flowers it is easy to arrange a small gallery for the musicians, so that they shall be heard and not seen.

A refreshment-room, a dressing-room for the ladies, and one for the gentlemen, should be provided.

Ladies will attend a ball in elegant and elaborate evening dress. Gentlemen will appear in full evening dress.

A prudent hostess will limit her invitations to the size of her ball-room, in order not to overcrowd her rooms and spoil the pleasure of the dancers. It is safe to issue a few more invitations than you can accommodate, on the chance of a number not appearing on the arrival of the evening.

The most favorable room for dancing is one which is nearly square, but rather longer than wide. Such a room will admit of two quadrille parties at once.

The top of a ball-room is the part nearest the orchestra. It is well to know this, as in dancing the top couples always lead off.

A good floor is highly important. In private houses nothing is better than a good Holland floor-cloth well stretched over the carpet.

Let there be an abundance of light and good ventilation in your ball-room.

Good music is as essential at a ball as good wine at dinner, and no hostess should tax her guests for this entertainment. Very few amateurs can play dance music well. Besides that, no one wants to be tied to the piano all the evening playing while others are dancing. For this reason, a hostess should provide skilled musicians to play for her guests.

It is customary to provide three pieces for dancing: a piano and two violins, or piano, cornet and violin. Sometimes the harp and violins only are used.

The ladies' toilet-room should be well supplied with mirrors, pins, needles and thread for repairing rents, and plenty of attendants to assist the fair ones at their toilets. It is well to check wraps and give a duplicate check to each lady.

The supper hour is usually from 12 to 1 o'clock, and the hour of departing from 2 to 3 A.M. The style of the supper is apt to be regulated by the wealth of the host. If he have ample means it is customary to put the whole thing in the hands of a caterer, and have it served up in good style, with all the extra appliances of salads, oysters, fancy ices, coffees, wines and fruits, and cakes of every description.

If the supper be home-made, coffee and sandwiches, with fruit, and two or three kinds of ices and cake, are all-sufficient. There should always be an abundance provided, however, as dancers are usually hungry people.

No one sits down to a ball supper. If seats are ranged around the room for the ladies, the gentlemen stand.

Carpet should be laid from the edge of the pavement to the doorway, and if the evening be wet, a temporary covering should be erected for the protection of the ladies in passing from their carriages to the house.

A gentleman should not accept an invitation to a ball if he does not dance, as it is an act of positive neglect for gentlemen to hold themselves aloof when ladies are waiting anxiously for an invitation to dance, and attempt to dance without a knowledge of the art is not only to make yourself ridiculous, but your partner as well.

GENERAL SUGGESTIONS

IT is folly to attempt to dance a figure with which you are unacquainted. In round dances, hold the lady's hand easily at the side, but do not place it behind you, nor raise it high in the air. In quadrilles, a knowledge of the French terms employed is necessary in only the very choicest circles. These are:

Balancez.—Swing partners.
Balancez aux coins.—Swing corners.
Balancez quatre en ligne.—Set four in a line.
Chaine Anglaise.— Head couples right and left.
Chaine Anglaise double.— Double right and left.
Chaine Anglaise demi.— Half right and left.
Chaine des dames.— Ladies' chain.
Chaine des dames double.— Ladies' chain beginning together.
Chaine la grande.—Grand right and left.
Chassez.— Move to right and left or to left and right.
Chassez croisaz.— Ladies and gentlemen *chassez* in opposite directions.
Cavalier seul.— Gentlemen advance alone.
Demi promenade.— All half promenade.
Dos-à-dos.— Back to back.
Glissade.— A gliding step.
La grande ronde.— All join hands and advance and retire twice.
La grande tour du rond.— Join hands and dance round figure.
La grande promenade.— All promenade round figure.
Le moulinet.— Hands across.
Demi-moulinet.— Ladies advance to center, give right hand and retire.
Traversez.— Opposite persons change places.
Re-traversez.— Cross back to place.
Vis-à-vis.— Face to face.

Be not, while dancing, confined to observations concerning the weather or the number of people present; but having asked a lady to dance, be as agreeable to her as possible.

Etiquette of The German, Receptions

AND PARTIES IN GENERAL.

THE GERMAN

CUSTOM decides that no lady's series of entertainments are complete without "the prime favorite."

Young ladies are now much accustomed to forming social clubs, with pretty, suggestive names, which meet at the houses of the different members.

The informalities of the German necessitate great care in the inviting of the guests. It is necessary that all shall have been formally introduced, as no lady can refuse to dance with a gentleman whom she may have received as a partner so long as she remain in the circle.

Favors are given in most of the figures, some of them being very elegant and expensive, while others are comparatively inexpensive, but unique in design. The principal point is to have a set of favors differing in design from those presented at any other entertainment.

Invitations to the German should be sent at least ten days in advance. They should be from engraved plates, and in the following form:

Mr. & Mrs. Frank Royal
request the pleasure
of

company, on Tuesday evening,
January 2d, at 8 o'clock.
The "German." 2382 Pine St.

RECEPTIONS or AT HOMES

THE full-dress reception is an event of considerable importance in the social world.

Invitations should be issued at least two weeks beforehand, as for balls or dinners. It prevents previous engagement. They should be engraved on heavy white card of the finest texture. The form is:

Mr. & Mrs. Chas. Wilde
request the pleasure of your
company on
Tuesday evening, November 6th,
from 8 until 11 o'clock.
2382 Olive St.

The invitations should be delivered by the footman, as are wedding and dinner invitations, etc.

A serving-man should be provided to open the carriage door, another to receive the cards and show the guests to their dressing-room.

The gentlemen escort their ladies to the host and hostess. If there is to be dancing it is mentioned on the card of invitation.

In New York it is quite the custom to present each guest with some elegant little souvenir of the occasion, something similar to the favors of the "German."

When the daughter is receiving with her mother, her name is placed on the card of invitation below her mother's, thus:

Mrs. Charles Wood.
Miss Wood.
request the pleasure of your
company on
Friday evening, January 6th,
from 8 until 11 o'clock.
2382 Olive St.
Dancing.

Young ladies are permitted to dance during the evening, the mother remaining at her post of reception; but the daughter should return to her place as soon as the dance is over.

A young lady should not dance more than once with the same gentleman at her own reception.

You should attend receptions in full evening dress, and good breeding demands that you do not present yourself at the beginning, nor remain until the close of the evening.

When your name is announced, look for the lady of the house and pay your respects first to her. She will usually be found stationed near the door, particularly if the party be large. You are at liberty, however, to salute such friends and acquaintances as you may meet in making your way through the crowd.

It is well to throw open as many rooms as possible, and to have tables scattered around here and there, covered with choice engravings, photographic views, valuable scrapbooks, etc., for the entertainment of the guests.

If some eminent person be among the company, it is not in good taste for every one to follow him around, hanging on his words and striving for an introduction.

The hostess should see that her company does not break up into cliques of twos or threes, as such a plan leaves a number out who do not possess any great conversational powers.

Should any guest be invited by the hostess to play the piano, she should not wait to be urged, offering excuses, but rise quietly, proceed to the piano and play something short and suitable to the gathering.

A natural tact will suggest what to play. In a company of musical connoisseurs a sonata of Beethoven would not be out of place, but in a general company something lighter and shorter would be more appropriate.

Never play upon the invitation of any one but the hostess. Should any one else make the request, turn it off as gracefully as you can, but do not comply.

PARTIES IN GENERAL

THE guests should be more intimate acquaintances than at a ball or full-dress reception. The hours before supper are spent in social conversation. After supper, which is served much earlier than at a ball, dancing is usually the order of the evening.

The time for departure is not later than 1 o'clock.

A call, or leaving of the card, should always precede an invitation to a party.

A call in person or by card is required by etiquette after the party, from all those who have been the recipients of invitation.

The same general rules of etiquette apply in the case of parties as at full-dress receptions and balls.

The laws of courtesy and good breeding will be observed by gentlemen and ladies wherever they may be, whether on the croquet ground, at the informal picnic, or at the formal dinner party. And the code is much the same.

JUVENILE PARTIES

IT is now quite fashionable to give entertainments for the younger members of the family. These birthday and doll parties are frequently the source of as much amusement to the elders as to the little ones who attend them. A regularly engraved card is sent out after this design:

Miss Laura Louise
and
Master Charles Powers
request the pleasure of your
company on
Tuesday morning, December 10th,
from 4 to 6 o'clock.
Punch and Judy half-past five.
2341 Olive St.
R. S. V. P.

Another form is:

Miss Louise Powers, with
her Sisters,
requests the pleasure of your
company on
Tuesday mor'g, December twelfth,
from four until nine.
1753 Olive St.
Doll Reception. R. S. V. P.

BAL MASQUE

Invitations to a *bal masque* should be elegant in design and read as follows:

Mask.

Mr. & Mrs. Chas. Powers
request the pleasure of your
company in fancy dress.
on
Wednesday eve'g. January 23d.
at eight o'clock.

R. S. V. P. 2341 Pine St.

TWENTY-FIRST BIRTHDAY PARTIES.

A grand celebration is usually given in honor of a son's attainment to his majority. The form of invitation, on engraved cards, is:

Mr. & Mrs. Clarence Wilde
request the pleasure of your
company.
Tuesday evening, January 8th.
at eight o'clock.
at the
21st Birthday Celebration
of their son.
Charles M. Wilde.

1011 Olive St.

BREAKFASTS

Invitations to breakfasts and suppers should be informal and written on correspondence cards, with crest or monogram on top left corner. The form is:

G. H. S. 2951 Pine St.

Breakfast.
Tuesday, at ten o'clock.
December 4th.
Mr. G. H. Powers.

AFTERNOON RECEPTIONS

A VERY popular entertainment for ladies exclusively is the tea or afternoon reception. The hours are from 4 to 6 P.M., and if continued later these affairs partake of the nature of more formal entertainments. The refreshments are light, and all ostentatious display is avoided.

The hostess receives her guests at the table, and dispenses tea and the other delicacies to them, which they receive from the tray borne by domestics, and eat or drink standing. On leaving they can dispense with the formality of bidding the hostess adieu. The form of invitation, printed on large-sized visiting cards from engraved plates, is:

Mrs. Frank Royal.
Tuesday, September 5, *19*—
1153 Olive St.
from 4 until 6 o'clock.

YOUNG LADIES' DEBUT

ETIQUETTE decides that in this country, as in England, young ladies shall seldom be seen, except at family gatherings, until their school life shall be terminated, and then they shall be formally introduced into society.

Three weeks previous to their debut, cards are left for those acquaintances who are to receive invitations. A week or ten days previous engraved invitations are sent.

During the reception the young lady's position is to the right of her mother or chaperon, where she receives the congratulations of her friends. The guests should make their congratulations brief, and pass on to make room for others.

The first dance should be accorded only to some intimate friend of the family, and the *débutante* should dance but once with the same gentleman in the course of the evening.

For one year the young lady is allowed to make calls only with her mother or other suitable chaperon. After that time she can receive or call at her pleasure.

Etiquette of the Street

A LADY will bow first if she meets a gentleman acquaintance on the street.

A lady will not stop on the street to converse with a gentleman. If he wishes to chat with her he will turn and walk by her side until he has finished his conversation, then raise his hat and leave her.

It is not etiquette for a lady to take the arm of a gentleman on the street in the day time, unless he be a lover or husband, and even then it is seldom done in America.

In England it is permissible for a lady to accept the arm of even an ordinary acquaintance on the street. In foreign cities it is not *comme il faut* for ladies to appear on the street at all without a gentleman.

A gentleman escorting two ladies may offer each an arm, but a lady should never under any circumstances walk between two gentlemen holding an arm of each.

On meeting friends or acquaintances on the street or in public places, you should be careful not to call their names so loudly as to attract the attention of those around.

Never call across the street, and never carry on a conversation in a public vehicle unless you are seated side by side.

Gentlemen should never stare at ladies on the street.

In walking with a lady a gentleman should take charge of any small parcel, book, etc., with which she may be burdened.

STREET PROMENADE SCENE.

Never recognize a gentlemen unless you are perfectly sure of his identity. Nothing is more awkward than a mistake of this kind.

A well-bred man must entertain no respect for the brim of his hat. True politeness demands that the hat be removed entirely from the head. Merely to nod or to touch the brim of your hat is a lack of courtesy. The body should not be bent at all in bowing.

A gentleman will always give a lady the inside of the walk on the street.

Ladies should avoid walking rapidly on the street, as it is ungraceful.

A gentleman walking with a lady should accommodate his step to hers. It looks exceedingly awkward to see a gentleman two or three paces ahead of a lady with whom he is supposed to be walking.

Staring at people, expectorating, looking back on the street, calling in a loud voice, laughing, etc., are very bad manners on the street.

A gentleman attending a lady will hold the door open for her to pass. He will also perform the same service for any lady passing in or out unattended.

A gentleman may assist a lady from an omnibus, or over a bad crossing, without the formality of an introduction. Having performed the service, he will bow and retire.

No gentleman will smoke when standing or walking with a lady on the street.

A quiet and unobtrusive demeanor upon the street is the sign of a true lady, who goes about her own affairs in a business-like way and has always a pleasant nod and smile for friends and acquaintances.

Etiquette of Travelling

NO class of people carry with them so many distinguishing marks as the experienced and the inexperienced traveller. The former is always cool and collected, occupies the best seat in the middle of the car on the shady side and next to the window, and is especially remarkable for a total lack of flurry and anxiety.

All this is owing to the fact that he has had a long and varied experience as a traveller, and in that way gained a knowledge of the minor points in travelling which go far toward begetting that state of peaceful confidence which is the source of much envy to the uninitiated.

The experienced traveller is always on time; he keeps a time-table of the trains at hand for reference, and never fails to have his watch going correctly. His baggage is always properly checked and his ticket safely stowed away in his inside pocket. Being certain that he is on the right train, with everything in order, his mind is serene and a smile of benignant complacency illumines his countenance as he unfolds his evening paper or reviews the faces of his fellow passengers.

The inexperienced traveller comes hurrying on the train at the last moment, all in a heat and flurry, and is scarcely seated on the last seat in the car, where he'll catch all the drafts from the opening door, when he discovers that he has lost his ticket or forgotten to check his baggage. Then ensues a storm of anxious enquiries and querulous complainings, and before he has reached his destination he is voted a bore by all his fellow passengers.

IN A PULLMAN CAR.

SUGGESTIONS TO TRAVELLERS

CONSIDER what route you intend taking when you are contemplating a journey, and decide definitely upon it. Go to the ticket-office of the road and procure a time-table, where you will find the hour for leaving, together with names of stations on the road, etc.

When you intend taking a sleeping-berth, secure your ticket for same a day or two before you intend starting, so as to obtain a desirable location. A lower berth in the centre of the car is always the most comfortable, as you escape the jar of the wheels and drafts from the opening door.

Take as little baggage as possible, and see that your trunks are strong and securely fastened. A good, stout leather strap is a safeguard against bursting locks.

In checking your baggage, look to the checks yourself, to make sure the numbers correspond. Having once received your check, you need not concern yourself further about your baggage. The company is responsible for its safe delivery.

It is a wise precaution to have your name and address carefully written upon any small article of baggage, such as satchel, umbrella, duster, etc., so that in case you leave them in the car the railway employes may know where to send them.

An overcoat or package lying upon a seat is an indication that the seat is taken and the owner has only left temporarily. It would, therefore, be rude in you to remove the articles and occupy the seat.

It is only courteous for a gentleman, seeing a lady looking for a seat, to offer the one beside him, as she scarcely likes to seat herself beside him without such invitation, although she will, of course, if there are no entirely vacant seats, do so in preference to standing.

A courteous gentleman will also relinquish his place to two ladies, or a gentleman and lady who are together, and seek other accommodations. Such a sacrifice always receives its reward in grateful admiration of his character.

Ladies travelling alone, when addressed in a courteous manner by gentlemen, should reply politely to the remark; and in long journeys it is even allowable to enter into conversation without the formality of an introduction. But a true lady will always know how to keep the conversation from bordering on familiarity, and by a quiet dignity and sudden *hauteur* will effectually check any attempt at presumption on the part of her strange acquaintance.

Always consult the comfort of others when travelling. You should not open either door or window in a railway coach without first ascertaining if it will be agreeable to those near enough to be affected by it. Ladies, in particular, should remember that they have not chartered the whole coach, but only paid for a small fraction of it, and be careful not to monopolize the dressing-room for two or three hours at a stretch, while half a dozen or more are waiting outside to arrange their toilets.

Genteel travellers will always carry their own toilet articles, and not depend on the public brush and comb.

A lady will avoid over-dressing in travelling. Silks and velvets, laces and jewelry are terribly out of place on a railroad train. The appointments of the traveller may be as elegant as you please, but they should be distinguished hy exceeding plainness and quietness of tone. Some ladies have an idea that any old thing is good enough to travel in, and so look exceedingly shabby on the train.

Ladies Travelling without Escort.

IN America the liberty of action accorded women is so much greater than that allowed in any other country in the world that a special code of etiquette on some points is necessary in order to inform them how to act under all circumstances.

In England, the land of greatest liberty after ours, no lady of much gentility makes a journey without a male escort or at least the company of her maid. Here it is quite common for ladies of the best families and greatest refinement to make journeys of length without the attendance of a male relative. Very young ladies are not allowed to travel, however, without the attendance of some older person, either male or female.

The directions for travelling having been given elsewhere, we will confine our directions to the manner in which an unattended lady shall behave at

THE HOTEL.

A LADY should enter a hotel by way of the ladies' entrance. A servant is always in attendance at the door to show her to the parlor, where she will be waited upon by the proprietor or clerk, to whom she should present her card and state how long she intends remaining.

A simple request to the waiter, particularly if it be backed by a slight remuneration, will ensure his meeting her at the dining-room entrance and preceding her to her seat, thus obviating the slight awkwardness of crossing a full dining-room without an escort.

All conversation at a hotel table should be conducted in a low tone of voice so as not to attract attention, and especially should care be taken that no remarks of a personal nature are overheard by others. A lady will, of course, not enter into conversation with any but friends at a public table.

While waiting to be served it is permissible to read a paper at a hotel table. All orders should be given in a low but clear and distinct tone of voice. Never ask any one at the table to pass you anything. That is the duty of the waiter.

Never point to any article wanted; a glance at the dish, with a quiet request or a mere look at the waiter, is usually sufficient.

All loud and ostentatious dressing is out of place in a hotel dining-room. A quiet, unassuming dress of cloth or plain black silk is the most ladylike.

When a lady is without escort it would be best for her not to take her supper in the dining-room late in the evening. She can have a meal sent to her room at a trifling extra cost.

A lady should never loiter in the halls, nor stand alone at a hotel window.

She should never hum to herself while going through the halls, nor play on the piano, nor sing in a hotel parlor unless invited to do so.

It is desirable when stopping at a hotel to secure a pleasant, comfortable room, with plenty of air and sunshine and a good outlook.

Be sure to lock your trunk and the door of your room whenever leaving it. If your have valuables, such as diamonds and much money, it is safer to leave them with the proprietor to be locked in the safe. They can easily be obtained whenever wanted by ringing for them.

IN THE DINING-CAR.

It is never the act of a lady or gentleman to be scolding at servants. If their conduct gives you dissatisfaction, complain to the proprietor. Always tender your requests in a pleasant and courteous manner, and you will usually find them promptly attended to.

As a lady without escort is apt to require more service than one who has, it is only right to tender a little extra fee to the servant who has been especially attentive. A retaining fee, that is, a small sum given at the outset, is very apt to secure all the attention that can be desired.

A lady should always avoid all hurry and bustle in travelling by securing her ticket beforehand and having her trunk packed and ready to express in good time.

In order to secure herself positively against all impertinence and intrusion when unattended, a lady has need of a great deal of dignity and quiet reserve; if she be naturally of a lively and chatty disposition, she must beware how she indulge these innocent propensities, lest they be misunderstood. An intelligent and thoroughbred lady, however, can travel alone anywhere in America without experiencing the slightest lack of respect or courteous attention.

Etiquette of Riding and Driving.

RIDING is an accomplishment in which all ladies and gentlemen should be proficient. Riding, like swimming, cannot be taught by precept; it must be taught early and practiced constantly—as little in the school and as much upon the road as possible.

A lady's riding-habit should be simple, close-fitting, and made by a first-rate tailor. The later habit is much shorter and narrower than the old style, and is always worn with pantaloons of the same material underneath.

A lady can indulge her love of luxury only in her riding-whip. This may be jewelled, and as elegant as she may wish. Her gloves must always be unexceptionable.

The art of mounting must be properly acquired, since in riding, as in other things, it is proficiency in trifles that proclaims the artist.

The lady, having mounted the riding-steps, places her left foot in the stirrup, rises into her seat and lifts the right leg into its place, taking care to let the habit fall properly.

If no riding-steps are at hand, her escort or groom must assist her to mount. Hence she must learn to mount in both ways. In the latter case she places her left foot in the right hand of the gentleman or servant; he lifts it vigorously but gently, and she springs lightly into the saddle.

A lady who rides much and wishes to keep her figure straight should have two saddles, and change from one to the other.

LADY AND GENTLEMAN RIDING.

The great point in riding is to sit straight in the middle of your saddle, to know the temper of your horse. and to be able to enjoy a good galop in moderation.

Ladies should not lean forward in riding.

They should not rise in the saddle in trotting.

They should know how to hold the reins and the different uses of each.

A gentleman, in riding, as in walking, gives the lady the wall.

In assisting a lady to mount, hold your hand at a convenient distance from the ground, that she may place her foot in it. As she springs, assist her with the impetus of your arm. Practice only will enable you to do this properly.

A gentleman should be able to mount on either side of his horse. He places his left foot in the stirrup, his left hand on the saddle, and swings himself up, throwing his right leg over the horse's back. Nothing is more awkward than to see a man climb into a saddle with both hands.

The correct position is to sit upright and well back in the saddle; to keep the knees pressed well in against the sides of the saddle, and the feet parallel to the horse's body; to turn the toes in rather than out. The foot should be about half-way in the stirrup.

The great desideratum in the art of riding is plenty of confidence. A timid person can never be a good rider.

When escorting a lady be sure that her horse is quite safe, every part of its harness in perfect condition, and keep on the alert to assist her on the slightest sign of danger.

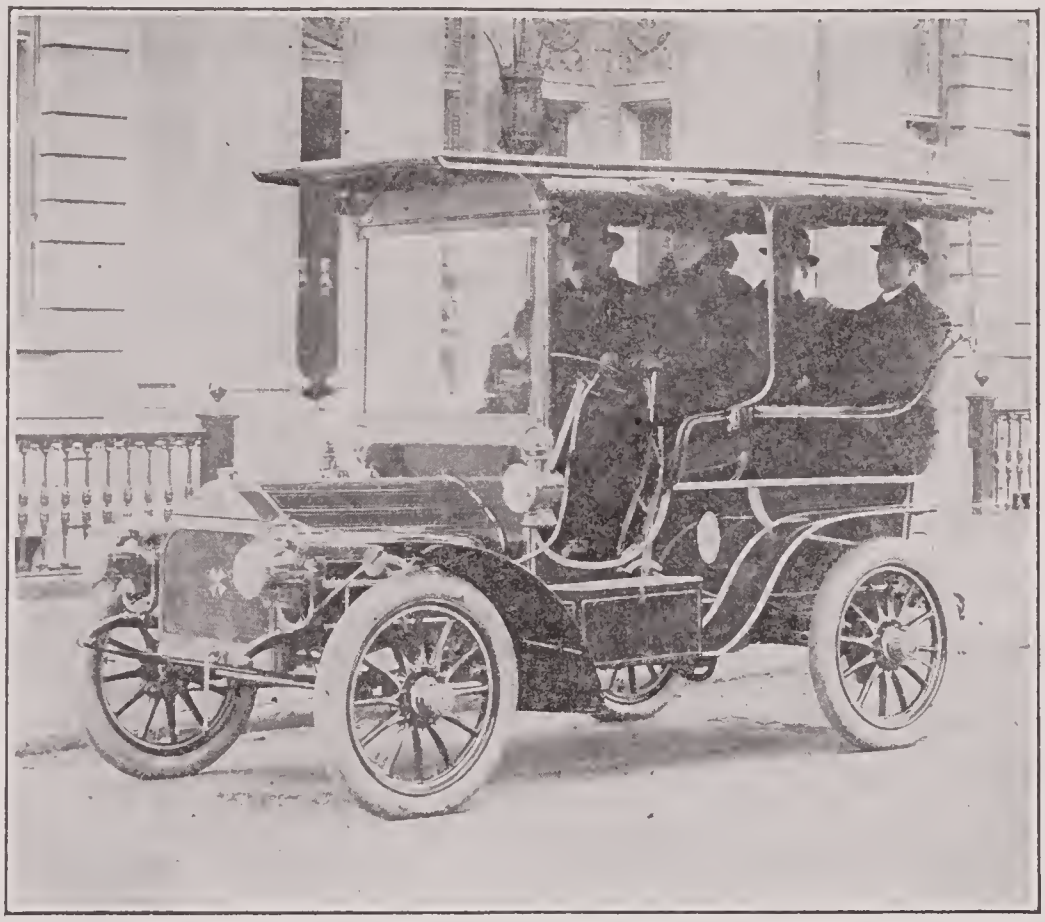
A gentleman riding with two ladies will keep to the right of both, unless it be necessary for him to ride between them in order to render some assistance.

In dismounting, the gentleman will take the lady's left hand in his right, remove the stirrup and place her foot in his left hand, lowering her gently to the ground.

Keep on the right or off side, and never presume to touch her mount any more than you would that of a gentleman friend.

ETIQUETTE OF DRIVING

THE art of driving is simple enough, but requires practice. No one should pretend who does not understand every part of the harness and be able to harness or unharness a horse himself.



THE TWENTIETH CENTURY CONVEYANCE.

A good driver will use his horse well, whether it be his own or another's. He will turn corners gently, and know when to drive fast and when to ease him up.

In the carriage, a gentleman places himself with his back to the horses, leaving the best seat for the ladies. Only very elderly gentlemen are privileged to take the back seat to the exclusion of young ladies. No gentleman driving alone with a lady should sit beside her, unless he is her husband, father, son or brother. Even an affianced lover should remember this rule of etiquette.

To get in and out of a carriage gracefully is quite an accomplishment. If there is but one step, and you are going to face the horses, put your left foot on the step and the other in the carriage, so that you can drop at once into your seat. If you are to sit the other way, reverse the process. Be careful to turn your back the way you intend sitting, so as to avoid turning around.

A gentleman should be careful to avoid stepping on the lady's dress in getting into the carriage. He should be careful also not to catch it in the door as he closes it.

A gentleman should always get out of a carriage first, in order to assist the lady in alighting.

When a gentleman intends taking a lady driving in a one-seated vehicle, he should always be sure his horse is a safe one before trusting himself with it, as he is obliged to get out to assist the lady in and out of the vehicle. When helping her in he should be careful always to hold the reins so that he can check the animal in case it should start suddenly.

The dress should never be lifted in alighting from a carriage, but left to trail upon the ground.

General Hints on Etiquette.

THERE are a number of the minor points of etiquette which, not coming directly under any of the preceding heads, might otherwise be omitted, and which, therefore, we propose touching upon in this chapter.

The art of giving and receiving presents is not always an intuition. A generous person may unwittingly wound where he intends to please, while a really grateful person may, by want of tact, appear to deprecate the liberality of his friends.

A gift should always be valuable for something besides its price. It may have been brought by the giver from some famous place; it may have a valuable association with genius, or it may be unique in its workmanship. An author may offer his book or an artist his sketch, and any one may offer flowers, which are always a delicate and unexceptionable gift.

A rich person should be careful how he gives to the poor, lest he hurt their pride, while a poor person can only give to those of greater wealth something that has cost only affection, time or talent.

Never allude to a present which you have given; do not even appear to see it if you are where it is.

Do not give a present in hopes of a return.

If you present a book to a friend, do not write the name in it unless it is requested. By doing so you are taking for granted that your present will be accepted, and also that a specimen of your penmanship will give additional value to the gift.

It is in bad taste to undervalue a gift which you have yourself offered. If it is valueless, it is not good enough to give to your friend; and if you say you do not want it yourself, or that you would only throw it away if they did not take it, you are insulting the person whom you mean to benefit.

Married ladies may occasionally accept a present from a gentleman who visits frequently at the house, and desires to express his gratitude in that way.

An unmarried lady should not accept presents from any gentleman to whom she is not engaged, or who is not a relative.

Never refuse a gift unless you have a very good reason for so doing. However poor the gift, you should show your appreciation of the kindness of heart which prompted it. All such deprecatory phrases as "I fear I rob you," or "I am really ashamed to take it," etc., are in had taste, as they seem to imply that you think the giver cannot afford it.

Do not quickly follow up a present by a return. It looks too much like payment. Never, however, fail to make an immediate acknowledgment of the receipt of a gift.

Remember, when you are prone to give in charity to the sick or the needy, that "he who gives quickly gives double."

Never indulge in egotism in the drawing-room. The person who makes his family, his wealth, his affairs or his hobby the topic of conversation is not only a bore but a violator of good taste. We do not meet in society to display ourselves, but to give and take as much rational entertainment as our own accomplishments and those of others will afford.

The man or woman who engrosses the conversation is unpardonably selfish.

We should not neglect very young people in our drawing-rooms. If we wish our children to have polished manners, and to express themselves well, we must lead them to enter into the conversation that is going on.

All irritability and gloom must be thrown off when we enter society.

It is a duty to always look pleased. It is likewise a duty to appear interested in a story that you may have heard a dozen times before, to smile on the most inveterate proser; in short, to make such minor sacrifices of sincerity as one's good manners and good feelings may dictate.

In conversation the face must be pleasant, wearing something that almost approaches to a smile.

Always look at the person who is conversing with you, and listen respectfully. In answering try to express your thoughts in the best manner. A loose manner of expression injures ourselves much more than our hearers, since it is a habit which, once acquired, is not easily thrown off, and when we wish to express ourselves well it is not easy to do so.

A good bit of advice is the saying, "Think twice before you speak once," as thus only can you learn to always speak to the point.

The young of both sexes would find it an inestimable advantage through life to cultivate from the outset a clear intonation, a well-chosen phraseology, a logical habit of thought, and a correct accent.

A well educated person proclaims himself by his simple and terse language. Good and clear Saxon is much to be preferred to high-sounding phrases and long words; it is only the half-educated who imagine such a style is elegant.

Never employ extravagance in conversation. Always employ the word that will express your precise meaning and no more. It is absurd to say it is "immensely jolly," or "disgustingly mean." Such expressions show neither wit nor wisdom, but merest flippancy.

Avoid awkwardness of attitude as well as awkwardness of speech.

No man or woman is well-bred who is continually lolling, gesticulating or fidgeting in company.

No lady of good breeding will sit sideways on her chair, or with her legs crossed or stretched apart, or hold her chin in her hands, or twirl her watch chain, while she is talking; nor does a well-bred gentleman sit astride of his chair, or bite his nails, or nurse his leg. A man is always allowed more freedom than a woman, but both should be graceful and decorous in their deportment.

Never indicate an object by pointing at it. Move the head or wave the whole hand.

Sneezing, coughing and clearing the throat must be done quietly when it cannot possibly be avoided; but sniffling and expectorating must never be indulged in in decent society.

Physical training is necessary to both men and women who aspire to be of the best society. Every gentleman should know how to fence, to box, to shoot, to swim, to ride, to dance, and how to carry himself. Calisthenic exercises and dancing should be taught every young woman. Even though she may not intend to dance, the acquirement of the art tends to produce that grace of movement which is so beautiful in woman. Swimming, riding, driving, archery and all suitable outdoor amusements strengthen the muscles and give beauty and suppleness to the human form divine.

A good memory for names and faces, and a self-possessed manner, are necessary to every one who would make a good impression in society. Nothing is more delicately flattering to another than to find you can readily call his or her name, after a very slight acquaintance. The most popular of great men have gained their popularity principally through the possession of this faculty.

Shyness is very ungraceful, and a positive injury to any one afflicted with it. It is only allowable in very young people. A person who blushes, stammers and fidgets in the presence of strangers will not create a very good impression upon their minds as to his personal worth and educational advantages. Shyness may be overcome by determined mixing in society. Nothing else will have an effect upon it.

In conversing with a person, do not repeat the name frequently, as it implies one of two extremes, that of familiarity or haughtiness.

If you are talking to a person of title, do not keep repeating the title. You can express all the deference you desire in voice and manner; it is unnecessary and snobbish to put it in words.

A foreigner should always be addressed by his full name; as, Monsieur de Montmorenci, never as Monsieur only. In speaking of him, give him his title, if he have one. For example, in speaking to a nobleman you would say, Monsieur le Marquis; in speaking of him in his absence, you would say, Monsieur le Marquis de Montmorenci. Converse with a foreigner in his own language. If you are not sufficiently at home in the language to do so, apologize to him, and beg permission to speak English.

Married people are sometimes guilty of the vulgar habit of speaking of each other by the initial letter of their first name, or the wife of her husband as "Jones," omitting the "Mr." This denotes very ill breeding, and should be strenuously avoided.

Never speak of absent persons by their Christian names or their surnames; always refer to them as Mr. —— or Mrs. ——.

Gentlemen, when with ladies, are expected to defray all such expenses as car fares, entrance fee to theatre, refreshments, etc.

In entering an exhibition or public room where ladies are present, gentlemen should always lift their hats. In France a gentleman lifts his hat on entering a public omnibus, but that is not necessary according to the English code of etiquette.

To yawn in the presence of others, to put your feet on a chair, to stand with your back to the fire, to take the most comfortable seat in the room, to do anything in fact that displays selfishness and a lack of respect for those about you, is unequivocally vulgar and ill-bred.

If a person of greater age than yourself desire you to step into a carriage or through a door first, it is more polite to bow and obey than to decline. Compliance with, and deference to, the wishes of others, is always the finest breeding.

A compliment that is palpably insincere is no compliment at all.

Boasting is one of the most ill-bred habits a person can indulge in. Travelling is so universal a custom now that to mention the fact that you have been to Europe is to state nothing exceptional. Anybody with wealth, health and leisure can travel; but it is only those of real intelligence that derive any benefit from the art treasures of the Old World.

When in general conversation you cannot agree with the proposition advanced, it is best to observe silence, unless particularly asked for your opinion, in which case you will give it modestly, but decidedly. Never be betrayed into too much warmth in argument; if others remain unconvinced, drop the subject.

Gentlemen precede a lady in going up stairs, but follow her in going down.

In walking with a lady through a crowd, precede her, in order to clear the way.

In walking on a public promenade, if you meet the same friends and acquaintances a number of times, it is only necessary to salute them once in passing.

Never speak of your own children as "Master" and "Miss" except to servants.

Never correct any slight inaccuracy in statement or fact. It is better to let it pass than to subject another to the mortification of being corrected in company.

No one can be polite who does not cultivate a good memory. There is a class of absent-minded people who are to be dreaded on account of the mischief they are sure to create with their unlucky tongues. They always recall unlucky topics, speak of the dead as though they were living, talk of people in their hearing, and do a hundred and one things which, in slang parlance, is "treading on somebody's toes." Carelessness can be carried to such a pitch as to almost amount to a crime. Cultivate a good memory, therefore, if you wish to say pleasant things and to avoid disagreeable ones.

People must remember that they must give as well as take in this life, and that they must not hesitate to go to a little trouble in those small observances which it is so pleasant to accept.

When entrusted with a commission, do not fail to perform it. It is rude to "forget."

On entering a room filled with people, do not fail to bow slightly to the general company.

If you accept favors and hospitalities, do not fail to return the same when the opportunity offers.

The most contemptible meanness in the world is that of opening a private letter addressed to another. No one with the slightest self-respect would be guilty of such an act.

Never betray a confidence.

Never question a child or a servant about the private affairs of the family.

Do not borrow money and neglect to pay. If you do, you will soon find that your credit is bad.

When offered a seat in the street car, accept the same with audible thanks.

It is very awkward for one lady to rise and give another lady a seat in a street car, unless the lady standing be very old, or evidently ill and weak.

Never fail to answer an invitation, either personally or by letter, within a week after its receipt.

Do not fail to return a friend's call in due time.

Never play practical jokes. The results are frequently so serious as to entail life-long regret on the joker.

Avoid any familiarity with a new acquaintance. You never know when you may give offence.

Always tell the truth. Veracity is the very foundation of character. Without it a man is a useless and unstable structure.

When writing to ask a favor or to obtain information, do not fail to enclose postage stamp for a reply.

When an apology is offered, accept it, and do so with a good grace, not in a manner that implies you do not intend changing your opinion of the offence.

It is rude to examine the cards in a card-basket unless you have an invitation to that effect.

Never look at the superscription on a letter that you may be requested to mail.

Never seal a letter that is to be given to a friend for delivery. It looks as though you doubted his or her honor in refraining from examining the contents

When walking with a lady, it is etiquette to give her the wall, but if she have your arm it is quite unnecessary to be changing at every corner you come to. After one or two changes the habit becomes ridiculous.

Always adopt a pleasant mode of address. Whether you are speaking to inferiors or to your equals, it will alike give them a kindly and happy impression of you.

Long hair and a scrawling signature do not constitute genius. Be careful, then, how you draw upon yourself the ridicule of being a shallow pretender by adopting either or both.

Never fail to extend every kindly courtesy to an elderly person or an invalid.

Never ridicule the lame, the halt or the blind. You never know when misfortune may be your own lot.

Do not make promises that you have no intention of fulfilling. A person who is ever ready with promises, which he fails to execute, is soon known as a very unreliable party.

Punctuality is a most admirable quality. The man or woman who possesses it is a blessing to his or her friends. The one who lacks it is wanting in one of the first requisites of good-breeding.

It is extremely rude to look over the shoulder of one who is reading or writing. It is also rude to persist in reading aloud passages from your own book or paper to one who is also reading.

Do not appear to notice any defect, scar or peculiarity of any one. It is the height of rudeness to speak of them.

Never presume to attract the attention of an acquaintance by a touch, unless you are extremely intimate. Recognition by a simple nod or spoken word is all that can be allowed.

Do not be quick to answer questions, in general company, that are put to others.

You should not lend an article that you have borrowed without first obtaining permission from the owner.

Avoid all exhibition of excitement, anger or impatience when an accident happens.

Neither a gentleman nor a lady will boast of the conquests he or she has made. Such a course would have the effect of exciting the most profound contempt for the boasters in the breasts of all who heard them.

If you cannot avoid passing between two persons who are talking, never fail to apologize for doing so.

Never enter a room noisily. Never enter the private bed-room of a friend without knocking. Never fail to close the door after you, and do not slam it.

Temper has much more to do with good-breeding than is generally supposed. The French are allowed to be the most polite people in the world, when they are really only the most amiable.

Learn to make small sacrifices with a good grace; to accept small disappointments in a patient spirit. A little more of self-control, a little more allowance for the weaknesses of others, will oftentimes change the entire spirit of a household.

We are not to be polite merely because we wish to please, but because we wish to consider the feelings and spare the time of others—because we wish to carry into daily practice the spirit of the precept, "Do unto others as you would have others do unto you."

Etiquette of the House.

MANAGEMENT OF SERVANTS.

EVERY mistress of a house is a sovereign queen, whose court is the home circle, which is dependent entirely upon her grace and executive ability for happiness, comfort and refinement.

In a well-ordered household the machinery is always in order, and always out of sight, and it is the special care of the mistress thereof to secure servants so reliable, so efficient and so well trained that this machinery shall run quite noiselessly, and with the most perfect satisfaction.

No well-bred woman talks of her servants, her dinner arrangements, or of her housekeeping affairs generally, to her visitors in the drawing-room, nor yet to her husband in the privacy of the domestic circle.

No lady, however gifted, can afford to neglect the management of her household. If she be possessed of immense wealth, she may afford to hire an efficient housekeeper, but even then the final responsibility rests upon her. No tastes and no pleasures should be allowed to stand in the way of this important duty.

The moment you enter a house, the personality of the mistress is betrayed by the atmosphere which seems to pervade it. If she be a good and efficient ruler, the servants wear a cheerful air, the children are obedient and courteous, the rooms are tastefully furnished and spotlessly clean and neat. The unexpected guest receives a cordial welcome, and is conducted to a well-appointed table. In such a home scandal and gossip are never heard, and peace and contentment are the household gods.

The first and most important rule for the governing of the household is to regulate the expenditure so that it shall come easily within the income.

Elegance adds greatly to the enjoyment of life, but if it is to be purchased at the expense of all peace of mind, you had better do without it altogether. If you cannot be elegant, you can at least be clean, and the true gentlewoman will be discovered as soon in the cottage as in the palace by her surroundings. Shabby gentility is one of the most objectionable forms of snobbishness. To affect a better income than you have, to ape the manners of your richer neighbors, proclaims you vulgar and ill-bred in the highest degree. Shams of every description are contemptible, and every young housekeeper should build her house upon a superstructure of sincerity, and then she will never have to blush at awkward discoveries.

Your house may have the appearance of refinement without any great expense if good taste be exercised in its arrangement. The rooms must be furnished with an artistic eye for colors, and a careful eye for comfort Whatever pictures or works of art there are should be good. One good engraving is better than half a dozen cheap chromos.

A house without books is a house without a soul. Be sure, therefore, to have plenty of books around. You may not be able to have a whole library, but you can at least collect a few shelves of well-chosen works.

Thorns and ferns are ornamental and tasteful, and may be obtained at a very slight expenditure; all that they require is a little care and thought in their cultivation and arrangement.

Be careful not to overload your rooms with cheap knick-knacks and gaudy tidies of crochet or knitted work. Any one having a taste for the higher style of embroidery, such as the Kensington and Arrasene work, may produce very artistic effects, at but slight expense.

The walls of your rooms are a very important subject, and as you cannot expect to change the papering thereof with every fluctuation of fashion, it is essential that you exercise good taste at the outset, paying but little attention to the prevailing style.

The walls of a room should always be of some sober color. Your carpets may be bright as you please, but the pattern must be small, and the colors well blended. Set figures are very wearisome to the eye, either in a carpet or on wall-paper, and as both are likely to be worn a long time, it is best to look out for that at the beginning.

In this day of artistic furniture, art magazines, and art crazes generally, there need be no excuse for bad taste in furnishing. The day of one stiff sofa, six stiff chairs, and one straight table, all placed rigidly against the wall, and forming right angles with it, is over, the gods be thanked; and a person, be he ever so uncultured, can form some conception of what is suitable and beautiful in the house to make it a home.

Plenty of fresh air, cleanliness and quiet, are all indications of a well-ordered home.

The servant question is the most difficult one that housekeepers have to contend with in America. The independent spirit of our republic is inimical to anything that looks like servitude; hence our young women of the poorer classes would much rather go into factories, or bend over sewing-machines, than go into pleasant, cultivated families, where the varied labor, better fare and purer atmosphere would contribute immeasurably to the preservation of their health and happiness.

American ladies are largely dependent, therefore, upon the poor emigrant population of Germany and Ireland for their servants, and this will account for the main part of the difficulties in housekeeping here. It would be task enough to instruct a native-born girl in the varied mysteries of dusting and dish-washing, of waiting on the table and answering the door-bell; but when it comes to wrestling with the vernacular of the Fatherland as well, it is discouraging in the highest degree.

The best way, however, is to offer good wages, take only such a girl as is well recommended, and then, by firm, patient and just measures, endeavor to have her do your work in your own way, and to your perfect satisfaction.

Here, as elsewhere, the mistress must ever be on the alert. She must be quick to observe any neglect of orders and carelessness in the execution of them. She must remind repeatedly, but always kindly and firmly. Let your servant see that you *will* be obeyed, but *never* let her see you out of temper, and you will soon acquire such an ascendancy over her that everything will go as smoothly when you are absent as when you are present. If you will keep a good servant, you must treat her properly. A good mistress will give as much attention to the comfort and happiness of her servants as she will to that of her husband and her children.

If she have but one servant, she must be careful not to put too much work upon her. No one is willing to drudge all the time, nor should any one ask it. If there are several servants, their duties must be distinctly understood and rigidly enforced. One must not be expected to help another out, as that would be injustice to the industrious one.

The mistress must give personal supervision if she would have her work well done. Only after a long and tried period of service can she afford to relax her vigilance. A good house-mistress will never be afraid of a little trouble. The constant care pays in the end.

Avoid a fault-finding and scolding manner. When a thing does not suit you, say so quietly to your servant. A display of temper only loses you the respect of your servant, and gains you nothing in the way of obedience.

Servants should be treated as though they were human beings, with human weaknesses, and not as if they were mere working machines. You should endeavor to correct their faults, not to aggravate them; and you should treat them, and have your children treat them, with invariable kindness and civility.

You should interest yourself in the amusements of your servants. If they have a taste for reading, provide them with good books. See that they occasionally have an opportunity to attend a place of amusement. Do not restrict their hours of amusement, or endeavor to curtail their personal liberty. A good, devoted servant is, particularly in this country, where the sense of equality is felt and tacitly admitted, as much a part of the family as any member thereof. She is the trusted confidante in family troubles; she is the recipient of all the joyful secrets of the various members of the family; she is, in short, more friend than servant, without presumption on the one hand or undignified condescension on the other.

Punctuality is one of the chief requirements of a well-ordered household. The good temper and consequent comfort of the whole family depend upon the regularity of the meals, to say nothing of the health, which is almost as largely dependent upon the meal being served on time as upon the quality of the food. The breakfast and dinner bell should be as punctual as the church bell.

The mistress must look well to the quality and preparation of the food. Badly cooked food, monotonous food or insufficient food are all injurious to the health, and no lady should let other and more agreeable occupations engage her attention until she has attended to her marketing, ordered her meals, and made sure of their being properly prepared and neatly served.

Unless she have a dining-room maid, upon whom she can thoroughly depend, it is better for the lady of the house to go into her dining-room a few moments before meals are served, to see that all is in order, the table properly arranged, etc. There are very few servants in this country well trained enough to be depended upon without close supervision.

A good housekeeper will also attend carefully to her daily accounts. Entries of expenditures should be made every day, and the amount cast up at the end of the week. If a book is kept with the butcher and the grocer, it is always best to have a weekly settlement. A monthly or a quarterly settlement may of course be made, but the shorter time accounts are allowed to run, the easier it is to untangle any little knot in the skein. It is best for the mistress to do all her own ordering for the domestic commissariat than to depute any part of the task to her cook. Where servants are allowed to run and order this or that article, there is always trouble with the tradesmen when the monthly bill comes in.

While every woman should do all in her power to enlarge her views, cultivate her mind, and improve her social position, she should bear in mind that "home" is first and forever her special heritage, and that to embellish and beautify it, and to so order it that it shall be a haven of rest to her dear ones, is her highest and noblest duty, to which everything else should be subservient.

The Art of Carving.

THE importance of the art of carving has been referred to under the head of Dining, and we propose here to give a few rules upon the practice which may be of benefit to the tyro, and help him to acquire that ease and dexterity in carving which is so conducive to peace and comfort around the family board.

In carving a sirloin of beef, the upper cuts should be made lengthwise of the beef, while the under cuts are crosswise—the under cuts being also much thicker than the upper cuts. As there is much difference of opinion as to which is the choice piece, it is best for the carver to ask his guests which cut they prefer.

Rib roasts, rolled, and a round of beef are always cut in very thin horizontal slices across the whole surface of the meat. It is essential, though, that these slices be quite thin.

The leg, the loin, the shoulder and the saddle are the four pieces of mutton usually brought to the table to be carved. First, as to the leg. This must be placed on the table with the knuckle toward the left hand. Then cut into the side farthest from you toward the bone, helping thin slices from the right and thick slices toward the knuckle. Always divide the little bunch of fat near the thick end among your guests, as it is a great delicacy.

A saddle of mutton is often ordered for a small dinner party. It is cut in very thin slices, close to the back-bone, and then downward.

Place a "shoulder" with the knuckle toward the right hand, the blade bone toward the left. Place your fork firmly in the middle of the edge farthest from you, and cut dexterously from the edge to the bone. This causes the meat to fly open, when you can cut slices on each side of the opening, until there is no more to cut, when the meat should be turned over and slices cut from the under side. Another method of carving this joint is to cut slices lengthwise from the end to the knuckle.

The loin of mutton, which is a piece intended specially for family use, should be carved either through the joints or may be cut lengthwise in a parallel line with the joints.

A fillet of veal is, in shape and appearance, very similar to a round of beef, and is carved in the same way by cutting horizontal slices over the whole surface of the meat. The slices, however, should not be nearly so thin as beef. A fillet of veal is cut from the leg, the bone is removed by the butcher, and the pocket thus made is filled with dressing, which is taken out and helped with a spoon by the carver.

A breast of veal may be either roasted or stewed. If used as a roasting-piece, you will have the butcher make an opening or hole in it for the reception of the dressing. In carving it, the ribs may be separated from the brisket, and sent round.

A fore-quarter of lamb consists of shoulder, breast and ribs. The knife must be first placed upon the shoulder, drawn through horizontally, and the joint removed, and placed upon another dish. The ribs can then be separated, and the breast sliced and sent around.

A calf's head, which is by some considered a delicacy, must be cut down the centre in thin slices on each side. A small piece of the palate, of the sweet-bread, and of the meat around the eye, must be put on each plate and sent round.

In carving a haunch of venison, make a cut across close to knuckle, after which cut slices by making straight incisions lengthwise.

There are three methods allowed in carving a ham. The most common one probably is to cut it like a leg of mutton, beginning in the middle, and cutting either way. You may, however, begin at the knuckle, cutting slices in a slanting direction, or you may begin at the thick end. The slices must always be as thin and delicate as possible, and are the usual accompaniment to fowl or veal.

Tongue must always be cut in thin, regular slices. Make the first cut a short distance from the tip, where a slice of some size may be attained. The tip is considered quite a tid-bit by some people.

In carving a chicken, first cut off the wings. This is easily done by learning where to strike the joint. Then slice the breast, and cut off the merry-thought and side bones. The breast should always be helped first, then the wings—the liver wing being the better of the two. It is better to always reserve a small slice of the white meat to be served with the dark.

Pigeon, snipe and quail are cut in half, and a piece sent to each guest. When the birds are small, you send a whole one.

Goose and turkey are helped by cutting slices off the breast, and then the wings and legs are removed. The breast is considered the best meat, and after that the wings.

Boiled rabbit is carved thus: First cut off the legs, then take out the shoulders with a sharp-pointed knife, then break the back into three or four pieces at the joint. The back is the choice help, especially the piece in the centre. The shoulder is next in order after the back, and the leg comes last. The kidney is a delicate bit.

For cutting fish a regular silver fish-slice is provided. Salmon and all fish of that order are cut in slices down the middle of the upper side, and then in slices across on the under side. A piece of each should be helped to all.

Mackerel divides among four people. Pass fish-knife between the upper and under half from head to tail, then halve each side, and help to a quarter.

Cut cod crosswise like salmon, then downward, and send a small piece of round on each plate as well.

Large flat fish, as turbot, flounders, John Dorey, etc., are first cut down the middle from head to tail, then across to the fin, in slices. The fin, being considered a delicacy by some, should be helped, too.

Small fish, like smelts, whiting, etc., are sent whole to each guest.

How to Select Meats.

THE ART OF COOKING

SCARCELY a young housekeeper, unless so fortunate as to have had a thorough course of training by a sensible mother, but has been mortified at her own extreme ignorance of what before seemed unimportant matters, but afterward proved themselves very essential points in the way of doing the household marketing. The difference in kind and quality, and the technical names of the various parts of edible animals, probably never occurred to her until brought face to face with the matter in the butcher shop, which she has entered for the first time to purchase her meat for dinner.

For the benefit of such we give a few general rules upon how to select meats, the names of the different parts, appearance of good and bad meats, etc. First, as to the characteristics of good meats. Meat of a pale pink color is likely to be diseased, while that of a deep purple tint has not been slaughtered, but has died of acute fever. The proper color is a bright, rich red.

It should be firm and elastic in appearance, and scarcely moisten the fingers. Bad meat is wet and sodden, while the fat in it looks like jelly.

Good meat has little or no odor, and is not disagreeable. Bad meat has a sickly odor that is extremely offensive.

Good meat should not shrink much in cooking.

It should not become very wet on standing. It should dry upon the surface.

Meat should be dried with a clean cloth as soon as it comes from the butcher's. Cut out fly-blows if there are any on it.

Never buy *bruised* joints.

Meat will keep a long time in cold weather, while if frozen it will keep for months. Always thaw frozen meat before attempting to cook it, by plunging it in cold water or setting it before the fire. It will not cook well without this precaution.

In summer place your meat on ice, or in the coldest place you have, until ready to cook it.

Always baste roast meat with its own drippings. You cannot baste it too much.

In order to retain the juices, your meat must be cooked in a hot oven.

In boiling meat, if you wish to make soup as well, put your meat in cold water, and bring it slowly up to the boiling point. The juices then flavor the water and make soup. If you put the meat in boiling water, the juices remain in the meat, and the liquor is worthless.

Stewing is slow boiling. Frying is cooking in a pan, in a small quantity of fat. Broiling is cooking over a fire.

Beef is the flesh of the ox, and is the principal meat eaten in this country and in England. Good beef should be well streaked or marbled with fat, and should have plenty of loose fat or suet around.

The joints of beef for roasting are ribs, sirloin, chump of rump, fillet of sirloin, mouse buttock, top side and heart. The choice roasts are sirloin and rib roasts. For a small family a nice roast is made of one rib, the bone being taken out, and the meat neatly rolled and skewered by the butcher.

For frying or broiling the best steak is the "porterhouse." After that "tenderloin" and "sirloin" steak, and the "rump" steak. The latter should be well beaten, as it has a tendency to toughness. The choicest thing for breakfast is a "porterhouse" steak, broiled quickly over a bright fire.

For beefsteak puddings and pies coarser pieces of the meat may be purchased. For soup, a good shin-bone is best.

Beef is more nourishing roasted than boiled, and can be eaten more frequently than any other meat without causing surfeit.

Veal has but little fat, and is of a pinkish white color. Good veal should be closely grained and small; if it is large and coarse-grained, it is too old to be really nice. Do not buy it if it is moist and clammy, as it is then nearing decomposition. The best pieces of veal for roasting are fillet and best end of the breast. For frying, cutlets from the shoulder.

Spring lamb is one of the most delicate kinds of meat that can be eaten. The whole animal is usually divided into quarters by the butcher, and sold at so much a quarter. A hind quarter is usually rather more expensive than a fore quarter, although the latter is considered by some the more delicate eating. It is always rather an expensive meat, but a roast of lamb, with mint sauce, is always a delicate dinner.

Mutton is the meat of sheep upward of four years of age. The darker mutton is the better, as it is a sign of maturity. Good mutton should also be fat.

The parts for roasting are saddle, haunch, leg, best end of loin, chump end of loin, shoulder, breast and others.

For frying and broiling, chops and cutlets from loin and neck; also cutlets from leg.

For boiling the leg makes an excellent dinner. It should always be accompanied by caper sauce.

Venison should be fat. A young deer may be distinguished by the cleft of the haunch being smooth and close. Winter is the season for buck venison, while summer is the time for doe venison. The roasting parts are haunch, neck and breast.

In choosing poultry, it is usual to try the breast bone in order to determine whether the fowl be young or old. If the bone be pliable—that is, easily bent with the finger—the chicken or turkey is young and tender enough for roasting; but if hard and unyielding, the fowl had better be boiled, and plenty of time allowed for the process.

The principal kinds of game eaten are grouse, partridge, snipes, quails, woodcocks, ortolans, pheasants, wild duck, teal, land-rail, plovers and larks.

THE PRADO, FROM CENTRAL PARK, HAVANA

A CALENDAR FOR THE CENTURY.

To find the days of the week corresponding to the days of the month for any year of the century, find the year in the left-hand upper division. Follow the index (or hand) to the right, to the month sought; then downward to the day of the week, and to the left for the corresponding days of the month. In leap-years, if seeking the day of the month, after the 29th of February, subtract one day; but if the day of the week is sought, go forward one day. The heavy figures are leap years. The civil year is 365.2422414 days; but on the basis of an added day (for leap-year) every fourth year, it is reckoned as 365.25 days, an excess of .0077586 of a day, or one day in 129 years, and three days in 387 (or roundly, 400) years. To correct this excess, instead of 100 leap-years in 400 years only 97 are reckoned, the three century-years that are not exact multiples of 400 being treated as common years.

1800 '51 '06	**'12** **'96**	'17 '62	'23 **'68**	'45 '73	'34 '79	**'40** '90	☞	June.	Sept. Dec.	April. July.	Jan. Oct.	May.	Aug.	Feb. Mar. Nov.
'05 '50	'11 **'56**	'95 '61	'22 '67	**'28** '89	'33 '78	'39 **'84**	☞	Sept. Dec.	April. July.	Jan. Oct.	May.	Aug.	Feb. Mar. Nov.	June.
'49 1900	'10 '55	**'16** '94	'21 '66	'27 **'72**	**'44** '77	'38 '83	☞	April. July.	Jan. Oct.	May.	Aug.	Feb. Mar. Nov.	June.	Sept. Dec.
'04 '93 '99	'09 '54	'15 **'60**	'43 '65	'26 '71	**'32** **'88**	'37 '82	☞	Jan. Oct.	May.	Aug.	Feb. Mar. Nov.	June.	Sept. Dec.	April. July.
'03 **'48**	'42 '53	'14 '59	**'20** '87	'25 '70	'31 **'76**	'98 '81	☞	May.	Aug.	Feb. Mar. Nov.	June.	Sept. Dec.	April. July.	Jan. Oct.
'02 '47 '97	**'08** '86	'13 '58	'19 **'64**	'41 '69	'30 '75	**'36** **'92**	☞	Aug.	Feb. Mar. Nov.	June.	Sept. Dec.	April. July.	Jan. Oct.	May.
'01 '85	'07 **'52**	'46 '57	'18 '63	**'24** '91	'29 '74	'35 **'80**	☞	Feb. Mar. Nov.	June.	Sept. Dec.	April. July.	Jan. Oct.	May.	Aug.
							✠							
29	22	15	8	1			☜	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
30	23	16	9	2			☜	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
31	24	17	10	3			☜	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	Mon.
..	25	18	11	4			☜	Wed.	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.
..	26	19	12	5			☜	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.
..	27	20	13	6			☜	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.
..	28	21	14	7			☜	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.

LETTER-WRITING in its true excellence can scarcely be regarded as an art. Instruction may, no doubt, be imparted through the medium of rules, but those applicable to the subject are few and, at the same time, of the simplest character. The following observations will, it is hoped, be found of some practical use to young persons, and assist them in avoiding errors and in acquiring a degree of proficiency in epistolary composition.

It should always be borne in mind that letter-writing is but "speaking by the pen." The first endeavor of a writer should, therefore, be to express himself as easily and naturally as in conversation, though with more method and conciseness.

STYLE.

The style should be determined in some measure by the nature of the subject, but in a still greater degree by the relative positions of the writer and the person addressed. On important subjects, the composition is expected to be forcible and impressive, on lighter subjects, easy and vivacious; in condolence, tender and sympathetic; in congratulation, lively and joyous. To superiors, it should be respectful; to inferiors, courteous; to friends, familiar; and to relations, affectionate. An old writer justly remarks: "Much has been said on the epistolary style, as if any one style could be appropriated to the great variety of subjects which are treated of in letters. Ease, it is true, should distinguish familiar letters, written on the common affairs of life, because the mind is usually at ease while they are composed. But even in these, topics incidentally arise which require elevated expression and an inverted construction. Not to raise the style on these occasions is to write unnaturally; for nature teaches us to express animated emotions of every kind in animated language. The dependent writes unnaturally to a superior in the style of familiarity; the suppliant writes unnaturally if he rejects the figures dictated by distress. Conversation admits of every style but the poetic; and what are letters but written conversations?"

Arrangement of Ideas.

The purport of every letter should be well considered before its commencement—not only with a view to the attainment of a thorough clearness of expression, which is of primary importance, but likewise that the principal points to be discussed may be prominently brought forward, while those of a trivial nature are slightly mentioned. It requires, however, not only a certain amount of tact, but some quickness of perception, to avoid the stiffness and formality which are incident to the arrangement of the subject, and which are great defects in letter-writing.

Ornamentation.

A redundancy of ideas and of language is a common fault with those capable of writing with facility. As a rule, therefore, all striving after effect or attempt at ornamentation should be avoided; and as the chief charm of a letter is its originality, writers should not avail themselves either of hackneyed

expressions or of ideas borrowed from others. An exhibition of epistolary talent is far less likely to gratify a correspondent than an easy, free and faithful expression of the sentiments of the writer; and by thus expressing himself he will also naturally avoid any excess of flattery or exaggerated professions of regard, so peculiarly objectionable in a letter, and at variance with all delicacy of taste. At the same time, a strict adherence to the natural expression of the thoughts will gradually introduce a degree of ease, fluency and force which may be carried to a high degree of perfection.

Long Sentences.

Unpracticed persons will at first find it desirable to make their sentences as short as possible, that they may have them completely under control. Long sentences, even when well constructed, frequently occasion some degree of obscurity, and are less forcible than short ones. Parentheses, though sometimes necessary, likewise tend to obscure the meaning of a writer, besides weakening the effect of sentences; they should therefore be avoided as much as possible.

COMPOSITION OF LETTERS.

As regards the composition of letters, it is generally desirable to commence with some introductory remarks, not as a mere formality, but for the purpose of conciliating attention to the main subject of communication, which may otherwise strike too abruptly upon the mind of the reader. The introduction should be followed by the development of the topics for discussion, according to the importance attaching to each; and the conclusion should, when occasion requires, be devoted to the confirmation or summing up of what has been previously stated, and to expressions of regard or affection.

Tautology.

Tautology, or the repetition of the same words, should be guarded against, as forming a blemish of a striking character. In this effort, the continual need of words of like meaning will soon render a writer familiar with a variety of synonyms; and the possession of a copious vocabulary will conduce greatly to the general freedom of the composition.

Postscripts.

Postscripts are generally indicative of thoughtlessness, and should be avoided, except when necessary for the purpose of mentioning some circumstance that has occurred after a letter has been written. To convey any assurance of regard or affection by means of a postscript is a great impropriety, as appearing to imply that the sentiments are so slightly impressed upon the mind of the writer as to be almost forgotten. There are special circumstances, however, which may render an expression of feeling in a postscript even more impressive than in the body of the letter; but such cases are exceptional, and must be left to the judgment of the practiced writer.

Quotations.

Quotations should not be introduced too frequently, for, though a short and appropriate one, occasionally given, is both effective and elegant, yet to give them prominence in a letter appears pedantic and affected. The common use of French or proverbial phrases also offends against good taste.

Underlinings.

Underlinings and interlineations are objectionable. A well constructed sentence will seldom require the emphasis to be marked by underlining any of the words, and a frequent repetition of the practice is not complimentary to the understanding of a correspondent. Any occasion for interlineations may usually be superseded by the exercise of care in writing and by a little forethought.

Grammatical Correctness.

It is scarcely necessary to observe that correctness in grammar and spelling is of the highest importance, and that no elegance of diction compensates for imperfection in these respects, but rather serves to render more glaring errors so essentially indicative of a defective education. When the rules of grammar are understood, the constant attention to apply them will soon render them familiar, and, at the same time, tend to promote readiness of expression. Abbreviations in spelling, even though warranted by general practice, have a certain appearance of laxity, and detract much from a good style.

Contractions and Abbreviations.

Be careful and do not use the character & except in the title of firms; as, Brown & Cox, A. T. Scott & Co. As a general thing, characters are to be avoided. The economy of time and space secured by their use hardly compensates for the mutilated appearance of the words and the liability to error involved. *Don't, can't, isn't,* and other contractions of the same class, are allowable in familiar letters, and where familiar conversation is quoted, but not in any graver style.

Figures of Arithmetic.

Numbers, except dates and sums of money, should be spelled in full, unless exceeding three words in length. Never write, "I saw 5 birds," "We have 8 cats."

Capitals.

Capitals should be cautiously used in letter-writing. We should certainly not confine the writer of a letter to the rigid rules observed in printed literature, because an important word may sometimes be graced with a capital which in a printed form would begin with a small letter. But an indiscriminate, or even frequent, use of capitals may be taken as a proof of the ignorance of the writer.

Punctuation.

Proper punctuation is essential to a correct and regular mode of expression. The best general rule to follow is to place the points where a pause would occur in speaking. Dashes should only be used to mark a sudden change in sentiment or in place of parentheses. Correct punctuation not only gives elegance to a composition, but it makes its meaning clear, enforces attention to those words or passages which most require it, and, to a great extent, prevents a misunderstanding or wilful misconstruction of the writer's meaning.

Repetition.

Avoid repetitions. They always offend the judicious ear, and are seldom proper, except when they enforce any particular meaning or explain it more fully.

Form of a Letter.

A letter usually consists of six parts, viz.: the date, complimentary address, body of the letter, complimentary closing, signature, superscription.

Position of the Parts of a Letter.

The DATE is written near the upper right-hand corner of the sheet.

The COMPLIMENTARY ADDRESS is begun on the line next beneath, one inch from the left side of the sheet.

The BODY OF THE LETTER is commenced nearly under the last letter of the complimentary address.

The COMPLIMENTARY CLOSING is begun on the line next beneath the body of the letter, one-half of the distance from the left to the right side of the page.

The centre of the SIGNATURE should be under the last letter of the complimentary closing.

The NAME and ADDRESS of the person written to should come on the line beneath the signature at the left of the sheet.

[*Date.*]
Charleston, S. C., July 11th, 19—

[*Complimentary address.*]
Sir,

[*Body of Letter.*]
I take the liberty of recommending to you my friend Mr. Edward Granger, of this city, bearer of the present. He intends staying only a week in New York; but should he have need of any information, I would be very much obliged to you to furnish it to him, and will be equally thankful for any other services that you may have occasion to render him. Relying, in this respect, upon your usual kindness,

[*Complimentary closing.*]
I am, dear Sir,

Yours sincerely,

[*Signature.*]
Henry Gladson.

[*Name.*]
To Mr. Charles Howland,

[*Address.*]
Maiden Lane, New York.

The Date.

The date is a matter of great importance, particularly in business letters. You cannot be too careful, therefore, to state it in full and correctly. Unless you write from a large city like New York, Philadelphia, Brooklyn, New Orleans, Cincinnati, Boston, Chicago or St. Louis, you should always mention the State, and generally the county, as there are many post-offices of the same name in the United States. If you write from a street, mention the name and number of the street, or the name of the hotel. With English writers, it is customary to put the day before the month in dating a letter; as, 18th September, instead of September 18th. Custom favors the latter in this country.

Proper Modes of Address.

The styles of address are varied to suit the occasion, and the terms of compliment at the close of a letter are always considered as mere courtesy or form; they should not, therefore, on any occasion be avoided. To a person with whom a writer is not well acquainted he should say "Sir," or "Madam," concluding with "Your obedient servant," or "Yours respectfully;" to those with whom he is tolerably well acquainted, "Dear Sir," or "Dear Madam," with "Yours faithfully;" and to those with whom he is on familiar

terms, "My dear Sir," or "My dear Madam," with "Yours truly," "Yours very truly," "Yours sincerely," or "Yours very sincerely." To two or more ladies, married or single, the form of address is "Ladies." To a young unmarried lady, the salutation is usually omitted to avoid the repetition of "Miss," the address alone being used as an introduction. The complimentary address is generally written at the top of a business letter.

Model Headings.

Mr. William C. Jones,
Washington, D. C.

DEAR SIR:

Your letter of the 12th—

Mrs. Maria Jansen,
Philadelphia.

DEAR MADAM:

I send you herewith—

Miss Edith Blaine,
Chicago:

You will receive by express—

Messrs. Harper Bros.,
Broadway,
New York.

DEAR SIRS:

Yours of the 1st inst.—

Messrs. Harper Bros.,
Broadway,
New York.

DEAR SIRS: Yours of the 26th ult. was—

Messrs. Smith, Beggs & Co.,
Chestnut St.,
Philadelphia.

GENTLEMEN:

We have none of the goods—

Messrs. Smith, Beggs & Co.,
Chestnut St.,
Philadelphia.

GENTLEMEN: We have the—

Miss Lucy Hooper,
Paris, Ill.:

We have received your—

My dear James:

Your note of the 10th—

My dear Cousin:

I have been so busy—

My dear Son:

You have not written—

Materials.

The names of the different kinds of papers, and when used, are as follows:

LEGAL-CAP is used in writing all legal documents, articles of agreement, etc. The characteristic of legal-cap is a red line running from top to bottom of the sheet.

BILL-PAPER is used for bills, etc., and is ruled expressly for the purpose, and usually bears the name and business of the person using it at the top.

FOOLSCAP is used in writing notes, orders, receipts, compositions, petitions, subscription headings, etc.

LETTER-PAPER is used for the ordinary letter.

NOTE and BILLET PAPER is used for notes of invitation, parents' excuses for children to teachers, and all brief communications. It is the smallest sheet-paper made.

COMMERCIAL NOTE is used for business letters, and is generally narrower than ordinary paper.

Titles.

Titles in America are either social, scholastic or official.

Social titles are Mr. (Mister, formerly Master), Sir, Esq. (Esquire), Gentlemen (only in the plural), Master (for boys only), Mrs. (Mistress), Madam, Miss, and Ladies. Esq. is properly used only to persons of some prominence.

Scholastic titles are those conferred by universities or other institutions of learning. They may follow or precede the name, as Prof. W. M. Jones; W. M. Jones, A.M.; Dr. W. M. Jones; W. M. Jones, M.D.

Official titles include titles applied to persons in the civil, military or naval service.

The following list illustrates the various titles used for the different ranks among individuals either in the complimentary address or superscription on the envelope:

To Royalty—To the King's Most Excellent Majesty.
To the Queen's Most Excellent Majesty.
To His Royal Highness the Prince of Wales.
To Her Royal Highness the Princess of Wales
To His Royal Highness the Duke of Connaught.
To Her Royal Highness the Princess Beatrice.

To Nobility—To His Grace the Duke of Devonshire.
To Her Grace the Duchess of Devonshire.
To the Most Noble the Marquis of Salisbury.
To the Most Noble the Marchioness of Salisbury.
To the Right Honorable Earl of Carlisle.
To the Right Honorable the Countess of Carlisle.
To the Right Honorable Lord Viscount Palmerston.
To the Right Honorable the Viscountess Palmerston.
To the Honorable Baron Crandall.
To the Honorable the Baroness Crandall.

The younger sons of noblemen in England are addressed as Honorable; also members of Parliament and other persons

holding certain positions of honor and trust. The elder sons of noblemen take by courtesy the title next in rank below that of their fathers.

Baronets are addressed thus: Sir Walter Scott, Bart.; and Knights thus: Sir Morton Peto, Kt.

Clerical Titles.

The Pope—His Holiness Pius X.
Cardinal—His Eminence, James, Cardinal Gibbons.
Archbishop—Most Rev. John M. Farley, D.D.
Bishop—Rt. Rev. J. L. Spalding, D.D.
Vicar-General—Very Rev. Henry Muehlsiepen.
Priest or Clergyman—Rev. James Farquhar.
——Rev. Dr. Amos Foley.

Titles Used in the United States.

His Excellency—The President of the United States, Governor of any State, Ministers to foreign countries.

Honorable—Vice-President of the United States, members of the Cabinet, members of Congress, heads of Departments, Assistant-Secretaries, Comptrollers and Auditors of the Treasury, Clerks of the Senate and House of Representatives, State Senators, Judges, Mayors of cities.

Miscellaneous Titles.

His Excellency The President and Mrs. Theodore Roosevelt.
Governor and Mrs. Myron T. Herrick.
Hon. and Mrs. John Hay.
Rev. Dr. and Mrs. Morgan Dix.
Professor and Mrs. J. F. Crunden.
Mr. and Mrs. Henry Ames.
Drs. John M. and Chester H. Thorn.
Drs. Walter C. and Mary C. Williams.
Mr. W. T. and Mrs. Dr. E. C. James.
Rev. H. E. and Mrs. Dr. E. C. Howe.
Rev. Mrs. William Bass.
Rev. Mrs. W. H. Crow.
Rev. Jane H. Moon.
Rev. Miss Jane H. Moon.

The Envelope.

The superscription on the envelope should be written very plainly. It is fashionable to write it as near the right-hand under angle or corner of the envelope as convenient. The full name and title of the person addressed, with place of residence, written out fully, including town, county, State, and country, if it goes abroad.

The number of the post-office box, or the door number and the name of the street, or the name of the county, may stand at the lower left-hand corner.

STAMP.

Miss Jane Shore,
Camden,
N. J.

P. O. Box 469.

STAMP.

Hon. Henry Stock,
Philadelphia,
Penn.

2375 Chestnut St.

Or:

STAMP.

Hon. Henry Stock,
2375 Chestnut St.,
Philadelphia,
Penn.

In writing to the President of the United States, he is addressed on the envelope thus:

STAMP.

To the President,
Executive Mansion,
Washington,
D. C.

The Governor of a State is thus addressed:

STAMP.

His Excellency,
Governor Odell,
Albany,
N. Y.

When a person's official designation is given in full it forms the next line below the name.

A letter of introduction should be addressed in this manner:

STAMP.

Mr. Charles Rowland,
Maiden Lane,
New York.

Introducing
Mr. Edward Granger,
Of Charleston, S. C.

When a letter is sent by a friend the name of the bearer is written on the lower left-hand corner.

GENERAL HINTS.

Be sure you affix the proper stamp to every letter before you send it. A letter will not be forwarded unless it is prepaid at least one full rate.

In writing a letter the answer to which is of more benefit to yourself than the person to whom you write, enclose a postage stamp for the reply.

A letter of introduction or recommendation should never be sealed, as the bearer to whom it is given ought to know the contents.

As a rule, every letter, unless insulting in its character, requires an answer. To neglect to answer a letter when written to is as uncivil as to neglect to reply when spoken to.

In the reply, acknowledge first the receipt of the letter, mentioning its date, and afterwards consider all the points requiring attention.

In business and ceremonious letters do not write on both sides.

A person in mourning should never write a congratulatory letter on mourning paper.

Either ruled or plain paper may be used, but unruled or plain paper is more stylish, and is to be preferred.

Avoid all erasures or blots, even if compelled to rewrite your letter.

Letters of compliment should always be written in the third person.

Avoid writing with a pencil. Never write other than business letters on a half sheet of paper.

Owing to the almost universal use of gummed envelopes, the use of sealing-wax has become nearly obsolete, though it adds a much more refined appearance to a note than simply closing it with adhesive gum. A neat little seal of red wax for a gentleman, and of gold, blue, or other fancy color, for a lady, is elegant and appropriate.

The envelope should be adapted both in size and color to the paper.

The stamp should be placed on the upper right-hand corner of the face of the envelope. The stamp should be right end up, and the edges of the stamp should be parallel with the edges of the envelope, as putting a stamp upside down or awry indicates carelessness, and is disrespectful to the person to whom it is sent.

LETTERS OF BUSINESS.

THE characteristics of the commercial style are conciseness and perspicuity. With the exception of a few terms of compliment, scarcely a superfluous word should be used. It is, however, not at all necessary to sacrifice correctness of style or language. A careful simplicity and the clearness of expression necessary to convey the ideas to be imparted, combined with the rejection of all words not absolutely indispensable, while giving rise to a forcible style, form in themselves some of the chief essentials of true elegance.

Persons unpracticed in correspondence, before writing a letter of any length, should note down the several heads of the matter forming the subject of communication, so that the various points may be brought forward in proper consecutive order. If several subjects are to be alluded to, they should be kept perfectly distinct, as the proper division of a letter into paragraphs is of the utmost importance. A confusion of sentences not only looks extremely ill, but is very likely to lead to a misapprehension of the writer's meaning, and to result in delay or injury, or, at all events, to necessitate further correspondence.

In replying to a letter, each point should be taken up as it arises, and be discussed in a separate paragraph; and each paragraph should be so clear and unambiguous that its purport may in no way be doubted. All business letters should be answered the same day they are received. In all letters of business, it is customary to write the name and address on the first page, as otherwise, if the superscription were lost, it would not appear to whom the letter had been written. Business letters should always be written upon plain paper. To use gilt-edged or any other fancy paper for this purpose is accounted the extreme of vulgarity.

From a Young Man Commencing Business to a Wholesale House, with Order.

GREENVILLE, ILL., July 2, 19—

Messrs. Gray & Wardwell, New York.

GENTLEMEN: Having commenced business here on my own account, with every prospect of success, I shall be glad to open an account with your house, doubting not it will be to our mutual advantage. With this view, I note below an order, which I shall thank you to execute with the least possible delay, and on your best terms as to goods and prices. I beg to refer you to my late employer, Henry Weatherby, of Chicago, who will satisfy you as to my integrity and trustworthiness; but, as this is a first transaction, on your forwarding me an invoice of the goods, deducting discount for cash, I shall remit a sight draft on a bank in your city for the amount per return mail. Requesting your usual prompt attention, I am, gentlemen,

Yours respectfully,

JOHN HARDAWAY.

Reply from Wholesale House, with Invoice.

NEW YORK, July 8th, 19—

DEAR SIR: Agreeably to your esteemed order of the 2nd inst., we have the pleasure to enclose invoice of goods amounting to $——, subject to five per cent discount for prompt cash.

We may mention that, from the opinion entertained of you by Mr. Weatherby, we have no hesitation in opening the account, and at once placing you on our best terms. The parcels have been dispatched this day per Adams Express, and we trust they will arrive safely and receive your approval. We believe the goods will bear a favorable comparison with those of any house in the trade, and desire that you should satisfy yourself as to value and quantities before remitting settlement. We are, dear Sir,

Yours respectfully,

GRAY & WARDWELL.

To Mr. John Hardaway, Greenville, Ill.

From Country Merchant Complaining of Quality of his Goods.

WAUKESHA, WIS., Jan. 14, 19—

DEAR SIR: Since I entered into business transactions with you, it has been my invariable course to act with integrity and honor, expecting the same conduct in return. Until lately, indeed, I had no cause to complain; but the goods I had last week from you, as well as the parcel just delivered, are so inferior in quality that I hesitate to offer them to any of my customers. As I can have much better value elsewhere, and I do not sell job goods on any account, I am reluctantly obliged to advise you that, unless you can send me others in their stead, I must withdraw my correspondence altogether. Meantime, both parcels are laid aside awaiting your orders. An immediate answer will oblige

Yours respectfully,

ABRAM MATTHEWS.

To Mr. James Santee, New York.

To a Publisher's Firm, Proposing to Open an Account.

CINCINNATI, Jan. 1st, 19—

GENTLEMEN: As our business is rapidly on the increase, we are desirous of opening an account with your house, and shall feel obliged by your transmitting us a trade list of your publications, as well as some of your general catalogues. Our usual terms of settlement are as follows: (here state them). Should they be agreeable to your house, the favor of an early attention to our request will oblige,

Gentlemen,

Your obedient servants,

BENSON & CO.

To Messrs. Saalfield Publishing Company, New York.

LETTERS OF RECOMMENDATION.

OUR examples under this head will be useful as affording specimens of an appropriate style to be adopted in answering advertisements or in applying for situations. On such occasions, while the proper deference due to an employer should be exhibited, it is desirable to preserve that tone of self-respect which, the employes should bear in mind, has a much better effect than any subservient expressions.

From a Youth Applying for a Junior Clerkship.

ALBANY, Jan. 16th, 19—

GENTLEMEN: Understanding by your advertisement in the *Herald* of the 15th inst. that you are requiring the services of a junior clerk, I beg respectfully to offer myself as a candidate for the appointment. I am fifteen years of age, and from my attainments in various branches of education, I believe myself qualified for the duties required.

I may mention that I am not altogether unacquainted with book-keeping and accounts, having for some months past assisted my father, Mr. Phineas Kincaid, lumber merchant, in the counting-house department of his business.

Should you entertain my application, I beg to refer you to Mr. Willis Bancker, of Walnut St., Philadelphia, and Mr. Paul Parker, of Chambers St., New York, who will have pleasure in testifying to my character and abilities. I am, gentlemen,

Your most obedient servant,

PHILIP KINCAID.

To Messrs. Cole & Taylor, Trenton, N. Y.

Reply of the Firm.

TRENTON, N. Y., Jan. 19th, 19—

SIR: Having made inquiries of Mr. Parker, one of the references mentioned in your letter of the 16th inst., we are satisfied with his recommendation. Before making an arrangement, however, we should desire a personal interview, and should, therefore, be glad if you could make it convenient to call at our counting-house on Saturday forenoon at eleven o'clock.

Yours,

COLE & TAYLOR.

To Mr. Philip Kincaid, Albany, N. Y.

Application for Situation as Housekeeper.

NO. 20 CANAL ST., NEW YORK.

BOX 301, POST-OFFICE: I beg respectfully to offer myself as a candidate for the situation advertised as above in to-day's *Herald*. I am at present, and have been for five years, housekeeper in the family of Mr. Hamilton, 2314 Madison Avenue, to whom I can confidently refer you as to my character and qualifications for the duties required. I am also permitted to refer you to John Houseman, Esq., Troy, N. Y., with whom I served two years in the same capacity previous to my engagement with Mr. Hamilton. My age is thirty-two years, and I am unmarried.

I am your most obedient servant,

ELIZABETH ELLIS.

From a Nursery Governess in Answer to an Advertisement.

GERMANTOWN, PA., March 4th, 19—

MADAM: Understanding that you have a vacancy for a nursery governess for your three daughters, I beg to state that I have occupied that position for three years in the house of Mr. Anthony, and only left in consequence of the family going to reside in the West. I am well acquainted with the usual routine of an English education, and have sufficient knowledge of French, drawing and music to teach the first rudiments, and attend to the practicing in the absence of the teacher, which, I presume, is all you would require. I enclose some testimonials which, I venture to hope, will satisfy you as to my character and competency for the office. Should you honor me with your confidence, I assure you that neither kindness nor exertion shall be wanting to do justice to your children, without exercising undue severity or unkindness. Awaiting the favor of your reply,

I remain, Madam,

Your obedient servant,

HELEN HOLMES.

To Mrs. Jeremiah Borie, Philadelphia.

Application to a Clergyman for a Testimonial.

BEEKER ST., BOSTON, May 4, 19—

REVEREND SIR: Being a candidate for the appointment of matron in the New York Hospital, I beg to solicit the favor of a testimonial from you as to my general conduct, which you have had opportunities of observing in your capacity of director and visitor of the institution where I, at present, fill a responsible place. And should you deem me worthy of the more important situation referred to, anything you can do to forward my interests will be ever gratefully acknowledged by, reverend Sir,

Your dutiful and humble servant,

ELIZA HAZLETON.

To the Rev. John Snowden,
Rittenhouse Square, Boston.

Application for a Situation as Gardener.

NO. 231 CANAL ST., NEW YORK, June 3d, 19—

SIR: Understanding that you want a gardener, I beg to offer myself as a candidate to fill the vacancy. I have had constant experience both in nursery grounds and private gardens, and am thoroughly acquainted with the management of the green-house and hot-house.

I inclose some testimonials from gentlemen with whom I have lived, which, I hope, will prove satisfactory. The last situation I filled was with Mr. Ogden, who will, I believe, speak favorably of my character and fitness for the office. I am a married man, with a family of three children, and my age is thirty-five. Should you entertain my application, a letter directed to the above address will meet with prompt attention from,

Sir, your most obedient servant,

JAMES O'REILLY.

To Henry Houghton, Esq., Troy, N. Y.

LETTERS OF COURTESY, FRIENDSHIP AND AFFECTION.

AN old writer says: "We all delight to talk of ourselves; and it is only in letters, in writing to a friend, that we can enjoy that conversation, not only without reproach or interruption, but with the highest propriety and mutual satisfaction. In such letters, above all things, a natural and lucid expression of the sentiments of the writer is necessary. Friends expect our thoughts and feelings, not a letter filled with unmeaning verbosity; and though, where excellence is aimed at, considerable attention must be paid to the disposition of the words and sentences, it must not be at the sacrifice of the energy resulting from a free expression of the sentiments. Let the thoughts first be mastered, and the words be suggested by the sentiments, without the slightest affectation of manner. The ease of diction, so essential, may, in a measure, be acquired by familiarity with the best English authors, and an approach thus made to that perfection which may be said to be attained only by the happy union of ease and freshness with the dignity of true friendship."

It is a common saying with young friends, as an excuse for remissness in their correspondence, that they have nothing to write about; but surely, between friends, there must be a similarity of taste on some subjects, and a discussion of their sentiments and opinions on any one of them, in a course of correspondence, would be acceptable and also valuable, as tending to their mutual improvement. But this division of our subject comprises also the letters passing between relatives and others united by ties of affection—excepting only the correspondence of lovers, and of parents with their children, which form distinct chapters. In such letters, the heart speaks and the imagination is most eloquent. Letters of courtesy should be written on the best paper. For those to gentlemen the paper should be neither figured nor tinted.

To a Lady Friend, with a Ring.

CINCINNATI, October 4th, 19—

MY DEAR MISS ATKINS: As a ring was adopted by the ancients as a symbol of eternity, I venture to request your acceptance of the accompanying little circlet as an emblem of esteem and affection on my part, which, I am sure, will be perpetual. Please receive it in the spirit in which it is tendered. Place it on your finger, and let me hope that as often as you look at it you will be pleasantly reminded of one who has experienced much happiness in your society, and who is now, as heretofore,

Your old and sincere friend,

HENRY LEWIS.

The Reply, Returning the Present.

WEST THIRTIETH ST., NEW YORK, Oct. 10th, 19—

DEAR SIR: I hope you will not be offended at the liberty I have taken in returning your kind present, as I make it a rule never to receive anything in this way from gentlemen. I assure you that, while my sentiments of respect and esteem are as cordial as ever, I cannot allow myself, even on the score of friendship, to infringe on a hitherto inviolate principle; and I, therefore, trust the rejection of your valuable and kindly-meant gift will not be thought unfeeling or impolite. True good-will and esteem, indeed, are superior to such external evidences, and I am satisfied your generous mind will not for a moment doubt the sincerity of those feelings I continue to cherish toward you.

I am, dear Sir, your faithful well-wisher,

LIZZIE ATKINS.

To Mr. Henry Lewis, Cincinnati, Ohio.

A Young Lady Congratulating an Aunt on Her Birthday.

RITTENHOUSE SQUARE, PHILADELPHIA,
January 10th, 19—

MY DEAR AUNT: To-morrow will be the fiftieth anniversary of your natal day, and I should do injustice to my feelings were I to permit the occasion to pass without expressing my sincere congratulations and wishing you many happy returns of the day. Aside from the near tie of relationship which exists between us, I shall ever cherish with feelings of gratitude and affection the remembrance of the very many favors and kindnesses I have received at your hands. Consequently it is only natural I should feel a grateful interest in each return of this happy anniversary. Fortunate, indeed, shall I esteem myself if, at your age, I can review my past life with equal satisfaction, for, after all, there is no happiness so complete as that afforded by looking back upon a well-spent life. Birthdays are the milestones which mark the progress of the traveller along the difficult highway of life, and happy is the individual who can pass each one without a sigh of regret or a feeling of mistrust in the future. With my best wishes for your future happiness, I remain,

Your affectionate niece,

KITTY PINE.

To Mrs. Mary Page, Fifth Avenue, N. Y.

To a Friend, on Being Married.

NEW YORK, Jan. 4th, 19—

MY DEAR PHIL: I believe there are certain stereotyped phrases in which it is customary to congratulate newly-married folks; but, utterly disregarding all rules and regulations in such cases made and provided, I wish you joy in the familiar words which our friendship warrants and my feelings suggest. If your married life is half as happy as I desire it to be, you will have good cause to be satisfied with your lot. Present my kind regards and compliments to your bride. Wishing you many happy returns of the anniversary of your wedding-day, I remain,

Your friend,

WALTER COOPER.

To Mr. Philip Brandon, Chicago, Ill.

LETTERS OF FRIENDLY COUNSEL AND REMONSTRANCE.

PERHAPS no class of letters demand more delicate treatment than such as one friend sends to another with words of counsel or remonstrance, either in common emergencies or on subjects of general importance. We give a variety of examples. One is from the correspondence of Franklin, and is worthy of study as a model of the instructive class, when the writer is the acknowledged superior of his correspondent in knowledge and experience.

From Dr. Benjamin Franklin to a Young Lady.

MY DEAR FRIEND: I send you the books I mentioned to you last night. I beg you to accept them as a small mark of my esteem and friendship. They are written in the familiar, easy manner for which the French are so remarkable, and afford a good deal of philosophical and practical knowledge, unembarrassed with the dry mathematics used by more exact reasoners, but which are apt to discourage young beginners. I would advise you to read with a pen in your hand, and enter in a little book short hints of what you find that is curious or that may be useful, for this will be the best method of imprinting such particulars on your memory, where they will be ready either for practice on some future occasion, if they are matters of utility, or, at least, to adorn and improve your conversation, if they are rather points of curiosity. And as many of the scientific terms are such as you cannot have met with in your common reading, and may, therefore, be unacquainted with, I think it would be well to have a good dictionary at hand, to consult immediately when you meet with a word you do not comprehend the meaning of. This may at first seem troublesome and interrupting, but it is a trouble that will daily diminish, as you will daily find less and less occasion for your dictionary as you become more acquainted with the terms; and, in the meantime, you will read with more satisfaction, because with more understanding. When any point occurs on which you would he glad to have more information than your book affords you, I beg that you would not in the least apprehend that I should think it a trouble to receive and answer your questions. It will be a pleasure and no trouble. For though I may not be able, out of my own little stock of knowledge, to afford you what you require, I can easily direct you to the book where it may be found. Adieu, and believe me ever, my dear friend,

Yours affectionately,

B. FRANKLIN.

To a Friend who has Traduced You.

NO. 21 MADISON AV., NEW YORK,
October 12th, 19—

SIR: I have it from good authority that you have spoken of me in most unfriendly terms to our mutual acquaintances. At first I could scarcely believe it, and hoped that there was some mistake; but the proofs of your misstatements and misrepresentations are too strong to be doubted. What could have been your motive for thus slandering me, I cannot conceive. As you know full well that there were no grounds for the disparaging assertions you have made, the least you can do is to repair the evil by disabusing the minds of those to whom you have traduced me. This I shall expect of you, and without delay.

Yours, etc.,

CHARLES SINGLETON.

To Sidney Delaney, Esq., Wall St., N. Y.

Answer to the Foregoing.

WALL ST., Oct. 13th, 19—

DEAR SIR: I think the remarks to which you refer have been taken more seriously than they should have been by the parties who reported them to you. Still, I do not deny that, under the influence of vexation, for which I now believe there was not sufficient cause, I did speak of you in terms of which I am now ashamed. I therefore owe you an apology, and make it freely. Any false impressions concerning your character and conduct which may have been derived from my words, I will take care to remove by a full explanation. Hoping that this candid acknowledgment will satisfy you,

I remain, Sir,

Truly yours,

SIDNEY DELANEY.

To Charles Singleton, Esq., No. 21 Madison Av.

From an Aged Lady to her Niece.

"THE HIGHLANDS," Sept. 4th, 19—

DEAR NIECE: The sincere love and affection which I have for your indulgent father, and ever had for your virtuous mother when alive, together with the tender regard I have for your future happiness and welfare, have prevailed on me to inform you of what I have heard of your unguarded conduct, and the too great freedom you take with Mr. Martindale. You have been seen with him at the theatres, in the Central Park, and other public places. Don't imagine that I write this from a desire to find fault, but believe me, your familiarity with him gives me no small concern. His character is extremely bad, and he has acted in the most ungenerous manner to two or three young ladies of my acquaintance who entertained too favorable an opinion of his honor. It is possible, as he has an uncle of considerable fortune, that you may be tempted to imagine his addresses an offer to your advantage; but that is greatly to be questioned, for I have heard that he is deeply in debt, and also that he is privately engaged to a rich old widow at Flushing. Let me prevail on you, dear niece, to avoid his company; for, notwithstanding your purity of heart, your good name may be compromised by such open acts of imprudence. I have no other motive but an unaffected zeal for your interest and welfare, and I flatter myself you will not be offended with the liberty here taken by your sincere friend

And affectionate aunt,

SARAH GLASGOW.

The Young Lady's Answer.

ST. LUKE'S PLACE, N. Y., Sept. 5, 19—

DEAR AUNT: I received your letter, and when I consider your reasons for writing, thankfully acknowledge you my friend. It is true I have been at those public places you mention with Mr. Martindale, but was utterly ignorant of his true character. He did make me proposals of marriage, but I told him I would do nothing without my father's consent. He came to visit me this morning, when I told him that a regard for my reputation obliged me never to see him any more, nor even correspond with him by letter, and you may depend on my adhering to that resolution. In the meantime, I return you a thousand thanks for your friendly advice. I shall leave New York in about six weeks, and will call to see you after I have been at my father's.

I am, dear aunt, your affectionate niece,

To Mrs. Sarah Glasgow. BELLA BURNS.

LETTERS SOLICITING ADVICE OR FRIENDLY FAVORS.

LETTERS of this kind, although they do not relate to transactions which bear a commercial value, are generally connected with business and require prompt attention. Introductions, for example, are often of the highest value, and as such favors can always be reciprocated, they are seldom refused or neglected by men acquainted with the usages of society. Such letters may be written by persons having only a business acquaintance, or may pass between mutual friends.

Soliciting a Loan from an Intimate Friend.

BROAD ST., PHILADELPHIA, May 11, 19—

MY DEAR SIR: A disappointment in the receipt of some money due has exposed me to a temporary embarrassment. The sum which would extricate me from this painful difficulty is not large, as $400 would be amply sufficient to release me from my present pressure. I have so great an aversion to borrowing money from a professional lender that I prefer the course of soliciting the aid of some well-known friend. I have thought of several, but none with a greater degree of confidence than yourself. Can you grant me, then, the accommodation of the above sum without in any way intrenching on your own convenience? If you can, I believe I may rely on your readiness to do so; and you may in turn depend upon it being reimbursed with the strictest punctuality by the 5th of April. A speedy reply to this request will extremely oblige, my dear Sir,

Yours most sincerely,

HOWARD THOMAS.

To Mr. Lee Williams, 21 Pine St., Philadelphia.

In Answer to the Above, on Account of Incapability.

NO. 21 PINE ST., PHILADELPHIA, May 13, 19—

MY DEAR SIR: I truly regret that my circumstances will not permit me to oblige a friend so dear to me as yourself; but at present I am in great need of money, and last Friday I was compelled to borrow to meet a pressing obligation. I, therefore, do not have it within my power to comply with your request. Trusting that you may be more successful in some other quarter, and with feelings of regret at my own inability to render you a service which you might otherwise readily command, believe me to remain,

Ever your sincere friend,

LEE WILLIAMS.

To Howard Thomas, Esq., Broad St., Philadelphia.

Friendly Letter of Introduction.

CHICAGO, Feb. 4th, 19—

MY DEAR SIR: This will introduce to you my esteemed friend Mr. Henry W. Bonsall, whom, I am sure, you will be happy to know. Any attention you may have it in your power to bestow during his visit to Boston will be gratefully reciprocated by

Your friend,

CHAUNCEY GARDENER.

To Raymond Howells, Esq., Boston.

Soliciting a Subscription for the Benefit of a Widow.

LOGAN SQUARE, PHILADELPHIA, April 4, 19—

MADAM: I venture to solicit your benevolent aid on behalf of an urgent and most deserving case. The widow of John Wood, a laborer on the Hudson River Railroad, who was killed by an accident on the line, has been left by his untimely end with a family of six helpless children. The two youngest are at present afflicted with a dangerous fever, and require their mother's sole care, thus preventing her from obtaining employment or doing anything for the support of those depending on her.

As Mrs. Wood is a respectable and well-behaved woman, and is very much averse to applying for ward assistance, a very moderate sum is being raised to relieve her immediate necessities, and, if possible, to establish her in a small shop as a means of future subsistence. Trusting you will excuse this intrusion, and that I may have the pleasure of adding your name to the accompanying subscription-list,

I am, Madam,

Your most obedient servant,

JANE HEADLEY.

To Mrs. Katherine Roosevelt,
Fifth Avenue, N. Y.

Answer to the Foregoing.

Mrs. Roosevelt has received Mrs. Headley's letter, and is happy in being able to assist with her mite so worthy an object, and is gratified in placing her name on the subscription-list for five dollars, which sum is herewith enclosed. Mrs. Headley will oblige by a note of acknowledgment.

FIFTH AVENUE, N. Y., April 5th, 19—

From a Gentleman to his Friend, Requesting the Loan of a Book.

"INGLESIDE," Oct. 10th, 19—

SIR: When last at your house you called my attention to a book entitled "The Origin of Species," which I remember as a work of so much interest that I feel much inclined to peruse it, and should esteem it a great favor if you would lend it to me. I will take great care of it and return it in a few days, as I have at present abundant leisure for reading.

I am, Sir,

Your obedient servant,

JOHN CARTER.

To Nathan Shewell, Esq., "The Oaks."

Affirmative Answer to the Foregoing.

"THE OAKS," Oct. 11th, 19—

DEAR SIR: You are quite welcome to the volume you express a wish to see; but I must ask you to let me have it by the middle of next month, as I shall then have occasion to use it for some literary purposes.

Believe me, dear Sir,

Yours very truly,

NATHAN SHEWELL.

To John Carter, Esq., "Ingleside," N. Y.

CHAMELEONS

PRACTICAL + CALCULATIONS

To Measure Wells or Cisterns.

Square the diameter in inches, multiply by the decimal .7854, and the product by the depth of the well or cistern in inches. The result will be the full capacity of the well in cubic inches. If the actual quantity of water be sought, multiply by the depth of water in inches, and in either case divide by 231 for the number of gallons.

Circular Cisterns, One Foot in Depth, Computed.

DIAMETER IN INCHES.	CONTENTS IN GALLONS.	DIAMETER IN INCHES.	CONTENTS IN GALLONS.
12	5.875	18	13.218
15	9.18	20	16.32
16	10.44	21	18.

For any greater depth than one foot, multiply by the number of feet and fractions of a foot. As the areas of circles, and consequently the capacities of circular cisterns of equal depth, vary as the squares of their diameters, it is unnecessary to multiply calculations. For instance, should it be required to find the contents of a circular cistern of two feet in diameter, say as the square of 1: to the square of 2: 5.875, that is, as 1 : 4 :: 5.875, and $5.875 \times 4 = 23.5$ = the contents of such cistern. This formula will apply to any diameter; for three feet, multiply by 9; for four feet, multiply by 16, etc.; for 5, by 25.

The Amount of Rainfall on a Building.

In this calculation the amount of annual rainfall is assumed to be thirty-six inches, which is about the average for the Northern States. Find the area covered by the building, in square inches. Multiply it by 36, the depth of rainfall; divide the product by 231, the cubic inches in a gallon, and the quotient will be the number of gallons of water shed by the roof in one year.

The Diameter of a Circular Cistern that will Contain the Rainfall on a Building.

The side of a square is to the diameter of a circle of equal area as 1 :1.128. The square root of the area of the building, multiplied by 1.128, will be the required diameter, assuming depth of cistern and rainfall to be equal. Allowance must of course be made for greater or less depth of cistern than three feet, as well as for daily or occasional use of rainwater.

The Per Cent of Profit or Loss.

Add two ciphers to the difference between the cost and selling price, divide by the cost, and the quotient will be the gain or loss per cent.

Weights of Hay by Measurement.

Four hundred cubic feet of dry meadow hay are estimated at one ton weight. The actual measurement to make a ton will be modified by the density of the volume of hay, the pressure it has been subjected to as in a large or long-standing stack, and the like. In barns the volume is variously estimated from 400 to 550, according to coarseness and the length of time it has been piled up. Find the cubic contents by measuring the three dimensions of the pile in feet, and divide by 400, 450, 500 or 550 (according to circumstances, as explained), and the quotient will be the number of tons, approximately

Weights of Cattle by Measurement.

To find the approximate weight, measure as follows: 1. The girth behind the shoulders. 2. The length from the fore part of the shoulder-blade along the back to the bone at the tail, in a vertical line with the buttocks. Then multiply the square of the girth, in feet, by five times the length, in feet. Divide the product by 1.5 for average cattle (if cattle be very fat, by 1.425; if very lean, by 1.575): and the quotient will be the dressed weight of the quarters. Thus: The girth of a steer is 6.5 feet, and the length from the shoulder-blade to the tail-bone is 5.25. The square of 6.5 is 42.25, and 5 times 5.25 is 26.25. Multiplying these together gives 1109.0625, which, when divided by 1.5, produces 739.375 lbs., the approximate net weight of the steer after being dressed.

The Number of Shingles Required for a Roof.

Multiply the length of the ridge-pole by twice the length of the rafter, and the product by eight if the shingle is to be exposed 4½ inches to the weather, and by 7 1-5 if exposed five inches.

The Number of Square Yards in a Floor or Wall.

Multiply the length and width of the floor, or height and width of the wall, in feet and fractions of a foot, divide by nine, and the quotient is the number of square yards.

The Number of Bricks Required for a Building.

The average brick is eight inches long, four inches wide, and two inches thick, or 64 ($8 \times 4 \times 2$) cubic inches. 1728 cubic inches make one cubic foot, and 27 bricks make 1728 (64×27) cubic inches. In laying bricks, 1-6 is allowed for mortar, or 4½ out of every 27, leaving 22½ actual bricks for each cubic foot. Therefore, multiply the dimensions—length, height and thickness—in feet and fraction of a foot, of the several brick walls, and the product by 22½, and the result will be the number of bricks required. Multiply by 20, instead of 22½, if the bricks are larger than the average above given. Allowance should be made for chimneys, projections for mantels, and the like, on the same basis.

The Number of Perches of Stone Required for a Wall or Cellar.

The perch of stone is now computed at a perch, or 16.5 feet in length, by 1.5 feet in width and 1 foot in height, or 24.75 ($16.5 \times 1.5 \times 1$) cubic feet. Of this amount one-ninth, 2.75 cubic feet, is allowed for mortar and filling. Multiply the three dimensions of the wall or walls in feet—width, height and thickness—and divide by 22 (24.75—2.75) if the needed quality of stone is the subject of enquiry, or by 24.75 if it be sought to ascertain the amount of masonry in the wall or cellar.

The Number of Feet, Board Measure, in a Lot of Boards, Planks, Flooring, Scantling, Joists, Sills or Beams.

The foot of board measure is a superficial or square foot, one inch thick. Multiply the product of the width and thickness of each board, plank or other article, in inches, by the length in feet and fractions of a foot, divide by 12, and the quotient will be the number of feet of board measure. In flooring, allowance must be made for rabbeting, the proportion varying with the depth of the groove and the width of the boards.

The Cubic Feet in Squared Timber or Beams.

Multiply as in board measure, but divide by 144 instead of 12, or multiply the three dimensions in feet and fractions of a foot.

The Number of Cubic Feet in a Round Log of Uniform Diameter.

Square the diameter, in inches, multiply by .7854, and multiply this product by the length in feet, divide by 144, and the quotient is the number of cubic feet.

Estimate of the Number of Cubic Feet in the Trunk of a Standing Tree.

Find the circumference in inches, divide by 3.1416, square the quotient, multiply by the length in feet, divide by 144, deduct about one-tenth for thickness of bark, and the result will be, approximately, the number of cubic feet.

The Number of Feet, Board Measure, in a Log of Unequal Diameters.

Square the smallest diameter in inches, multiply by .7854, and the product by the length of the log in feet, divide by 12, and the quotient will be the number of feet of board measure, approximately.

The Area of a Circle.

Of all plane figures, the circle is the most capacious, or has the greatest area within the same limits. It is geometrically demonstrable that it has the same area as a right-angled triangle with a base equal to its circumference, and a perpendicular equal to its radius, that is, half the product of the radius and circumference. It is obviously larger than any figure, of however many sides, inscribed within its perimeter, and smaller than any circumscribed polygon. As a result of laborious calculations on this basis (pushed in one instance to 600 places of decimals without reaching the end), it has been ascertained that the ratio of the diameter to the circumference of any circle (sufficiently exact for all practical purposes), is as 1:3.1416 (3.141592653×) or in whole numbers, approximately, as 7:22, or more nearly as 113:355. Hence, to find the circumference or diameter, the other quantity being known, multiply or divide by 3.1416; and to find the area, multiply half the diameter by half the circumference, or the square of the diameter by .7854 (3.1416 ÷4).

Capacity or Contents of a Granary, Bin, Crib or Wagon.

Multiply the three dimensions—the length, width and depth—in feet (the inches, if any, being reduced to fractions of a foot), multiply the product by the decimal .803564—or deduct one-fifth, which is sufficiently exact for ordinary purposes—and the result is the number of bushels. Where the wagon or crib flares considerably in length or width, it will be necessary to obtain a mean dimension. This is done by taking the longest and shortest measures, with one or more intermediate ones, and dividing the sum of all by the number taken. The quotient will be the mean dimension sought. The greater the flare the larger the number of intermediate dimensions that should be taken to insure accuracy. Corn in the ear, when first cribbed, is estimated at twice the bulk of shelled corn.

To Measure Corn or Similar Commodity on a Floor.

Pile up the commodity in the form of a cone; find the diameter in feet; multiply the square of the diameter by .7854, and the product by one-third the height of the cone in feet; from this last product deduct one-fifth of itself, or multiply it by .803564, and the result will be the number of bushels.

To Measure Casks or Barrels.

Find mean diameter by adding to head diameter two-thirds (if staves are but slightly curved, three-fifths) of difference between head and bung diameters, and dividing by two. Multiply square of mean diameter in inches by .7854, and the product by the height of the cask in inches. The result will be the number of cubic inches. Divide by 231 for standard or wine gallons, and by 282 for beer gallons.

The Number of Cords in a Pile of Wood.

A cord of wood is four feet wide, four feet high and eight feet long, or 128 (4×4×8) cubic feet. Multiply the three dimensions—length, height and width—of the pile in feet, divide by 128, and the quotient will be the number of cords. The odd inches in any or all of the three dimensions must be reduced to decimals or common fractions of a foot, before beginning to multiply.

Contents of Fields and Lots.

The following table will assist farmers in making an accurate estimate of the amount of land in different fields under cultivation:

10	rods	×	16	rods	=	1	A.	100	feet × 108 9/10	feet	= 1/4 A.
8	"	×	20	"	=	1	"	25	" × 100	"	= .0574 "
5	"	×	32	"	=	1	"	25	" × 110	"	= .0631 "
4	"	×	40	"	=	1	"	25	" × 120	"	= .0688 "
5	yards	×	968	"	=	1	"	25	" × 125	"	= .0717 "
10	"	×	484	yards	=	1	"	25	" × 150	"	= .109 "
20	"	×	242	"	=	1	"	2178	square feet		= .05 "
40	"	×	121	"	=	1	"	4356	" "		= .10 "
80	"	×	60½	"	=	1	"	6534	" "		= .15 "
70	"	×	69½	"	=	1	"	8712	" "		= .20 "
220	feet	×	198	feet	=	1	"	10890	" "		= .25 "
440	"	×	99	"	=	1	"	13068	" "		= .30 "
110	"	×	369	"	=	1	"	15246	" "		= .35 "
60	"	×	726	"	=	1	"	17424	" "		= .40 "
120	"	×	363	"	=	1	"	19603	" "		= .45 "
240	"	×	181½	feet	=	1	"	21780	" "		= .50 "
200	"	×	108 9/10	"	=	½	"	32670	" "		= .75 "
100	"	×	145 2/10	"	=	⅓	"	34848	" "		= .80 "

Boxes of Different Measure.

A box 24 inches long by 16 inches wide, and 28 inches deep, will contain a barrel (3 bushels).

A box 24 inches long by 16 inches wide, and 14 inches deep, will contain half a barrel.

A box 16 inches square and 8 2-5 inches deep will contain one bushel.

A box 16 inches by 8 2-5 inches wide, and 8 inches deep, will contain half a bushel.

A box 8 inches by 8 2-5 inches square, and 8 inches deep, will contain one peck.

A box 8 inches by 8 inches square, and 4 1-5 inches deep, will contain one gallon.

A box 7 inches by 4 inches square, and 4 4-5 inches deep, will contain half a gallon.

A box 4 inches by 4 inches square, and 4 1-5 inches deep, will contain one quart.

In purchasing anthracite coal, 20 bushels are generally allowed for a ton.

A Key to the Metric System.

It may not be generally known that we have in the nickel five-cent piece of our coinage a key to the tables of linear measures and weights. The diameter of this coin is two centimeters, and its weight is five grammes. Five of them placed in a row will, of course, give the length of the decimeter; and two of them will weigh a decagramme. As the kiloliter is a cubic meter, the key to the measure of length is also the key to the measures of capacity. Any person, therefore, who is fortunate enough to own a five-cent nickel, may carry in his pocket the entire metric system of weights and measures.

Comparison of Thermometric Scales.

To convert the degrees of Centigrade into those of Fahrenheit, multiply by 9, divide by 5, and add 32.

To convert degrees of Centigrade into those of Reaumur, multiply by 4 and divide by 5.

To convert degrees of Fahrenheit into those of Centigrade, deduct 32, multiply by 5, and divide by 9.

To convert degrees of Fahrenheit into those of Reaumur, deduct 32, divide by 9, and multiply by 4.

To convert degrees of Reaumur into those of Centigrade, multiply by 5, and divide by 4.

To convert degrees of Reaumur into those of Fahrenheit, multiply by 9, divide by 4, and add 32.

In De Lisle's thermometer, used in Russia, the gradation begins at boiling point, which is marked zero, and the freezing point is 150.

STANDARD WEIGHTS AND MEASURES.

AVOIRDUPOIS WEIGHT.

16 drachms.....1 ounce (oz.), = 28.35 gr'm's.
16 ounces .....1 pound (lb.), = 453.6 "
25 pounds.....1 quarter
4 quarters.....1 hundredw't. "
20 hundred-w't. 1 ton, 2,000 pounds.

The standard avoirdupois pound of the United States, copied from the British standard, is 0.00734 grain too heavy. The gramme is legal at 15.432 grains, and the kilogramme at 2.2046 pounds. In some States the ton rates at 2,240 pounds. In that case, the quarter, of course, consists of 28 lbs., or 2 stone.

TROY WEIGHT.

24 grains .....1 pennyweight (dwt).
20 pennyweights.....1 ounce, = 480 grains.
12 ounces .....1 pound, = 5,760 grains.

Gold, silver, platinum, and some gems, are weighed by this scale. Pearls and diamonds are weighed by the carat of 4 grains, 5 diamond grains being equal to 4 grains troy.

APOTHECARIES' WEIGHT.

20 grains.....1 scruple.
3 scruple.....1 drachm.
8 drachms*.....1 ounce.
12 ounces*.....1 pound.
* Same as in troy weight, as is also the grain.

LINEAR MEASURE.

3 barleycorns .....1 inch.
7.92 inches.....1 link.
12 inches .....1 foot, = 0.3047 metre.
3 feet .....1 yard, = 0.91438 metre.
5½ yards .....1 rod, perch, or pole.
4 poles, or 100 links 1 chain.
10 chains .....1 furlong.
8 furlongs .....1 mile = 1.6093 kilom'rs.
3 miles .....1 league.

1 line .....1/12 inch.
1 nail (cloth measure) .....2¼ inches.
1 palm.....3 "
1 hand (used for h'ht of horses).4 "
1 span .....9 "
1 cubit .....18 "
1 pace (military).....2 ft. 6 inches.
1 pace (geometrical).....5 feet.
1 Scotch ell .....37.06 inches.
1 English ell.....45 "
1 fathom .....6 feet.
1 cable's length .....120 fathoms.
1 league .....3 miles.
1 degree of the equator.....69.1613 miles, or 60 nautical knots or geographical miles.
1 degree of meridian.....69.046 miles.

SQUARE OR SURFACE MEASURE.

144 square inches ..1 sq. foot, = 9.29 square decimetres.
9 " feet.....1 sq. yard, = 0.836 square metre.
30¼ " yards ..1 square rod.
16 " rods ...1 chain.
40 " " ...1 rood.
4 roods .....1 acre, or 43,560 sq. ft.
640 acres .....1 sq. mile, = 259 hectares.
The acre = 0.405 hectare.

CUBIC OR SOLID MEASURE.

1728 cubic inches.....1 cubic foot.
27 " feet.....1 " yard.
40 " " of rough, or 50 " ft. of hewn timber } 1 ton or load.
42 " feet of timber.....1 British shipping ton.
40 cubic feet..... 1 American shipping ton.
108 cubic feet.....1 stack wood.
128 " " .....1 cord wood.

APOTHECARIES' MEASURE.

60 minims ....1 fluid drachm.
8 drachms ....1 " ounce.
20 ounces .....1 pint.
8 pints..... .....1 imperial gallon.

LIQUID MEASURE.

4 gills ....1 pint (pt.)
2 pints .....1 quart (qt.)
4 quarts .... 1 gallon (gal.)
42 gallons .....1 tierce.
63 " ... .1 hogshead (hhd.)
84 " ... .1 puncheon.
126 " .....1 pipe.
252 " .....1 ton.
10 " .....1 anker.
18 " .....1 runlet.
32* " .... 1 barrel (bbl. or brl.)
*In some of the States 31½ gallons make a barrel.

DRY MEASURE.

The bushel is 2150.42 cubic inches, that of England being 2218.192 cubic inches. The imperial bushel is, therefore, 1.0315 United States bushels. In dry measure the litre is legal at 0.908 quart. The following table is generally used:

2 pints.....1 quart.
4 quarts ...1 gallon of 268.8 cubic inches.
2 gallons ..1 peck (pk.)
4 pecks....1 bushel (bush. or bu.)
36 bushels ..1 chaldron (for coke and coal).

CIRCULAR MEASURE.

60 seconds..... 1 minute.
60 minutes..... 1 degree.
360 degrees..... 1 circle.
30 degrees..... 1 sign of zodiac.
12 signs ..... 1 zodiac circle.
360 degrees, the circumference of the earth.
24,899 statute miles, circumference of the earth at the equator.
69,124 statute miles, 1 degree of the equator.
1.1527 statute miles, 1 geographic mile.
60 geographic miles, 1 degree.

MEASURES OF TIME.

60 seconds .....1 minute.
60 minutes .....1 hour.
24 hours .....1 day.
7 days .....1 week.
28 days .....1 lunar month.
28, 29, 30 or 31 days .....1 calendar month.
12 calendar months .....1 year.
365.25 days .....1 common year.
366 days .....1 leap year.

LONGITUDE AND TIME COMPARED.

LONGITUDE.		TIME.
1 second		.0666 second.
1 minute.	4	seconds.
15 minutes	1	minute.
1 degree.....	4	minutes.
360 degrees	1	day.

Add difference of time for places east, and subtract for places west, of the given place.

ODD WEIGHTS.

14 pounds ..... 1 stone of iron or lead.
56 pounds ..... 1 firkin of butter.
100 pounds ..... 1 quintal of fish.
196 pounds ..... 1 barrel of flour.
200 pounds ..... 1 barrel of beef or pork.
250 pounds ..... 1 pig of iron or lead.

FOR HOUSEKEEPERS.

Wheat flour.....1 pound = 1 quart.
Indian meal.....1 pound 2 oz. = 1 "
Butter, when soft.....1 pound = 1 "
Loaf sugar, broken.....1 pound = 1 "
White sugar, pwd .1 pound 1 oz. = 1 "
Brown sugar.....1 pound 2 oz. = 1 "
Eggs.....10 eggs = 1 pound.
Flour.....8 quarts = 1 peck.
" .....4 pecks = 1 bushel.

LIQUIDS.

16 large tablespoonfuls .....½ pint.
8 " " .....1 gill.
4 " " .....½ gill.
2 gills .....½ pint.
2 pints .....1 quart.
4 quarts .....1 gallon.
1 common-sized tumbler holds ...½ pint.
1 " " wine-glass holds ½ gill.
25 drops are equal to .....1 teaspoonful.

LEGAL WEIGHT OF A BUSHEL IN ALL THE STATES.*

PRODUCT.	Alabama.	Arkansas.	California.	Colorado.	Connecticut.	Delaware.	Florida.	Georgia.	Illinois.	Indiana.	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.	Missouri.	Nebraska.	Nevada.	New Hampshire.	New Jersey.	New York.	North Carolina.	Ohio.	Oregon.	Pennsylvania.	Rhode Island.	South Carolina.	Tennessee.	Texas.	Vermont.	Virginia.	West Virginia.	Wisconsin.	R. R. Weights. †
Apples	..	..	..	..	..	..	..	..	..	..	48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	45	..	..	..	..	..	..	..	..	..	57	56
Apples, Dried	24	24	..	..	..	..	..	25	24	25	24	24	24	..	..	28	..	22	28	..	24	24	..	..	25	22	..	22	28	24	..	26	26	28	..	28	25	28	24
Barley	48	48	50	48	48	..	..	40	48	48	48	50	47	32	48	48	48	48	48	..	48	48	50	..	48	48	48	48	46	47	48	48	48	48	48	48	48	48	48
Beans, Castor	46	46	..	..	..	..	..	46	46	46	46	46	45	..	..	46	..	46	46	..	46	46	..	..	..	46	..	46	..	46	..	..	..	..	64	..	..	46	46
Beans, White	60	60	..	60	60	..	..	..	60	60	60	60	60	..	64	62	..	60	60	..	60	60	..	60	60	62	..	60	..	60	..	60	60	60	..	60	60	60	60
Beets	..	..	..	..	60	..	..	..	60	60	60	..	..	..	..	..	..	60	60	..	60	..	..	..	..	60	..	60	..	..	..	..	..	..	..	..	..	50	..
Blackberries	..	..	..	..	..	..	..	..	..	..	32	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bran	24	..	..	..	..	..	..	..	20	20	20	20	20	..	..	..	..	20	20	..	20	20	..	..	..	20	..	20	..	20	..	20	20	20	..	..	..	20	20
Broomcorn Seed	..	..	..	..	..	..	..	..	46	46	30	..	..	..	..	..	..	46	46	..	46	..	..	..	..	46	..	46	..	..	..	..	..	..	..	..	..	46	..
Buckwheat	..	52	40	52	48	..	..	..	52	50	52	50	56	..	48	48	48	48	42	..	52	52	40	..	50	48	50	52	42	48	..	56	50	42	48	48	52	50	52
Carrots	..	..	..	..	55	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50	..
Charcoal	..	..	..	..	..	..	..	..	22	22	22	..	..	..	..	..	..	22	20	..	22	..	..	..	..	22	..	22	..	..	..	..	..	..	22	..	..	22	22
Cherries	..	..	..	..	..	..	..	..	..	..	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coal	80	80	..	80	..	..	80	80	80	70	80	80	76	..	..	..	..	80	..	..	80	80	..	..	..	..	..	80	..	..	..	..	80	..	80	..	..	80	..
Coal, Cannel	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	70	..	..	..	..	..	..	..	..	..	..	..
Coal, mined out of State	..	..	..	..	..	..	..	..	..	..	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coke	..	..	..	..	..	..	..	..	40	40	40	..	..	..	..	..	..	40	40	..	40	..	..	..	..	40	..	40	..	..	..	..	..	..	..	..	..	..	..
Corn, on cob	76	70	..	70	..	..	..	..	70	68	70	70	70	..	..	70	..	70	68	..	70	70	..	..	..	70	..	70	..	70	..	70	70	70	..	70	70	70	70
Corn, on cob (of previous year)	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	68	..	..	..	..	..	..	..	..	..	..	..
Cornmeal, unbolted	48	50	..	50	50	48	..	48	48	50	48	50	50	..	50	48	50	50	48	..	50	50	..	50	..	50	46	50	..	50	50	50	50	..	..	50	48	48	48
Cornmeal, bolted	46	..	..	..	..	44	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Corn, shelled	56	56	52	56	56	56	..	56	56	56	56	56	56	56	56	56	56	56	56	..	56	56	52	56	56	58	54	56	56	56	56	56	56	56	56	56	56	56
Corn, sweet	..	..	..	..	..	..	..	..	46	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cranberries	..	..	..	..	..	..	..	..	33	33	33	..	..	..	..	..	..	40	33	..	33	..	..	..	..	33	..	33	..	..	..	..	..	..	..	..	..	33	..
Cotton Seed	33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	33	..	..	..	..	..	..	..	..	..	..	..	..	32	..	..	..	..	..
Currants	..	..	..	..	..	..	..	..	..	..	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Flaxseed	56	56	..	..	..	..	..	56	56	56	56	56	56	..	..	56	..	56	56	..	56	56	..	..	55	55	55	56	..	56	..	56	56	56	..	56	56	56	56
Gooseberries	..	..	..	..	..	..	..	..	..	..	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grapes	..	..	..	..	..	..	..	..	..	..	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grass Seeds :—																																						
Blue	10	14	..	14	..	..	..	..	14	14	14	14	14	..	..	14	..	14	14	..	14	14	..	..	..	14	..	14	..	..	..	14	14	..	..	14	..	14	..
Clover	60	60	..	60	..	..	..	60	60	60	60	60	60	..	64	64	..	60	60	..	60	60	..	..	64	60	64	60	60	62	..	60	..	60	60	64	60	60	60
Hungarian	..	48	..	..	..	..	..	..	48	48	45	55	50	..	..	48	..	50	48	..	48	60	..	..	..	48	..	50	..	..	..	60	48	48	..	..	..	48	45
Millet	..	50	..	..	..	..	..	..	50	50	45	55	50	..	..	50	..	50	50	..	30	40	..	..	..	50	..	50	..	..	..	50	50	50	..	..	..	50	45
Orchard	..	..	..	..	..	..	..	..	14	14	14	..	..	..	..	..	..	14	14	..	14	..	..	..	..	14	..	14	..	..	..	..	..	..	..	..	..	14	..
Red Top	..	..	..	..	..	..	..	..	14	14	14	..	..	..	..	..	..	14	14	..	14	..	..	..	..	14	..	14	..	..	..	..	..	..	..	..	..	14	..
Timothy	45	45	..	45	..	..	..	45	45	45	45	45	45	..	42	45	..	45	45	..	45	45	..	..	..	44	..	45	..	45	..	..	45	45	42	45	45	45	45
Hair, Plastering	7	8	..	..	..	..	..	..	8	8	8	8	8	..	11	7	..	8	..	..	9	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..
Hempseed	44	44	..	44	..	..	..	..	44	44	44	44	44	..	..	44	..	44	44	..	44	44	..	..	..	44	..	44	..	44	..	44	..	44	..	44	..	44	44
Hominy	50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	60	..	..	..	..	..	..	..	..	..	..	..
Lime	..	..	..	80	..	..	..	..	80	80	80	80	..	..	..	80	..	70	80	..	80	80	..	..	..	80	..	70	..	80	..	80	..	..	..	80	..	80	..
Malt, Barley	34	34	..	..	..	..	..	..	38	38	..	32	32	..	..	34	..	28	..	..	38	30	..	..	..	34	..	34	..	38	..	38	..	..	..	34	..	38	38
Malt, Rye	..	..	..	..	..	..	..	..	35	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mangel-wurzels	..	..	..	..	60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Oats	32	32	32	32	32	..	..	35	32	33	33	32	32	32	30	32	32	32	32	..	32	34	32	32	30	32	30	32	36	30	32	33	32	32	32	32	32	32
Onions	57	57	..	57	50	..	..	57	57	48	57	57	57	..	52	57	52	54	56	..	57	57	..	..	57	57	..	56	..	57	50	57	56	57	54	56	..	50	57
Onion Sets	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Onion Tops	..	..	..	..	..	..	..	..	28	28	28	..	..	..	..	..	..	28	28	..	28	..	..	..	..	28	..	25	..	..	..	..	..	..	..	..	..	28	..
Osage Orange	..	36	..	..	..	..	..	..	33	..	32	..	..	..	..	37	..	33	..	..	33	32	..	..	..	..	..	..	..	..	..	..	33	..	..	..	..	..	..
Parsnips	..	..	..	..	45	..	..	..	55	..	..	..	..	..	..	..	..	..	..	..	33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	44	..
Peaches	..	..	..	..	..	..	..	..	..	..	48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Peaches, Dried	33	33	..	..	..	..	..	..	33	33	33	33	39	..	..	..	..	28	28	..	33	33	..	..	33	32	..	33	28	38	..	33	..	28	..	33	33	28	33
Peaches, Pared	..	..	..	..	..	..	..	..	40	33	33	..	..	..	..	40	..	28	..	..	33	..	..	..	..	28	..	36	..	..	..	..	..	..	..	..	..	28	..
Pears	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	45	..	..	..	..	..	..	..	..	..	..
Peas	60	46	..	60	..	..	..	60	60	60	..	60	..	60	60	..	60	60	..	60	60	60	60	60	60	60	50	60	..	..	..	60	60	..	60	60	..	60	..
Peas, Ground	..	..	..	..	..	..	..	..	..	..	..	..	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plums, Dried	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Potatoes, Irish	60	60	..	60	60	..	..	56	60	60	60	60	60	..	60	60	60	60	60	..	60	60	60	60	60	60	..	60	60	56	60	60	60	60	60	60	60	60
Potatoes, Sweet	60	50	..	..	..	..	..	60	55	55	46	55	55	..	..	56	..	56	..	..	..	50	..	..	54	55	..	50	..	55	..	50	50	55	55	56	..	54	55
Popcorn	..	..	..	..	..	..	..	..	70	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Quinces	..	..	..	..	..	..	..	..	..	..	48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rapeseed	..	..	..	..	..	..	..	..	56	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50	..
Raspberries	..	..	..	..	..	..	..	..	..	..	32	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rutabagas	..	..	..	..	60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	56	..
Rye	56	56	54	56	56	..	56	56	56	56	56	56	56	32	56	56	56	56	56	..	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Salt, Coarse	50	50	..	80	..	..	..	56	50	50	50	50	50	..	80	70	..	56	50	..	50	50	..	..	85	50	..	50	..	85	..	50	70	50	70	55	..	50	..
Salt, Fine	50	..	..	..	..	..	..	56	55	50	50	50	55	..	..	55	..	56	50	..	50	50	..	..	..	50	..	59	..	62	..	..	..	50	..	50	..	66	56
Sorghum Seed	..	42	..	..	..	..	..	..	46	46	30	..	..	..	..	37	..	..	..	..	..	30	..	..	..	..	..	..	..	..	..	..	42	..	..	..	..	..	..
Strawberries	..	..	..	..	..	..	..	..	..	..	32	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Turnips	35	..	..	50	..	..	..	55	55	55	55	60	..	60	56	..	58	55	..	55	55	..	..	..	55	..	56	..	55	50	..	..	55	..	56	60	42	56
Wheat	60	60	60	60	60	60	..	60	60	60	60	60	60	60	60	60	60	60	60	..	60	60	60	60	60	60	60	60	60	60	..	60	..	60	60	60	60	60	60

* Local usage sometimes varies from legal enactment. All the States recognize the use of the standard U. S. bushel, without reference to weights of articles measured, and some of the States no longer legalize any other. † Used by railroad companies when it is not convenient to ascertain actual weights.

FOREIGN WEIGHTS AND MEASURES.

France.

I. Measure of Length.

1 Myriametre.. = 10,000 metres.
1 Kilometre ... = 1,000 metres.
1 Decametre... = 10 metres.
1 Metre..... = The 10,000,000th part of the quarter of the meridian of the earth.
1 Decimetre ... = 1-10th of a metre.
1 Centimetre... = 1-100th of a metre.
1 Millimetre ... = 1-1,000th of a metre.

II. Measure of Surface.

1 Hectare..... = 100 ares.
1 Are ..... = 100 square metres.
1 Centiare ..... = 1 square metre.

III. Measure of Solidity.

1 Stere..... = 1 cubic metre.
1 Decistere .... = 1-10th of a stere.

IV. Measure of Capacity.

1 Kilolitre ..... = 1 cubic metre.
1 Hectolitre ... = 10 decalitres.
1 Decalitre ....= 10 litres.
1 Litre..... = 1 cubic decimetre.
1 Decilitre..... = 1-10th of a litre.

V. Measure of Weight.

1 Millia..... = 1,000 kilogrammes, and is the weight of a ton of sea-water.
1 Quintal..... = 100 kilogrammes.
1 Kilogramme = Weight of a cubic decimetre of water, at the temperature of 4° above melting ice, or about 40° Fahrenheit.
1 Hectogramme = 100 grammes.
1 Decagramme = 10 grammes.
1 Gramme..... = 1-1,000th of a kilogramme.
1 Decigramme. = 1-10th of a gramme.

These measures may be compared with the English measures by means of the following table:

1 Metre..... = 39.38 English inches, nearly.
1 Are..... = 3.9 English perches, nearly.
1 Stere..... = 35.32 English cubic feet.
1 Litre..... = 1.76 English pints.
1 Gramme.... = 15.44 English grains.

The French Metric System has been either introduced or legalized in the Argentine Confederation, Austria, Belgium, Bolivia, Brazil, Chili, Colombia, Ecuador, Egypt, the German Empire, Greece, Italy, Mexico, Portugal and Spain. The present system of Switzerland is upon a semi-metric basis. In the United States the metric system was legalized by an act of Congress passed in 1866.

Belgium.—The metrical system is used here; but the kilogramme is termed a livre; the litre, a litron; and the metre, an aune.

Netherlands.—Here, also, the metric system has been adopted; but Flemish names are employed instead of those used in France.

Lombardo-Venetian Kingdom.—The metric system, with Italian names substituted for the most of the original terms, is used officially; but the old measures are also used. See *Venice.*

Austria.—The ell = 30.6 inches. The joch = 1 acre 1.75 rood. The metzen = 1-7th bushel. The eimer = 12.4 gallons. The pfund = ½ pound. Gold and silver are weighed by the mark of Vienna, which = 4333 grains.

Basle.—100 pounds = 108.6 pounds avoirdupois. The ohm = 10.7 gallons. The sack = 3.6 bushels. The large and small ells = 46.4 and 21.4 inches respectively.

Bavaria.—The long and short ells = 24 and 23.3 inches respectively. The schaff of 8 metzen = 5.6 bushels. The muid of 48 mass = 15 gallons. 100 pounds heavy and light weight = 108.3 and 104.2 pounds avoirdupois respectively. The mark of Augsburg = 3,643 grains.

Bremen.—The foot or half ell = 11.4 in. The ohm = 31.5 gallons. The last = 10.2 quarters. 100 pounds = 109.9 pounds avoirdupois.

Cape of Good Hope.—The centner or 100 pounds Dutch weight = 108.9 pounds avoirdupois. The leager of 15 ankers = 126.5 gallons. The muid = 3 bushels. The ell of 27 Rhynland inches = 27.8 inches.

China.—The cnang of 10 chih = 4 yards, nearly. The shing = 1 pint. 10 ho = 1 shing; 10 shing = 1 tow; 10 tow = 1 hwuh or 120 catties. The catty = 1.33 pound avoirdupois. 16 taels = 1 catty; 100 catties = 1 pecul. Liquids are sold by weight; but the English gallon is used in trading with foreigners.

Denmark.—The foot = 12.3 inches. 100 ells = 68.6 yards. The viertel = 1.7 gallon. 100 tonnen = 47.8 quarters. The pound = 1.1 pound avoirdupois. The pound for gold and silver weighs 7,266 grains.

East Indies. — *Bengal.* — The factory maund = 74.66 pounds avoirdupois. 10 bazar maunds = 11 factory maunds. 16 chittacks = 1 seer; 40 seers = 1 maund. The guz of two cubits = 1 yard. *Bombay.*—The maund = 28 pounds avoirdupois. 40 seers = 1 maund; 20 maunds = 1 candy. The candy = 24.5 bushels. *Madras.*—The maund = 25 pounds avoirdupois. 40 pollams = 1 vi; 8 vis = 1 maund; 20 maunds = 1 candy. The covid = 18.6 inches. The gars of 80 parahs = 16.875 quarters, and weighs 8,400 pounds avoirdupois.

Egypt.—The Turkish pike = 27 in. The ardeb of 24 Cairo rubbie = 6 quarters. The cantar = 100 pounds avoirdupois. 216 drams or 144 meticals = 1 rottole · 100 rottoli or 36 okes = 1 cantar.

Frankfort on the Main.—The ell = 21.2 inches. The foot = 11.2 inches. The matter = 3 bushels, nearly. The viertel = 1.6 gallon, nearly. The pound, light and heavy weight, = 1.03 and 1.1 pound avoirdupois. The Zollcentner = 110.2 pounds avoirdupois. The Cologne mark, used for gold and silver, weighs 3,609 grains.

Geneva.—The ell = 45 inches. The acre = 1 acre 1.1 rood. The coupe, or sack, = 2.1 bushels. The setier = 10 gallons. The heavy pound = 1.2 pound avoirdupois; the light pound 1-6th less. The mark weighs 3,785 grains.

Genoa.—The braccio of 2.5 palmi = 22.9 inches. The mina = 3.3 bushels. The barile = 16.3 gallons. The pound = 0.7 pound avoirdupois. 1.5 pound = 1 rottole. The pound sottile, for gold and silver, weighs 4891.5 grains.

Greece.—The Venetian measures of length are used, the braccio being called a piche. 100 kila = 11.4 quarters. The cantaro of 40 okes = 112 pounds avoirdupois.

Hamburg.—The foot = 11.3 in. nearly, 100 ells = 62.6 yards. The scheffel = 1 acre 6 perches. The viertel = 1.6 gallon. The pound = 1.06 pound avoirdupois. For the Cologne mark, see *Frankfort.* 2 marks = 1 pound troy.

Lubeck.—The ell = 22.9 inches. The last = 11 quarters. The viertel = 1.6 gallon. The pound = 1.07 pounds avoirdupois, nearly.

Malta.—The palme = 10.25 inches; 3.5 palmi = 1 yard; 8 palmi = 1 canna. The salma = 7.8 busheis The caffiso = 4.5 gallons. The barile = 9.33 gallons. 64 rottoli = 1 hundredweight. The cantaro = 175 pounds avoirdupois.

Mauritius.—Besides the English weights and measures, those of France before the late alteration are used. The aune = 1.3 yard. The velte = 1.7 gallon. The poid de marc = 1.08 pound avoirdupois.

Naples.—The canna = 83.2 inches. The moggia = 3 roods 12 perches. The tomolo = 1.4 bushel. The barile = 9.1 gallons. The cantaro grosso and piccolo = 196.5 and 106 pounds avoirdupois, respectively. The pound used in weighing gold and silver contains 4,950 grains.

Portugal.—The covado = 25.8 inches. The almude = 3.6 gallons. The pound = 1.01 pound avoirdupois.

Prussia.—The ell = 26.5 inches. The morgen = 2 roods 21 perches. The scheffel = 1.5 bushel. The eimer = 15.1 gallons. The pound = 1.03 pound avoirdupois. The mark of Cologne is used for gold and silver.

Rome.—The canna of 8 palmi = 2.2 yards. The canna of 10 palma = 88 inches, nearly. The rubbio = 8.1 bushels. The boccale = 0.4 gallon. The pound = 0.7 pound avoirdupois.

Russia.—The arshine = 28 inches. The foot = 13.75 inches. The dessetnia = 2 acres 2.8 roods. The tschetwert = 5.7 bushels. The wedro = 2.7 gallons. The pound = 0.9 pound avoirdupois. The pood = 36 pounds avoirdupois.

St. Gallen.—The ells for silks and woolens = 31.5 and 24.25 inches, respectively. The mutt of 4 viertels = 2.09 bushels. The eimer = 11.25 gallons. The pound, light and heavy weight, = 1.03 and 1.3 pound avoirdupois, respectively.

Saxony.—The foot = 11.1 inches. The acre = 1 acre 1.5 rood, nearly. The eimer, at Dresden, = 14.9 gallons; at Leipsic = 16.8 gallons. The wispel, at Dresden, = 69.9 bushels; at Leipsic = 91.7 bushels. The pound = 1.03 pound avoirdupois.

Sicily.—The canna = 76.5 inches. The salma = 7.6 bushels. The barrel = 8 gallons, nearly. The pound of 12 ounces = 0.7 pound avoirdupois. The cantaro = 175 pounds avoirdupois.

Smyrna.—The pike = 27 inches. The killow = 11.3 gallons. The rottolo = 1.2 pound avoirdupois.

South America.—The Spanish and Portuguese measures are most generally employed. The use of the English prevails in some parts.

Spain.—The vara or ell = 33.3 inches. The fanegada = 1 acre 21 perches. The arroba = 3.5 gallons. The fanega = 1.5 bushel. The pound = 1.01 pound avoirdupois.

Sweden and Norway.—The ell = 23.3 inches. The tunneland = 1 acre 1 rood, nearly. The tunnu = 0.6 quarter. The kanne = 0.6 gallon. The pound = 0.9 pound avoirdupois.

Turkey.—The pike = 26.25 inches. The killow = 0.9 bushel. The almud = 1.1 gallon. The oke = 2.8 pounds avoirdupois. The rottolo = 1.3 pound avoirdupois.

Tuscany.—The braccio = 23 inches, nearly. The saccata = 1 acre 0.9 rood. The sacche = 2 bushels. The fiasche = 4 pints. The pound = 12 ounces avoirdupois.

Venice.—Besides the metrical system, the following measures are used: The braccio, for woolens = 26.6 inches; for silks = 24.8 inches. The stajo = 2.2 bushels. The secchia = 2.4 gallons. The pound sottile = 0.7 pound avoirdupois, nearly; grosso = 1.05 pound avoirdupois.

A DICTIONARY OF SYNONYMS AND ANTONYMS.

Containing over Twenty Thousand Words of both Similar and Contrary Meaning.

NOTHING can be more embarrassing than that deplorable poverty of speech which makes a man iterate and reiterate his one word, when but a slight knowledge of Synonyms would permit him to express his ideas in an elegant and faultless manner.

Every one has felt the necessity, in writing or speaking, of having at command a ready vocabulary from which to select words that will clearly and forcibly convey the intended meaning and at the same time save the inelegance of frequent repetitions.

In fact, some writers have made the number of Synonyms in a language the test of its civilization and fitness for literature. Thus the ancient Greek fairly teems with words having a like signification, so that every delicate shade of meaning might be clearly and forcibly put; the same may be said of Latin and of Hebrew. On the other hand, while the English language contains about forty thousand words, Latham and other scholars have decided that the vocabulary of the English peasant does not contain more than five or six hundred words. Consequently it seems clear that a knowledge of words is the most direct possible test of culture and civilization.

The rhetorical fault known as tautology is best overcome by an acquaintance with Synonyms. On the other hand a knowledge of Antonyms stands next in importance to Synonyms, for one of the strongest figures of speech is "Antithesis," or the putting of matters in startling contrast and opposition—a method known of old as one of the most effective weapons in the armory of the rhetorician. The Dictionary of Antonyms following will be found one of the most complete ever published. The student will, upon finding the antonym he wishes, turn to its peculiar synonyms, and thus find the very word for which he may be seeking. To illustrate the use and necessity of synonyms to the writer and speaker we append a sentence which clearly shows the value of a dictionary of this character.

Example.

He was a man of acute perception, acute judgment, acute intellect and acute observation.

The Same Sentence Improved.

He was a man of { acute / keen / quick } perception, { shrewd / piercing / discerning } judgment, { bright / sharp / subtle } intellect and { intelligent / penetrating / clear-sighted } observation.

On the other hand there are cases when the reiteration of the same word gives strength and consistency to a sentence; when the same word used again and again comes at last to be like the blows of a hammer, riveting attention to the subject.

Of this character is Webster's celebrated sentence in his speech on "American Institutions."

Webster's Celebrated Sentence.

"Our Government can stand trial, it can stand assault, it can stand adversity, it can stand persecution; it can stand everything but the weakness of our own strength, it can stand everything but disorganization, disunion and nullification."

A

Abandon. *v.* 1. Leave, quit, forsake, drop, relinquish, evacuate, give over, cast off. 2. Surrender, cede, resign, waive, vacate. *Anto.*, keep, hold, retain.

Abandoned. *adj.* 1. Deserted, forsaken. 2. Depraved, corrupt, profligate, shameless, incorrigible. *Anto.*, 1. Kept, cared for. 2. Virtuous, holy.

Abase. *v.* 1. Reduce, lower. 2. Degrade, humble, disgrace. *Anto.*, 1. Increase, raise. 2. Honor, praise.

Abash. *v.* Shame, confuse, humiliate. *Anto.*, embolden, reassure.

Abate. *v.* 1. Lessen, reduce, diminish. 2. Moderate, allay. 3. Suppress, remove, terminate. *Anto.*, 1. Augment. 2. Infuriate, 3. Empower, permit.

Abbreviate. *v.* Curtail, shorten. *Anto.*, enlarge, lengthen.

Abduct. *v.* Kidnap. *Anto.*, rescue.

Abet. *v.* Aid, assist, help. 2. Favor, sanction. 3. Instigate, incite. *Anto.*, 1. Resist. 2. Oppose. 3. Forbid.

Abhor. *v.* Hate, loathe, detest. *Anto.*, love, admire.

Abide. *v.* Sojourn, live, dwell. *Anto.*, depart, leave.

Ability. *n.* 1. Power, force, might. 2. Competency. 3. Capacity, genius, turn. *Anto.*, Inability. 1. Feebleness. 2. Insufficiency. 3. Incapability.

Abject. *adj.* Base, vile, mean, low. *Anto.*, lofty, good, noble.

Able. *adj.* 1. Clever, accomplished, talented. 2. Qualified. 3. Gifted, strong, mighty. *Anto.*, 1. Stupid. 2. Unfit. 3. Weak, feeble.

Abolish. *v.* 1. Repeal, revoke, annul, cancel. 2. Overthrow. *Anto.*, 1. Enforce, hold. 2. Establish.

Abominable. *adj.* 1. Hateful, odious. 2. Loathsome, nauseous. 3. Vile, wretched. *Anto.*, 1. Lovable. 2. Pleasant. 3. Happy, good.

Abridge. *v.* Contract, compress. *Anto.*, expand. *See Abbreviate.*

Abrupt. *adj.* 1. Broken, rugged. 2. Steep. 3. Sudden, unexpected. 4. Short, curt. *Anto.*, 1. Smooth. 2. Level. 3. Slow. 4. Long, courteous.

Absolute. *adj.* 1. Real, positive. 2. Arbitrary, despotic. 3. Independent. *Anto.*, 1. Shadowy. 2. Limited. 3. Dependent.

Abstinence. *n.* Temperance, fast. *Anto.*, feast, plenty, orgies.

Abstruse. *adj.* Profound, recondite, hidden. *Anto.*, simple, clear.

Absurd. *adj.* Silly, foolish, laughable. *Anto.*, wise, solemn.

Abundance. *n.* Plenty, profuseness, richness. *Anto.*, famine, want, poverty.

Abuse. *v.* 1. Pervert, misuse. 2. Harm, injure. 3. Revile, reproach, malign. *Anto.*, 1. Use. 2. Protect. 3. Praise.

Accept. *v.* Receive, take. *Anto.*, refuse, reject.

Acceptable. *adj.* Pleasing, welcome. *Anto.*, displeasing.

Accidental. *adj.* Casual. *Anto.*, preconcerted.

Accommodate. *v.* 1. Oblige, serve, assist. 2. Fit, suit, adapt. 3. Reconcile, adjust. *Anto.*, 1. Disoblige, impede. 2. Spoil. 3. Embitter.

Accomplish. *v.* Complete, perform, execute. *Anto.*, fail.

Accomplished. *adj.* 1. Educated, experienced, practiced, adroit, talented. 2. Polished, refined, polite. *Anto.*, 1. Ignorant, awkward. 2. Boorish, ill-bred.

Account. *n.* Narrative, recital, history. *Anto.*, rebuttal, negation.

Accrue. *v.* Result, issue, ensue. *Anto.*, stop, delay, bar.

Accumulate. *v.* 1. Collect, gather. 2. Store, garner, hoard. 3. Increase, grow. *Anto.*, 1. Dissipate, scatter. 2. Spend. 3. Lessen, diminish.

Accurate. *adj.* Correct, exact, precise. *Anto.*, wrong, loose, erroneous.

Accuse. *v.* Charge, criminate, arraign. *Anto.*, exonerate.

Accustom. *v.* Habituate, familiarize, addict. *Anto.*, unused, undrilled.

Achieve. *v.* *See Accomplish.*

Acknowledge. *v.* Admit, concede, avow. *Anto.*, deny.

Acquaint. *v.* Tell, inform, notify. *Anto.*, deceive.

Acquire. *v.* Get, gain, secure, win, obtain. *Anto.*, lose.

Acquit. *v.* Clear, absolve, exonerate. *Anto.*, convict, indict.

Act. *v.* 1. Work, move, execute. 2. Behave, demean. 3. Operate. 4. Do, perform. 5. Personate, play, enact. *Anto.*, 1. Idle, loaf. 2. Misbehave. 3. To be inert. 4. Refuse. 5. Verify.

Act. *n.* 1. Deed, performance. 2. Statute, law. 3. Part of a play.

Active. *adj.* 1. Brisk, alert, nimble, smart. 2. Busy, diligent, enterprising. 3. Powerful, drastic. *Anto.*, 1. Lazy. 2. Lacking energy. 3. Weak.

Actually. *adv.* Really, truly, verily. *Anto.*, falsely, deceptively.

Acute. *adj.* 1. Keen, shrewd, sharp, discerning, knowing, quick, smart, bright, intelligent, ingenious, subtle, penetrating, piercing, clear-sighted, sharp-witted, long-headed. 2 Severe, violent, intense, exquisite, pungent. *Anto.*, 1. Dull. 2. Stupid.

Add. *v.* 1. Join, annex, append, tag. 2. Sum, cast up. *Anto.*, 1. Disconnect, separate. 2. Subtract, take away.

Address. *n.* 1. Appeal, petition, entreaty. 2. Speech, discourse, oration. 3. Skill, art, tact. 4. Superscription, direction. 5. Manner. *Anto.*, 3. Clumsiness, awkwardness.

Adhere. *v.* Cling, cleave, cohere. *Anto.*, loosen.

Adjacent. *adj.* Near, bordering, contiguous. *Anto.*, far, asunder.

Adjust. *v.* Arrange, trim, regulate, adapt, accommodate. *Anto.*, disarrange, disorder, confuse.

Admirable. *adj.* Excellent, fine, praiseworthy. *Anto.*, blamable, execrable.

Admire. *v.* Wonder, like, esteem, love. *Anto.*, hate, despise, dislike.

Admit. *v.* 1. Grant, concede, confess. 2. Let in. *Anto.*, 1. Deny. 2. Keep out, exclude.

Admonish. *v.* Advise, warn, reprove. *Anto.*, recommend.

Adulation. *n.* Flattery. *Anto.*, blame, scolding.

Advancement. *n.* Preferment, progression. *Anto.*, displacement, retrogression, receding.

Adventure. *n.* 1. Stake, risk, chance. 2. Accident, danger, event. *Anto.*, 1. Certainty. 2. Quiet, safety.

Adversity. *n.* Trouble, misfortune, sorrow, distress. *Anto.*, prosperity, wealth, joy.

Advertise. *v.* Announce, publish, proclaim. *Anto.*, conceal.

Advice. *n.* 1. Counsel, caution. 2. Information.

Affable. *adj.* Civil, sociable, easy. *Anto.*, surly, discourteous.

Affection. *n.* Partiality, fondness. *Anto.*, dislike.

Afflict. *v.* Trouble, annoy, torment, harass. *Anto.*, please.

Affront. *v.* Insult, abuse, condemn. *Anto.*, respect.

Agent. *n.* Factor, substitute. *Anto.*, principal.

Aggregate. *n.* Total, whole, lump, sum, mass. *Anto.*, part.

Agile. *adj.* *See Active.*

Agitation. *n.* 1. Excitement, commotion, tumult. 2. Debate, discussion. *Anto.*, tranquility.

Agree. *v.* 1. Concur, acquiesce, unite. 2. Engage, contract. *Anto.*, 1. Differ, disagree. 2. Refuse.
Aid. *v.* Assist, help. *Anto.*, resist.
Alarm. *n.* Fright, dismay, apprehension. *Anto.*, confidence, courage.
Alert. *adj.* *See Active.*
Aliment. *n.* Food, sustinence, nourishment.
Allay. *v.* Soften, lessen, quiet, ease. *Anto.*, excite.
Alleviate. *v.* *See Allay.*
Alliance. *n.* League, confederacy, union. *Anto.*, disunion, discord.
Allowance. *n.* 1. Salary, wages, pay. 2. Permission. *Anto.*, 2. Prohibition.
Allure. *v.* Tempt, decoy. *Anto.*, repel.
Amass. *v.* *See Accumulate.*
Amatory. *adj.* Tender, amorous, erotic. *Anto.*, hateful.
Amazement. *n.* Wonder, astonishment. *Anto.*, anticipation.
Ambiguous. *adj.* Doubtful, dubious. *Anto.*, clear.
Amicable. *adj.* Kind, friendly, pleasant. *Anto.*, hostile.
Ample. *adj.* 1. Spacious. 2. Plentiful, abundant. *Anto.*, 1. Confined, narrow. 2. Scarce.
Amuse. *v.* Divert, entertain. *Anto.*, weary, tire.
Analogy. *v.* Similarity. *Anto.*, diversity, difference.
Ancestors. *n.* Forefathers. *Anto.*, posterity.
Ancient. *adj.* Old antique. *Anto.*, modern.
Anecdote. *n.* Tale, story.
Anger. *n.* Resentment, wrath, ire, fury, rage, choler. *Anto.*, peacefulness, amiability, calm.
Anguish. *n.* Pain, distress, agony. *Anto.*, bliss.
Animal. *n.* Creature, beast, brute. *Anto.*, things inanimate.
Animate. *v.* Inspire, enliven, cheer, incite, urge. *Anto.*, depress.
Animation. *n.* Life, spirit, vivacity. *Anto.*, apathy.
Animosity. *n.* Enmity, hostility, malignancy. *Anto.*, liking, friendliness.
Annex. *v.* Attach, append, join. *Anto.*, detach, separate.
Announce. *v.* *See Advertise.*
Annoy. *v.* Disturb, molest, trouble. *Anto.*, convenience, please, accommodate.
Annul. *v.* Rescind, abolish. *Anto.*, affirm.
Answer. *n.* Reply, rejoinder. *Anto.*, question.
Anterior. *adj.* Prior, before, previous. *Anto.*, posterior, subsequent.
Anticipate. *v.* Foresee, forestall, prevent. *Anto.*, surprise.
Antipathy. *n.* Aversion, dislike, hatred. *See Animosity.*
Antique. *adj.* Old, ancient, obsolete. *Anto.*, modern, new, fresh.
Anxiety. *n.* Care, solicitude, worry. *Anto.*, certainty, repose.
Any. *adj. pron.* 1. Anyone. 2. Some. *Anto.*, none.
Apartment. *n.* Lodging, room, chamber.
Apathy. *n.* Coldness, torpor, unconcern. *Anto.*, animation, *which see.*
Ape. *v.* Imitate.
Apologize. *v.* Excuse, exculpate. *Anto.*, insult, justify.
Appal. *v.* Scare, shock, frighten. *Anto.*, embolden, encourage. *See Alarm.*
Apparel. *n.* Dress, clothing, attire. *Anto.*, nudity.
Apparent. *adj.* Visible, plain, obvious, evident. *Anto.*, concealed, ambiguous, *which see.*
Apparition. *n.* An appearance, ghost, spirit, phantom.
Appear. *v.* 1. Emerge, come into view. 2. Seem, look. *Anto.*, disappear.
Appearance. *n.* 1. Coming, arrival. 2. Air, figure. 3. Semblance. *Anto.*, 1. Departure. 3. Unlikeness.
Appease. *v.* Calm, pacify. *Anto.*, inflame.
Appellation. *n.* Name, title.
Applaud. *v.* Cheer, praise, extol. *Anto.*, hiss, blame, belittle.
Application. *n.* Industry, persistency. *Anto.*, idleness, fickleness.
Apply. *v.* Use, appropriate, devote. *Anto.*, misapply.
Appoint. *v.* 1. Fix, establish. 2. Name, constitute. *Anto.*, 1. Change.
Appraise. *v.* Value, estimate, rate.
Appreciate. *v.* Estimate, value, appraise.
Apprehend. *v.* 1. Catch, capture, arrest. 2. Understand, comprehend. 3. Fear, dread, alarm. *Anto.*, 1. Escape. 2. Misunderstand. 3. Embolden.
Apprise. *v.* *See Admonish.*
Approach. *v.* Approximate, come near. *Anto.*, depart.
Approbation. *n.* Approval, sanction, consent. *Anto.*, disapproval.
Approximate. *v.* *See Approach.*
Apt. *adj.* 1. Fit, meet, suitable, qualified. 2. Ready, quick, prompt. *Anto.*, 1. Unfit. 2. Slow.
Arbitrary. *adj.* Irresponsible, tyrannous. *Anto.*, normal, regular, constitutional.
Arbitrator. *n.* Judge, umpire, referee.
Archives. *n.* Records, chronicles.
Ardent. *adj.* Zealous, fervid, hot, intense. *Anto.*, calm, cool.
Arduous. *adj.* Difficult, trying, laborious. *Anto.*, easy, facile.
Argue. *v.* 1. Evince, prove. 2. Reason, discuss, debate. *Anto.*, disprove.
Argument. *n.* Reason, proof, discussion, dispute. *Anto.*, folly, mistake.
Arise. *v.* Mount, ascend, get up. 2. Begin, originate. *Anto.*, descend, go down.
Aristocratic. *adj.* Haughty, proud, arrogant. *Anto.*, democratic, plebeian.
Arms. *n.* Weapons.
Army. *n.* Force, troops. *Anto.*, mob.
Arraign. *v.* *See Accuse. Anto.*, acquit.
Arrange. *v.* 1. Distribute, rank, classify. 2. Plan, devise, organize. *Anto.*, disarrange.
Arrogance. *n.* Pride, haughtiness, supercilliousness. *Anto.*, humility.
Artful. *adj.* 1. Skilful. 2. Subtle, shrewd, crafty. *Anto.*, simple, unaffected.
Artifice. *n.* Cunning, trick, stratagem. *Anto.*, honesty, simplicity.
Artist. *n.* 1. Designer. 2. Painter, sketcher. 3. Sculptor, modeller. *Anto.*, dauber.
Assay. *n.* Test, examination, chemical analysis of metals.
Association. *n.* Society, guild, combination. *Anto.*, separation.
Attic. *adj.* Classic, elegant, pure. *Anto.*, stupid, modern, unclassical.
Attitude. *n.* Posture, phase, situation.
Attorney. *n.* Lawyer, counsellor, agent. *Anto.*, client.
Attract. *v.* Allure, fascinate, captivate. *Anto.*, repel.
Attraction. *n.* Charm, fascination. *Anto.*, repulsion.
Audacity. *n.* Daring, hardihood, presumption, insolence. *Anto.*, timidity, meekness.
Augment. *v.* Increase, enlarge, magnify. *Anto.*, decrease, diminish.
Author. *n.* Writer, composer, maker.
Authority. *n.* Liberty, permit, order, warrant. *Anto.*, prohibition.
Avarice. *n.* Closeness, cupidity, covetousness. *Anto.*, liberality, prodigality.
Avow. *v.* Affirm, confess, declare. *Anto.*, deny.
Awake. *adj.* Watchful, vigilant. *Anto.*, sleepy, drowsy.
Awe. *n.* Dread.
Awkward. *adj.* Unskilful, unhandy, boorish, rough. *Anto.*, accomplished, subtle, graceful.

B

Babble. *v.* Prate, chatter. *Anto.*, to be laconic.
Baffle. *v.* Circumvent, foil. *Anto.*, succor, aid, abet.
Baggage. *n.* Luggage.
Balance. *v.* Equalize, counteract, poise. *Anto.*, preponderate.
Band. *n.* 1. Company, crew, gang. 2. Chain, fetter, shackle. 3. Fillet, bandage. 4. Orchestra, company of musicians. *Anto.*, individual, one.
Banish. *v.* Exile, send away, exclude. *Anto.*, recall.
Banter. *v.* Rally, twit, taunt.
Bare. *adj.* Unclothed, naked. *Anto.*, clad.
Bargain. *n.* Agreement, contract, sale.
Barter. *v.* Exchange, sell, commute. *Anto.*, retain.
Base. *adj.* *See Abject.*
Bear. *v.* 1. Uphold. 2. Undergo, suffer. 3. Generate, bring forth.
Beastly. *adj.* Brutal, sensual, bestial. *Anto.*, humane, polite.
Beat. *v.* 1. Knock, hit, strike. 2. Defeat, conquer, subdue.
Beau. *n.* 1. Admirer, suitor. 2. Fop, dandy. *Anto.*, belle.
Beauty. *n.* Comeliness, grace, symmetry. *Anto.*, ugliness.
Becoming. *adj.* Appropriate, seemly, fit. *Anto.*, unsuitable.
Beg. *v.* Beseech, solicit, entreat. *Anto.*, grant.
Beguile. *v.* Amuse, divert, delude.
Behavior. *n.* Conduct, bearing, deportment. *Anto.*, misbehavior.
Behold. *interj.* See, look.
Believe. *v.* Credit, assume, deem. *Anto.*, doubt.
Beloved. *adj.* Dear, darling. *Anto.*, hated.
Below. *prep.* Under, beneath. *Anto.*, over, above.
Benefaction. *n.* Gift, gratuity.
Bequeath. *v.* Leave, devise, will. *Anto.*, inherit.
Bereave. *v.* Deprive, take away, strip. *Anto.*, enrich.
Beseech. *v.* *See Beg.*
Bestow. *v.* Confer, give, grant. *Anto.*, withhold.
Better. *v.* Improve, amend, correct. *Anto.*, confuse, deteriorate.
Bill. *n.* 1. Reckoning, statement, account. 2. Draft. 3. Beak. 4. Pick-axe.
Blame. *n.* Censure, reproof, reproach. *Anto.*, praise.
Blemish. *n.* Stain, spot, speck, flaw. *Anto.*, immaculate.
Blind. *adj.* 1. Sightless. 2. Heedless. *Anto.*, far-sighted.
Bloody. *adj.* Sanguinary, gory.
Boast. *v.* Brag, vaunt, glory.
Boldness. *n.* 1. Courage, bravery, valor. 2. Effrontery, impudence. *Anto.*, 1. Cowardice. 2. Bashfulness, modesty.
Bombastic. *adj.* Inflated, pompous, grandiloquent. *Anto.*, concise.
Border. *n.* Verge, brim, edge, frontier. *Anto.*, middle, interior.
Bore. *n.* 1. Nuisance, a prosy talker. 2. Hole, calibre.
Boundless. *adj.* Unlimited, immeasurable, infinite. *Anto.*, limited.
Bountiful. *adj.* Liberal, generous, bounteous. *Anto.*, niggardly, miserable.
Bravery. *n.* *See Boldness.*
Breeding. *n.* Nurture, training, manners. *Anto.*, impoliteness.
Brief. *adj.* Short, concise. *Anto.*, protracted.
Bright. *adj.* Shining, radiant. *Anto.*, dull.
Brilliancy. *n.* Luster, radiance. *Anto.*, dullness.
Brittle. *adj.* Fragile, frail, crumbling. *Anto.*, tough.
Broil. *n.* Quarrel, brawl, fight, affray. *Anto.*, quiet, peace.
Brutal. *adj.* Cruel, unfeeling, savage, ferocious. *Anto.*, humane.
Bud. *v.* Sprout, shoot, germinate.
Buffoon. *n.* Harlequin, fool, idiot. *Anto.*, sage.
Build. *v.* Raise, erect. *Anto.*, destroy, pull down.

Bulk. *n.* Size, magnitude, body, gross. *Anto.*, tenuity.
Burial. *n.* Interment, sepulture. *Anto.*, resurrection.
Burst. *v.* Explode, break open.
Business. *n.* Calling, employment, vocation. *Anto.*, leisure.
Bustle. *n.* Stir, tumult, fuss. *Anto.*, quiet.
Butt. *n.* 1. Mark, object, target. 2. Cask.
Buxom. *adj.* Healthy, brisk, cheerful, lively. *Anto.*, spiritless.
Buy. *v.* Purchase, cheapen, bargain for. *Anto.*, sell.

C

Cabal. *n.* 1. Clique, set, league. 2. Plot, intrigue, conspiracy.
Cajole. *v.* Coax, flatter, wheedle. *Anto.*, compel.
Calamity. *n.* Mishap, misfortune, disaster. *Anto.*, good fortune, luck.
Calculate. *v.* Reckon, count, compute, rate, estimate.
Call. *v.* 1. Cry, shout. 2. Invite, bid, summon. *Anto.*, 1. Whisper. 2. Order away, send.
Calling. *n.* *See Business.*
Callous. *adj.* Hard, unfeeling, dead. *Anto.*, sensitive, nervous.
Calm. *adj.* 1. Composed, collected. 2. Quiet, tranquil, placid. *Anto.*, 1. Stormy. 2. Agitated.
Candid. *adj.* Open, honest, sincere. *Anto.*, deceitful, treacherous.
Capacity. *n.* 1. Volume, amplitude. 2. Ability, competency, faculty, talent. 3. Character, office. *Anto.*, 2. Incapacity, incompetency, stupidity, inability.
Caprice. *n.* Whim, freak, fancy, vagary. *Anto.*, settled purpose, conviction.
Captious. *adj.* Peevish, petulant, fretful, cross. *Anto.*, good-humored, facile, easy.
Captivate. *v.* Fascinate, charm, enchant. *Anto.*, disgust, displease.
Careful. *adj.* 1. Heedful, attentive. 2. Watchful, cautious, circumspect. *Anto.*, heedless, careless, rash.
Caress. *n.* Kiss, embrace. *Anto.*, buffet, spurn.
Carousal. *n.* Feast, banquet, orgie. *Anto.*, fast.
Cash. *n.* Money, coin, specie.
Casualty. *n.* Accident, mischance, contingency.
Cause. *v.* Produce, create, occasion.
Cause. *n.* Reason, motive, inducement, incitement. *Anto.*, effect.
Cavity. *n.* Aperture, opening, hollow.
Cautious. *adj.* Prudent, careful, watchful. *See Careful. Anto.*, rash, headlong, heedless.
Celebrate. *v.* 1. Commemorate, keep, observe, honor, solemnize. 2. Praise, extol, glorify. *Anto.*, 1. Forget, ignore. 2. Execrate.
Censure. *v.* Blame, approve, chide, scold, berate. *Anto.*, praise, honor, congratulate, approve.
Certain. *adj.* 1. Sure, assured, confident. 2. Infallible, unfailing. 3. Plain, positive, absolute, indubitable. *Anto.*, uncertain. 1. Dubious, doubtful. 2. Fallacious. 3. Dark, disputed, challenged.
Chance. *n.* 1. Accident, fortune, fortuity, casualty. 2. Hazard, risk, peril, jeopardy. *Anto.*, 1. Design. 2. Safety, certainty, security.
Change. *v.* Alter, vary, turn.
Character. *n.* Repute, reputation, standing.
Charm. *n.* Grace, attraction. *Anto.*, repulsion.
Chastity. *n.* Purity, modesty, virtue, continence. *Anto.*, impurity, lewdness, incontinence.
Chattels. *n., pl.* Goods, effects, personal property. *Anto.*, real estate.
Chatter. *v.* *See Babble.*
Cheat. *v.* Deceive, trick, defraud, swindle.
Cheer. *v.* 1. Applaud. 2. Comfort, console, gladden, encourage. *Anto.*, 1. Hiss. 2. Distress.
Cheerful. *adj.* Lively, merry, sprightly, gay. *Anto.*, sad, weary, downcast, mournful.
Cherish. *v.* 1. Nourish, nurse, nurture. 2. Encourage. 3. Harbor, protect, love. *Anto.*, 1. Starve, famish. 2. Dishearten. 3. Expose, detest.
Chief. *n.* Leader, commander. *Anto.*, subordinate, subaltern.
Chiefly. *adv.* Principally, mainly, mostly, eminently. *Anto.*, secondarily, subsequently.
Childhood. *n.* Minority, infancy. *Anto.*, majority, manhood.
Childish. *adj.* 1. Young, juvenile, infantile. 2. Weak, trifling, silly. *Anto.*, 1. Manful, experienced. 2. Strong, earnest, wise, sapient.
Choice. *n.* Selection, election, option, preference.
Choke. *v.* 1. Suffocate, strangle, throttle. 2. Stop, block, obstruct. *Anto.*, 1. Breathe, animate. 2. Assist, help.
Choose. *v.* Prefer, pick, select, elect.
Circulate. *v.* Propagate, disseminate, diffuse, spread. *Anto.*, confine, stop, bound, retard.
Circumspect. *adj.* Judicious, discreet, prudent, cautious, wary. *Anto.*, imprudent, rash, foolish.
Circumstance. *n.* Incident, accident.
Cite. *v.* 1. Quote, adduce. 2. Summon. *Anto.*, 2. Discharge, release.
Civil. *adj.* 1. Civic, municipal. 2. Urbane, obliging, courteous, polite, refined. *Anto.*, 1. Rural, countrified. 2. Rude, boorish, impolite.
Civility. *n.* 1. Courtesy, politeness, suavity. 2. Benefit, favor, kindness. *Anto.*, 1. Discourtesy, asperity. 2. Unkindness, incivility.
Civilization. *n.* Culture, cultivation, refinement. *Anto.*, barbarism, savagery, ignorance.
Clad. *v., p. p.* Dressed, clothed, attired. *Anto.*, naked, bare.
Clandestine. *adj.* Concealed, hidden, sly, private. *Anto.*, open, prominent, conspicuous, advertised.
Clasp. *v.* Grasp, clutch, gripe. *Anto.*, loosen, open, unclasp.
Clean. *adj.* Unsoiled, spotless, pure, immaculate. *Anto.*, impure, dirty, filthy, soiled, nasty.
Clear. *adj.* 1. Transparent, bright, limpid. 2. Fair, cloudless, serene. 3. Plain, lucid, perspicuous. 4. Patent, obvious, visible, evident. *Anto.*, 1. Opaque, dark. 2. Gloomy. 3. Ambiguous, dubious. 4. Occult, hidden, obscure.
Clear. *v.* Acquit, exonerate. *Anto.*, convict.
Clever. *adj.* 1. Skillful, apt, smart, quick, able. 2. Kind. *Anto.*, stupid, clumsy, awkward, ignorant.
Climb. *v.* Ascend, clamber, scramble. *Anto.*, descend, go down, fall.
Cling. *v.* Adhere, stick. *Anto.*, loosen.
Close. *v.* 1. Shut. 2. End, finish. *Anto.*, 1. Open. 2. Begin, commence.
Clothes. *n.* Raiment, dress, attire, garb, costume, habiliments. *Anto.*, nudity.
Cloy. *v.* Surfeit, sate, satiate, glut. *Anto.*, famish.
Clumsy, *adj.* *See Awkward.*
Coarse. *adj.* 1. Gross, vulgar. 2. Rude, uncivil, gruff. *Anto.*, 1. Nice, polite. 2. Refined.
Coax. *v.* Flatter, wheedle, cajole. *Anto.*, command, compel, force.
Cogent. *adj.* Forcible, powerful, potent, convincing. *Anto.*, weak.
Cold. *adj.* 1. Cool, frigid, wintry. 2. Unfeeling, stoical. *Anto.*, 1. Warm, tropical, fervid, hot. 2. Sensitive.
Cold. *n.* Catarrh, cough.
Collect. *v.* 1. Gather. 2. Accumulate, amass. *Anto.*, scatter, disperse.
Collection. *n.* 1. Crowd, gathering. 2. Accumulation, store, aggregation. 3. Contribution.
Color. *n.* 1. Shade, tinge, tint, hue. 2 Pigment, paint.
Combination. *n.* 1. Union, conjunction, 2. Alliance. 3. Mixture. *Anto.*, disunion, disconnection.
Come. *v.* 1. Approach. 2. Arrive. *Anto.*, 1. Go. 2. Depart.
Comely. *adj.* Handsome, pretty, symmetrical. *Anto.*, ugly, homely, disproportionate.
Comfort. *v.* Solace, cheer, console. *Anto.*, discomfort, disease.
Comical. *adj.* Droll, funny, humorous, ludicrous. *Anto.*, solemn, serious.
Commanding. *adj.* Imperative, authoritative.
Commence. *v.* Begin, originate. *Anto.*, end, finish.
Commend. *v.* 1. Intrust, commit. 2. Praise, extol, laud, eulogize. *Anto.*, 1. Take from, withdraw. 2. Blame, censure, disapprove.
Comment. *n.* 1. Remark, observation. 2. Note, explanation.
Commercial. *adj.* Trading, mercantile.
Commission. *v.* 1. Empower, authorize. 2. Depute, delegate.
Commodious. *adj.* Fit, suitable, convenient. *Anto.*, unfit, inconvenient.
Commodities. *n., pl.* Wares, goods, merchandise, produce.
Common. *adj.* 1. General. 2. Usual, habitual, customary. 3. Trite, stale. 4. Ordinary, low. *Anto.*, 1. Occasional, exceptional. 2. Unusual. 3. Fresh. 4. Peculiar, extraordinary.
Communication. *n.* Conference, conversation, letter.
Community. *n.* 1. Society, public, people. 2. Association, brotherhood.
Companion. *n.* 1. Mate, comrade. 2. Partaker, sharer.
Company. *n.* 1. Assembly, group, gathering. 2. Party. 3. Visitors. 4. Fellowship, society. 5. Corporation, firm. *Anto.*, individual, personality.
Compassion. *n.* Pity, tenderness, clemency. *Anto.*, severity, harshness, cruelty.
Compatible. *adj.* Consistent, consonant. *Anto.*, incompatible, inconsistent.
Compel. *v.* Force, coerce, drive. *Anto.*, cajole, coax, lead.
Compendium. *n.* Compend, abridgment. *Anto.*, discourse, enlargement, augmentation.
Compensation. *n.* Reward, recompense, satisfaction. *Anto.*, loss, punishment, correction.
Competent. *adj.* 1. Able, qualified. 2. Adequate, fit. *Anto.*, 1. Incompetent, feeble. 2. Inadequate.
Competition. *n.* Rivalry, contest, emulation. *Anto.*, monopoly, combination.
Complain. *v.* Murmur, grumble, lament. *Anto.*, rejoice, jubilate.
Compliment. *n.* Praise, commendation, encomium. *Anto.*, insult, blame, detraction.
Comply. *v.* Confirm, yield, submit. *Anto.*, disobey, rebel.
Compound. *adj.* Composite, complex. *Anto.*, simple, uniform, plain.
Compound. *v.* Mix, combine, intermingle. *Anto.*, simplify, analyze, separate.
Comprehend. *v.* 1. Comprise, include, embrace. 2. Grasp, see, understand, perceive. *Anto.*, 1. Exclude. 2. Mistake, misapprehend.
Comprise. *v.* Include, contain, embody, comprehend. *Anto.*, exclude.
Compulsion. *n.* Constraint, coercion. *Anto.*, freedom, liberty.
Compunction. *n.* Remorse, regret, sorrow, penitence. *Anto.*, joy, gratulation, gladness, buoyancy.
Compute. *v.* Reckon, calculate, estimate, count.
Conceal. *v.* 1. Hide, secrete, cover, screen. 2. Disguise, dissemble. *Anto.*, 1. Reveal, uncover, display.
Concede. *v.* 1. Yield, surrender. 2. Grant, admit. *Anto.*, 1. Rebel, repel. 2. Deny.
Conceit. *n.* Vanity, egotism. *Anto.*, humility, meekness.
Concert. *n.* 1. Concord, harmony. 2. Musical entertainment. *Anto.*, 1. Discord.

Concise. *adj.* Short, brief, curt, laconic, terse. *Anto.*, verbose, discursive, lengthy.

Conclude. *v.* 1. Decide, determine. 2. End, finish, terminate. *Anto.*, 1. Differ, disagree. 2. Begin, commence.

Concur. *v.* Agree, coincide, join. *Anto.*, disagree.

Concussion. *n.* Clash, shock.

Condemn. *v.* Blame, censure, reprove, disapprove. *Anto.*, acquit, exonerate, exculpate, clear, justify.

Conduct. *n.* 1. Management. 2. Behavior, deportment, demeanor.

Confess. *v.* 1. Admit, grant, concede. 2. Acknowledge, avow. *Anto.*, deny, traverse.

Confidence. *n.* 1. Faith, trust, belief. 2. Assurance, courage. *Anto.*, 1. Distrust, incredulity. 2. Timidity.

Conflict. *n.* Contest, struggle, fight, battle.

Confound. *v.* Amaze, perplex, bewilder, stupefy, dumbfound.

Confusion. *n.* 1. Jumble, disarray, disorder. 2. Tumult, commotion. 3. Shame, abashment. *Anto.*, 1. Order, array. 2. Quiet. 3. Pride, hauteur, self-possession.

Congenial. *adj.* Suited, adapted, agreeable. *Anto.*, unsuited, uncongenial.

Conjecture. *n.* Guess, supposition, surmise. *Anto.*, demonstration, proof.

Conjugal. *adj.* Matrimonial, nuptial, bridal, connubial. *Anto.*, celibate.

Connoisseur. *n.* Critic, judge. *Anto.*, ignoramus.

Connubial. *adj.* *See Conjugal.*

Conquer. *v.* Overcome, vanquish, subdue, checkmate, master, subject, crush. *Anto.*, fail, yield, give up, surrender.

Consanguinity. *n.* Kindred, relationship.

Consideration. *n.* 1. Cause, reason, ground, motive. 2. Attention, deliberation. *Anto.*, 2. Inattention.

Consistent. *adj.* Accordant, compatible. *Anto.*, inconsistent, discordant.

Conspicuous. *adj.* 1. Prominent, eminent. 2. Visible, apparent. *Anto.*, 1. Unknown, lowly. 2. Obscure, hidden.

Constrain. *v.* 1. Compel, coerce, force. 2. Curb, restrain. *Anto.*, 1. Cajole, coax. 2. Loosen, liberate.

Construct. *v.* 1. Fabricate, erect, build, raise. 2. Make, form, frame, institute. *Anto.*, 1. Overturn. 2. Destroy.

Consume. *v.* Devour, expend, waste, destroy. *Anto.*, build up, save, keep.

Contagious. *adj.* 1. Catching, infectious. 2. Poisonous, deadly, pestilential. *Anto.*, 2. Healthy, wholesome.

Contaminate. *v.* Defile, sully, pollute. *Anto.*, clean, whiten, clear.

Contempt. *n.* Scorn, disregard, disdain. *Anto.*, regard, liking, admiration.

Contemptible. *adj.* Mean, base, despicable, abject. *Anto.*, lofty, noble, honorable.

Contentment. *n.* Ease, satisfaction. *Anto.*, discontent, sorrow, melancholy.

Contest. *n.* *See Conflict.*

Contingent. *adj.* Uncertain, conditional. *Anto.*, sure, certain, fixed.

Continual. *adj.* Endless, unceasing, perpetual, eternal. *Anto.*, intermittent, broken.

Contract. *n.* Bargain, compact, agreement, stipulation.

Contrary. *adj.* 1. Opposite, counter, adverse. 2. Conflicting, repugnant. 3. Perverse, stubborn, obstinate. *Anto.*, 1. Similar. 2. Unanimous. 3. Agreeable.

Control. *v.* Direct, regulate, manage, govern.

Convenient. *adj.* Suitable, appropriate, useful. *Anto.*, unsuitable, wrong.

Conversation. *n.* Talk, dialogue, colloquy. *Anto.*, silence.

Convertible. *adj.* Interchangeable. *Anto.*, unchangeable, immovable.

Conveyance. *n.* 1. Transfer, alienation, deed. 2. Carriage.

Convict. *v.* Condemn, find guilty. *Anto.*, acquit, exculpate, exonerate.

Convince. *v.* Satisfy, persuade. *Anto.*, dissuade.

Convivial. *adj.* Jovial, jolly, festive. *Anto.*, gloomy, sad, thoughtful.

Cool. *adj.* 1. Not warm. 2. Collected, calm, dispassionate. *Anto.*, 1. Warm. 2. Excited, enthused.

Copy. *v.* 1. Transcribe. 2. Imitate. *Anto.*, originate.

Cordial. *adj.* Sincere, warm, hearty, heartfelt, ardent. *Anto.*, heartless, cold, deceitful.

Correct. *adj.* Right, true, accurate, faultless. *Anto.*, wrong, erroneous, faulty.

Correspondent. *adj.* Answerable, suitable. *Anto.*, unsuitable, unfit.

Cost. *n.* Expense, charge, price.

Counsel. *n.* 1. Counsellor, attorney, advocate, barrister, lawyer. 2. Opinion, advice, admonition, recommendation.

Counterfeit. *adj.* 1. Forged, spurious. 2. Sham, feigned, simulated. *Anto.*, 1. Genuine, real. 2. Sincere, actual.

Couple. *n.* Pair, brace.

Courage. *n.* Bravery, spirit, valor, heroism, fearlessness. *Anto.*, cowardice, timidity, fear.

Courtesy. *n.* Civility, urbanity, politeness. *Anto.*, rudeness, boorishness.

Covenant. *n.* *See Contract.*

Covert. *adj.* Secret, disguised, hidden, concealed. *Anto.*, open, displayed, shown.

Covetousness. *n.* Stinginess, avarice, parsimony, penuriousness. *Anto.*, generosity, liberality.

Cowardice. *n.* Fear, timidity, poltroonery, pusillanimity. *Anto.*, courage, bravery, valor.

Coy. *adj.* Shy, bashful, reserved, demure, modest. *Anto.*, bold, brazen, shameless.

Crack. *n.* 1. Crevice, chink, cranny, opening, breach, fissure. 2. Explosion, report.

Crafty. *adj.* Shrewd, cunning, artful, astute, subtle, tricky. *Anto.*, simple, artless, ingenuous.

Cravat. *n.* Necktie, neck-cloth, neckerchief.

Crave. *v.* 1. Beg, beseech, solicit, entreat, implore. 2. Desire. *Anto.*, 1. Give, offer, confer. 2. Disdain.

Crazy. *adj.* 1. Insane, mad, lunatic. 2. Ricketty, tottering. *Anto.*, 1. Sane. 2. Strong, stalwart.

Create. *v.* 1. Cause, produce, originate. 2. Make, constitute. *Anto.*, destroy.

Credit. *n.* 1. Trust, belief, faith, confidence. 2. Esteem, reputableness, regard. 3. Honor, merit. *Anto.*, discredit, incredulity.

Creditable. *adj.* Reputable, honorable. *Anto.*, dishonorable, shameful.

Credulous. *adj.* Unsuspecting, superstitious, gullible. *Anto.*, knowing, disbelieving, doubtful.

Creed. *n.* Belief, doctrines, dogmas. *Anto.*, skepticism, heterodoxy.

Crestfallen. *adj.* Discouraged, disheartened, depressed, dejected. *Anto.*, encouraged, emboldened, determined.

Crisis. *n.* 1. Height, acme. 2. Emergency, exigency, strait, pinch.

Criterion. *n.* Measure, test, standard.

Croak. *v.* Murmur, grumble, complain. *Anto.*, rejoice, congratulate.

Crooked. *adj.* 1. Bent, curved, awry, distorted. 2. Dishonest, knavish, unfair, unscrupulous. *Anto.*, 1. Straight. 2. Honest, fair, honorable.

Cross. *adj.* Captious, peevish, petulant, fretful, snappish. *Anto.*, agreeable, good-humored.

Cruel. *adj.* Pitiless, unmerciful, inhuman, barbarous, brutal, savage. *Anto.*, kind, pitiful, merciful, human.

Cube. *n.* Die, a regular solid with six equal square sides.

Cultivation. *n.* 1. Culture, civilization, refinement. 2. Tillage. *Anto.*, desolation, desert.

Cure. *n.* 1. Remedy, restorative, corrective. 2. Healing, restoration. *Anto.*, 1. Poison. 2. Relapse.

Curious. *adj.* 1. Prying, inquisitive. 2. Rare, unique, queer. *Anto.*, 1. Uninterested, careless. 2. Common, ordinary, usual.

Current. *adj.* 1. Present, existing. 2. Common, general, rife. *Anto.*, 1. Past. 2. Rare, unique, singular.

Curse. *n.* Imprecation, execration, malediction. *Anto.*, blessing, benison.

Cursory. *adj.* Superficial, hasty, careless, desultory. *Anto.*, thorough, careful, exact.

Curtail. *v.* Retrench, reduce, shorten, abridge, decrease. *Anto.*, increase, augment, lengthen.

Custody. *n.* Care, keeping, watch, protection.

Custom. *n.* 1. Usage, practice, habit. 2. Tax, impost, duty, tribute.

Cynical. *adj.* Morose, carping, sarcastic, snarling, satirical. *Anto.*, agreeable, jovial, companionable.

D

Daily. *adj.* Diurnal, quotidian. *Anto.*, irregular, disordered.

Dainty. *adj.* 1. Nice, delicate, savory, delicious. 2. Squeamish, fastidious. 3. Elegant, fine. *Anto.*, 1. Nasty, tasteless, bitter. 2. Careless, slovenly. 3. Coarse.

Dalliance. *n.* Fondling, caressing, endearment.

Damage. *v.* Mar, harm, hurt, impair, injure. *Anto.*, help, strengthen, defend.

Dampness. *n.* Moisture, humidity, damp. *Anto.*, dryness, aridity.

Damsel. *n.* Lass, miss, maid, maiden, girl. *Anto.*, lad, boy, youth, young man.

Danger. *n.* Risk, venture, hazard, peril, jeopardy. *Anto.*, safety, security.

Daring. *adj.* Courage, bravery, valor, intrepidity. *Anto.*, cowardice, fear, timidity.

Dark. *adj.* 1. Cloudy, rayless, murky, shady, unilluminated. 2. Gloomy, dismal. 3. Wicked, foul, atrocious. 4. Obscure, mystical, mysterious. *Anto.*, bright, light. 3. Honest, fair. 4. Open, intelligible.

Date. *n.* Time, period, age, era, epoch.

Dead. *adj.* 1. Inanimate, lifeless, breathless, defunct. 2. Dull, frigid, obtuse, callous. 3. Useless, unprofitable. *Anto.*, 1. Live, breathing. 2. Attentive, active, sharp. 3. Useful.

Deadly. *adj.* 1. Deleterious, destructive, noxious, fatal, mortal. 2. Rancorous, implacable. *Anto.*, wholesome, healthy.

Dear. *adj.* 1. Beloved, darling, precious. 2. Costly, high-priced, expensive. *Anto.*, 1. Hated, despised, loathed. 2. Cheap, low, common.

Debase. *v.* *See Abase.*

Debate. *v.* Discuss, canvass, argue, dispute, contest.

Deceitful. *adj.* Deceptive, illusive, delusive, fallacious. *Anto.*, truthful, plain, open, honest, correct.

Deceive. *v.* Delude, over-reach, fool, trick, cheat, gull, dupe.

Decide. *v.* Determine, conclude. *Anto.*, differ, disagree.

Declaration. *n.* Assertion, averment, avowal, affirmation, asseveration. *Anto.*, denial, negative.

Decorate. *v.* Deck, adorn, ornament, embellish, beautify. *Anto.*, spoil, spot.

Decorum. *n.* Propriety, decency. *Anto.*, impropriety, misbehavior.

Decoy. *v.* Tempt, allure, entice, inveigle, seduce. *Anto.*, repel, warn, advise.

Decrease. *v.* Diminish, lessen. *Anto.*, increase, augment, replenish.

Decree. *n.* Order, mandate, fiat, edict.

Deduct. *v.* Separate, subtract, take away. *Anto.*, add, increase, augment.

Defame. *v.* Asperse, calumniate, slander, vilify. *Anto.*, praise, glorify, celebrate, defend.

Defeat. *v.* 1. Beat, conquer, overcome, rout. 2. Balk, disappoint, baffle, foil, frustrate.

Defect. *n.* 1. Flaw, blemish, imperfection. 2. Fault, failing. *Anto.*, perfection, improvement, beauty.

Defend. *v.* 1. Guard, shield, protect. 2. Uphold, maintain, vindicate. *Anto.*, 1. Expose. 2. Asperse, slander, defame.

Defer. *v.* Adjourn, delay, postpone. *Anto.*, push, force, expedite.

Deference. *n.* Regard, respect, reverence, homage. *Anto.*, disrespect, irreverence, contumely.

Definite. *adj.* Certain, determined, exact, precise. *Anto.*, uncertain, indefinite, vague.

Defraud. *v.* Cheat, gull, over-reach.

Defy. *v.* Brave, dare, disregard, despise. *Anto.*, submit, humiliate, concede.

Deity. *n.* Divinity, Godhead, God. *Anto.*, Devil.

Dejected. *adj.* Depressed, disheartened, despondent. *Anto.*, joyous, mercurial, glad.

Delay. *v.* Linger, stop, procrastinate. *Anto.*, hasten, expedite.

Delectable. *adj.* Pleasant, agreeable, delightful. *Anto.*, abominable, despicable, nasty.

Delegate. *n.* Commissioner, representative, deputy.

Delicious. *adj.* Delicate, palatable, luscious. *Anto.*, bitter, nauseous.

Delightful. *adj.* Charming, enchanting, ravishing. *Anto.*, displeasing.

Delinquent. *n.* Offender, wrong-doer, culprit, criminal.

Delirium. *n.* Wandering, hallucination, derangement.

Delude. *v.* *See Deceive.*

Demand. *v.* Require, claim, exact. *Anto.*, give, offer, relinquish.

Demolish. *v.* Destroy, overthrow, level, ruin. *Anto.*, build, construct, raise.

Demonstrate. *v.* Show, establish, prove.

Demonstration. *n.* Proof, manifestation.

Demoralize. *v.* Corrupt, deprave, vitiate. *Anto.*, reform, rescue.

Denote. *v.* Imply, signify, indicate, mark, designate.

Deny. *v.* 1. Contradict, gainsay. 2. Disown, disavow, abjure. 3. Withhold. *Anto.*, avow, admit, concede.

Depart. *v.* 1. Go, start, leave, set out. 2. Vanish, disappear. *Anto.*, 1. Come, return. 2. Emerge, appear.

Dependence. *n.* Reliance, trust, confidence. *Anto.*, independence.

Depict. *v.* 1. Describe. 2. Delineate, portray, pencil, paint.

Deplore. *v.* Lament, mourn, bewail, bemoan. *Anto.*, rejoice, congratulate, celebrate.

Deportment. *n.* Demeanor, behavior, carriage, conduct.

Deprecate. *v.* Regret. *Anto.*, desire, commend.

Depreciate. *v.* 1. Underrate, undervalue, lessen the price of. 2. Censure, degrade, traduce, malign. *Anto.*, 1. Overrate. 2. Praise, vindicate.

Depress. *v.* 1. Lower, drop, sink. 2. Deject, dispirit, chill. 3. Debase, humiliate. *Anto.*, 1. Elevate, raise. 2. Encourage. 3. Exalt.

Derange. *v.* Confuse, displace, unsettle, disorder. *Anto.*, arrange.

Descend. *v.* 1. Fall, drop, sink, go down. 2. Dismount. *Anto.*, ascend.

Design. *n.* 1. Sketch, outline, plan, draught. 2. Intent, aim, purpose, object, scheme.

Designate. *v.* 1. Name, call, style, denominate. 2. Denote, indicate, show, specify. 3. Appoint.

Desire. *v.* 1. Ask, request. 2. Wish, want, fancy, covet, crave.

Desolation. *n.* 1. Gloom, sadness, wretchedness, misery. 2. Ruin, destruction. *Anto.*, joy, pleasure, happiness.

Despair. *n.* Desperation, despondency, hopelessness. *Anto.*, hope, cheerfulness.

Despicable. *adj.* Mean, pitiful, contemptible, abject. *Anto.*, elevated, generous, praiseworthy.

Despotic. *adj.* Absolute, arbitrary, imperious, tyrannical. *Anto.*, free, democratic, constitutional.

Destiny. *n.* 1. Fate, necessity. 2. Lot, doom, fortune, fate.

Destroy. *v.* 1. Consume, waste, devour, desolate. 2. Demolish, overthrow, subvert. 3. Annihilate, extirpate, eradicate, kill. *Anto.*, create, build, call together, construct.

Detach. *v.* Separate, sever, disjoin. *Anto.*, join.

Detain. *v.* Restrain, confine, delay, retain. *Anto.*, hasten, expedite, send away.

Detect. *v.* Descry, discover, expose.

Determine. *v.* 1. Settle, end, decide, conclude. 2. Lead, influence, induce. 3. Ascertain, verify. *Anto.*, 1. Begin, commence, unsettle. 2. Follow. 3. Falsify, negative.

Detraction. *n.* Censure, slander, calumny, defamation. *Anto.*, praise, commendation.

Develop. *v.* Unfold, open, evolve, grow. *Anto.*, close, end, wither, wilt, droop.

Devil. *n.* 1. Satan, Belial, Lucifer, arch-enemy, the tempter, the adversary, the prince of darkness. 2. Demon. *Anto.*, God, Deity.

Devoid. *adj.* Empty, destitute, vacant, void. *Anto.*, full, complete, overflowing.

Dexterous. *adj.* Adroit, skillful, handy, apt, clever. *Anto.*, awkward, unskillful, boorish, rough.

Diction. *n.* Expression, phraseology, language, style.

Dictionary. *n.* 1. Lexicon, glossary, vocabulary. 2. Encyclopædia.

Die. *v.* Expire, decease, wither, perish. *Anto.*, live, breathe, flourish, grow.

Different. *adj.* 1. Various, manifold, unlike, diverse. 2. Separate, distinct. *Anto.*, similar, alike, homogencous.

Difficult. *adj.* Arduous, hard, herculean. *Anto.*, easy, facile.

Digest. *n.* Compend, abstract, brief, epitome.

Dilemma. *n.* Strait, predicament, quandary.

Diligence. *n.* Activity, industry, perseverance, assiduity. *Anto.*, idleness, laziness, lassitude, languor.

Diminish. *v.* *See Decrease.*

Direction. *n.* 1. Order. 2. Address, superscription. 3. Course, bearing.

Disaffection. *n.* Breach, disagreement, dissatisfaction, estrangement, alienation.

Disagree. *v.* 1. Quarrel, wrangle, bicker. 2. Dissent, differ, vary. *Anto.*, 1. Conciliate, pacify. 2. Agree, equate.

Disappear. *v.* Vanish, pass, fade, dissolve. *Anto.*, appear, emerge, come into view.

Disapproval. *n.* Disapprobation, dislike, displeasure. *Anto.*, approbation, liking, pleasure.

Disarrange. *v.* Unsettle, derange. *Anto.*, order, marshal, fix.

Disbelief. *n.* Incredulity, distrust, doubt, skepticism, infidelity. *Anto.*, faith, belief, trust.

Discomfort. *v.* Annoy, trouble, disturb, molest. *Anto.*, comfort, ease, quiet, pacify, calm.

Discontent. *n.* Uneasiness, disquietude, dissatisfaction. *Anto.*, comfort, ease, quiet, peace, contentment.

Discourtesy. *n.* Incivility, impoliteness, rudeness. *Anto.*, courtesy, breeding, good manners, behavior.

Discredit. *n.* 1. Distrust. 2. Disrepute, obloquy. *Anto.*, 1. Credit. 2. Reputation, standing.

Discuss. *v.* Canvass, sift, argue, ventilate, debate.

Disease. *n.* Ailment, complaint, illness, sickness, malady. *Anto.*, health.

Disgrace. *v.* Degrade, debase, sully, stain, dishonor. *Anto.*, exonerate, exculpate, clear, release, justify, vindicate.

Dishonest. *adj.* Unfair, false, knavish, fraudulent. *Anto.*, honest, reputable, right, proper, trusty, sincere, candid.

Dislike. *n.* Aversion, antipathy, repugnance, disgust. *Anto.*, liking, admiration, love, regard.

Dismiss. *v.* Discharge, discard, turn off. *Anto.*, receive, take back.

Disoblige. *v.* Discommode, offend, displease. *Anto.*, oblige, favor.

Dispassionate. *adj.* Sober, calm, temperate, composed, imperturbable. *Anto.*, passionate, stormy, disturbed.

Display. *v.* 1. Exhibit, show. 2. Unfold, open, spread. *Anto.*, hide, conceal, cover, close.

Displease. *v.* 1. Dissatisfy, offend, disgust. 2. Anger, irritate, affront. *Anto.*, please, comfort, ease, quiet.

Disregard. *v.* Overlook, slight, neglect, contemn. *Anto.*, regard, favor, notice, watch, oversee.

Dissembler. *n.* Feigner, hypocrite.

Dissipate. *v.* 1. Lavish, squander, waste. 2. Dispel, scatter. *Anto.*, 1. Save, economize. 2. Gather.

Dissolute. *adj.* *See Abandoned.*

Distant. *adj.* 1. Remote, far. 2. Reserved, coy, shy, cold. *Anto.*, 1. Near, close. 2. Bold, shameless, impudent.

Distress. *n.* 1. Suffering, pain, anguish, agony. 2. Adversity, trouble. 3. Want, indigence, poverty. *Anto.*, 1. Pleasure, ease, contentment. 2. Happiness. 3. Wealth, affluence.

Distrust. *n.* Mistrust, suspicion, discredit, disbelief. *Anto.*, trust, confidence, reliance.

Diversity. *n.* 1. Variation, unlikeness, difference. 2. Variety. *Anto.*, sameness, likeness, homogeneity.

Docile. *adj.* Apt, tractable, teachable. *Anto.*, intractable, savage, untamable.

Doleful. *adj.* 1. Melancholy, woeful, sad, sorrowful. 2. Dolorous, gloomy. *Anto.*, joyous, bright, happy.

Domestic. *adj.* Homely, tame. *Anto.*, exoteric, extraneous, foreign, wild.

Doubt. *n.* 1. Suspense, irresolution, uncertainty. 2. Suspicion, mistrust. *Anto.*, 1. Foreknowledge, resolution, certainty. 2. Confidence.

Drag. *v.* Draw, pull, haul, tug.

Dread. *n.* Fear, awe, apprehension. *Anto.*, courage, boldness, valor.

Dreadful. *adj.* Awful, frightful, fearful, direful, horrible, terrible.

Droll. *adj.* 1. Odd, queer. 2. Comic, funny, farcical. *Anto.*, 1. Usual, ordinary. 2. Solemn, funereal.

Droop. *v.* 1. Decline, fail, languish. 2. Fade, wilt, wither. *Anto.*, 1. Rise, succeed. 2. Bloom, blossom, grow, wax.

Dull. *adj.* 1. Stupid, shallow. 2. Inert, sluggish. 3. Blunt, obtuse. 4. Gloomy. *Anto.*, 1. Knowing, deep. 2. Active. 3. Sharp, shrewd. 4. Bright.

Dunce. *n.* Simpleton, fool, ninny, idiot, dolt, oaf, dullard. *Anto.*, sage.

E

Eager. *adj.* 1. Zealous, ardent, impetuous. 2. Impatient, longing, yearning. *Anto.*, 1. Lukewarm. 2. Patient.

Earn. *v.* 1. Gain, obtain, get, acquire, win. 2. Merit, deserve. *Anto.*, squander.

Easy. *adj.* Light, not difficult. 2. Quiet, comfortable. 3. Unconstrained. *Anto.*, 1. Difficult. 2. Uneasy. 3. Confined.

Eccentric. *adj.* Odd, peculiar, erratic, anomalous, aberrant. *Anto.*, usual, ordinary, commonplace.

Ecstasy. *n.* 1. Delight, rapture, transport. 2. Enthusiasm. *Anto.*, despair, sorrow, torture.

Educate. *v.* Train, discipline, instruct, school, teach. *Anto.*, ignore.

Efface. *v.* Cancel, blot, erase, expunge, obliterate. *Anto.*, rewrite, strengthen.

Effective. *adj.* 1. Active, effectual. 2. Sufficient, cogent, energetic, forcible, potent. *Anto.*, ineffectual, idle, slow, weak.

Effectual. *adj.* *See Effective.*

Egotistical. *adj.* Conceited, self-important, selfish. *Anto.*, humble, lowly, generous.

Elevate. *v.* 1. Exalt, promote. 2. Raise, lift. 3. Improve, refine, ennoble. 4. Animate, cheer, elate. *Anto.*, depress, lower, vulgarize, deaden, sadden.

Embarrass. *v.* 1. Disconcert, confuse, confound. 2. Distress, hamper, clog. 3. Perplex. *Anto.*, assist, help, explain.

Embolden. *v.* Inspirit, reassure, animate encourage. *Anto.*, abash, confuse.

Emergency. *n.* Strait, difficulty, exigency, necessity, crisis.
Eminent. *adj.* Exalted, remarkable, prominent, conspicuous, distinguished. *Anto.*, obscure, lowly, meek, humble.
Emotion. *n.* Feeling, excitement, agitation, passion. *Anto.*, calm, quiet, ease.
Employment. *n.* Engagement, occupation, pursuit, avocation, business. *Anto.*, idleness, leisure.
Encourage. *See Embolden.*
Endless. *adj.* 1. Unlimited, boundless, illimitable, infinite. 2. Eternal. *Anto.*, 1. Limited, ephemeral. 2. Finite, mortal.
Energetic. *adj.* Active, forcible, strong, vigorous, powerful. *Anto.*, feeble, weak, enervated.
Enervate. *v.* Weaken, enfeeble, break, debilitate, paralyze. *Anto.*, invigorate, nerve, strengthen.
Engagement. *n.* 1. Employment. 2. Encounter, battle. 3. Promise, pledge, assurance, contract.
Engross. *v.* Occupy, absorb, engage, monopolize, forestall. *Anto.*, vacate, empty.
Enhance. *v.* 1. Raise, heighten, swell, advance. 2. Augment, increase. *Anto.*, lower, recede, reduce.
Enjoyment. *n.* Gratification, delight, pleasure, happiness. *Anto.*, sorrow, sadness, grief.
Enlarge. *See Augment.*
Enmity. *n.* Animosity, aversion, hostility, hatred, malevolence. *Anto.*, friendship, kindliness, love, admiration.
Ennoble. *v. See Elevate.*
Ennui. *n.* Listlessness, irksomeness, tedium, languor, lassitude. *Anto.*, liveliness, vigor, enjoyment, buoyancy.
Enterprise. *n.* 1. Attempt, undertaking, endeavor, venture. 2. Energy.
Entertain. *v.* Divert, amuse, please. *Anto.*, sadden, make gloomy.
Enthusiasm. *n.* Earnestness, devotion, zeal, ardor. *Anto.*, frivolity, ennui, lukewarmness.
Entice. *v. See Allure.*
Entreat. *v.* Petition, ask, beseech, implore, pray, supplicate.
Enumerate. *v.* Number, count, reckon, numerate.
Ephemeral. *adj.* Short-lived, transitory, living but a day. *Anto.*, eternal, endless.
Epicure. *n.* Gourmand, sybarite, sensualist, voluptuary. *Anto.*, ascetic, stoic.
Epithet. *n.* Name, designation, appellation.
Equable. *adj.* Even, regular, steady, equal, uniform. *Anto.*, eccentric, unequal, rugged.
Equestrian. *n.* 1. Rider, horseman. 2. Chevalier, chasseur, knight, cavalier. *Anto.*, pedestrian, infantry, footman.
Equitable. *adj.* 1. Fair, reasonable, justifiable, right. 2. Just, honest, impartial. *Anto.*, unjust, unreasonable, wrong, dishonest.
Equivocate. *v.* Lie, shuffle, dodge, quibble, prevaricate.
Error. *n.* 1. Oversight, mistake, blunder. 2. Transgression, fault, offence, sin.
Erudition. *n.* Learning, knowledge, lore, science, scholarship. *Anto.*, ignorance.
Eschew. *v.* Avoid, shun. *Anto.*, seek.
Espouse. *v.* 1. Marry, wed. 2. Betroth, *Anto.*, divorce.
Establish. *v.* 1. Organize, found, institute, fix, plant, settle. 2. Prove. 3. Confirm, ratify. *Anto.*, 1. Overthrow, destroy, unsettle. 2. Disprove. 3. Deny, refuse.
Esteem. *n.* 1. Honor, respect, reverence. 2. Valuation, opinion. *Anto.*, contempt, irreverence.
Eternal. *See Endless.*
Evasion. *n.* Quibble, shift, subterfuge, equivocation.
Evening. *n.* Dusk, twilight, eve, even, nightfall. *Anto.*, morning, dawn, aurora.
Event. *n.* 1. Occurrence, incident, accident. 2. Conclusion, result, consequence.
Ever. *adj.* 1. Evermore, always, aye, perpetually, eternally. 2. At any time. *Anto.*, never.
Evident. *adj.* Apparent, obvious, clear, palpable, manifest. *Anto.*, obscure, hidden.
Exalt. *v.* 1. Glorify, bless, praise, extol, magnify. 2. Raise, erect, elevate. 3. Dignify, ennoble. *Anto.*, 1. Execrate. 2. Lower. 3. Abase.
Exasperate. *v.* Irritate, vex, offend, provoke, incense, anger, enrage. *Anto.*, soothe, mollify, pacify, please.
Excellent. *adj.* 1. Choice, prime, sterling, matchless, superior. 2. Good, virtuous, worthy. *Anto.*, 1. Bad, low. 2. Villainous, worthless.
Excel. *v.* Surpass, beat; outdo, exceed. *Anto.*, fail, fall behind.
Excerpt. *n.* Citation, extract, quotation.
Exculpate. *v.* Excuse, justify, pardon, clear, exonerate. *Anto.*, convict, indict, arraign, blame.
Excursion. *n.* Ramble, jaunt, trip, tour, journey.
Excuse. *n.* 1. Plea, justification, apology. 2. Guise, color, pretext, pretence.
Execute. *See Accomplish.*
Exegesis. *n.* 1. Exegetics, explanation, exposition, interpretation.
Exercise. *v.* 1. Practice, pursue. 2. Drill, train, discipline. 3. Exert, use, apply. *Anto.*, rust, decay, degenerate, become sluggish.
Exhale. *v.* Breathe, evaporate, emit. *Anto.*, inhale, inspire.
Exhilarate. *v.* Animate, gladden, cheer, elate, inspirit. *Anto.*, depress, discourage, deject, dampen, chill.
Exigency. *See Emergency.*
Exonerate. *See Acquit and Exculpate.*
Expectation. *n.* Prospect, anticipation, confidence, hope, trust, reliance. *Anto.*, suddenness, abruptness, fear, dismay.
Expedite. *v.* Quicken, hurry, hasten, accelerate, speed. *Anto.*, delay, retard, clog, bar.
Expense. *n.* Outlay, charge, expenditure, cost.
Experience. *n.* 1. Knowledge, wisdom. 2. Practice. *Anto.*, 1. Ignorance. 2. Inexperience.
Experiment. *v.* Proof, test, trial, examination, assay.
Explain. *v.* Expound, illustrate, unfold, interpret, elucidate. *Anto.*, confuse, muddle, darken.
Expound. *See Explain.*
Expression. *n.* 1. Phrase, term, utterance, declaration. 2. Look, appearance, aspect.
Extend. *v.* 1. Expand, augment, dilate, enlarge, protract, prolong. 2. Yield, offer. *Anto.*, 1. Abridge, shorten, lessen. 2. Take receive.
Extraordinary. *adj.* Uncommon, signal, rare, unusual, remarkable. *Anto.*, common, usual, customary.
Extravagant. *adj.* 1. Wasteful, lavish, profuse, prodigal. 2. Wild, absurd. 3. Unreasonable, inordinate, preposterous. *Anto.*, 1. Stingy, miserable, close. 2. Probable, credible. 3. Common, ordinary, customary.
Extricate. *v.* Relieve, clear, disentangle. *Anto.*, involve, entangle.
Exuberate. *adj.* Full, copious, liberal, lavish. *Anto.*, empty, vacant, scarce.

F

Fable. *n.* 1. Tale, novel, romance, myth. 2. Falsehood, fiction, fabrication, lie. *Anto.*, 1. History. 2. Truth, verity, fact.
Facetious. *adj.* Sportive, waggish, jocose, jocular. *Anto.*, serious, gloomy, saturnine.
Fail. *v.* 1. Miss, miscarry. 2. Omit, neglect. 3. Decay, wane, decline. 4. Break. *Anto.*, 1. Accomplish, succeed. 2. Perform. 3. Grow, strengthen. 4. Mend.
Faithful. *adj.* 1. Constant, loyal, true. 2. Reliable, truthful. 3. Close, strict. *Anto.*, faithless, deceitful.
Faithless. *adj.* Perfidious, treacherous, false. *Anto.*, faithful.
False. *adj.* 1. Untrue. 2. Deceptive, fallacious, spurious, counterfeit. 3. Incorrect. *Anto.*, 1. True. 2. Real, genuine, actual. 3. Correct.
Family. *n.* 1. Class, race, lineage, tribe. 2. Household. 3. Order. *Anto.*, individual.
Fascinate. *v.* Charm, catch, captivate, bewitch, enamor. *Anto.*, alarm, dismay, disenchant, intimidate.
Fast. *n.* Abstinence, fasting. *Anto.*, feast, gorge.
Fate. *n.* Fatality, destiny, lot, doom. *Anto.*, chance.
Feast. *n.* 1. Festival, holiday. 2. Entertainment, banquet, carousal. *Anto.*, fast, abstinence.
Feeble. *adj.* 1. Weak. 2. Languid, sickly, frail, debilitated. *Anto.*, strong, energetic, stalwart.
Feeling. *n.* 1. Affectation, sensibility, emotion. 2. Sensation, touch. *Anto.*, callousness, hard-heartedness.
Feminine. *adj.* 1. Delicate, soft, womanly. 2. Effeminate. *Anto.*, 1. Coarse, hard. 2. Masculine.
Fervor. *n.* 1. Eagerness, ardor, zeal. 2. Warmth. *Anto.*, laziness, apathy.
Festival. *n. See Feast.*
Feudal. *adj.* Feodal, military (tenure). *Anto.*, allodial, democratic.
Fickle. *adj.* Changeable, unstable, variable, capricious, inconstant. *Anto.*, faithful, constant, immutable.
Final. *adj.* 1. Conclusive, decisive. 2. Ultimate, last. *Anto.*, opening, beginning.
Fine. *adj.* 1. Nice, refined. 2. Little, small, minute. 3. Excellent. 4. Handsome, beautiful, elegant. 5. Delicate. 6. Light. *Anto.*, coarse, large, mean, ugly.
Finish. *v.* 1. Conclude, end, terminate. 2. Perform, accomplish, complete. 3. Perfect. *Anto.*, 1. Begin, open. 2 and 3. Destroy, tear down.
Firmness. *n.* 1. Strength, stability. 2. Solidity, hardness. *Anto.*, 1. Weakness. 2. Softness, penetrability.
Flag. *n.* Standard, colors, ensign, banner.
Flashy. *adj.* Gay, airy, jaunty, showy, tawdry, ostentatious, flaunting. *Anto.*, sombre, solemn.
Flattery. *n.* 1. Adulation, fawning, servility, sycophancy, obsequiousness. 2. Compliment. *Anto.*, blame, objection, disapproval, detraction.
Flavor. *n.* 1. Taste, smack, savor. 2. Smell, odor, fragrance. *Anto.*, tastelessness.
Flaw. *n.* 1. Fracture, crack. 2. Speck, spot, fault, imperfection, defect, blemish. *Anto.*, 1. Whole, solid. 2. Perfect, immaculate, clear.
Flimsy. *adj.* 1. Thin, slight. 2. Trivial, feeble, weak, frivolous, shallow. *Anto.*, 1. Strong, stalwart. 2. Worthy, good, earnest, deep.
Fluctuate. *v.* 1. Waver, vacillate. 2. Oscillate.
Fluency. *n.* Flow, glibness, volubility. *Anto.*, silence, taciturnity.
Fondness. *n.* 1. Liking, partiality. 2. Love, tenderness. *Anto.*, hate dislike.
Food. *n.* Victuals, viands, fare, subsistence, aliment, nutriment.
Fool. *See Dunce.*
Foppish. *adj.* Dandified, coxcombical, dandyish. *Anto.*, slovenly, untidy.
Forcible. *adj.* 1. Vigorous. 2. Strong, potent, cogent, powerful. 3. Violent. *Anto.*, feeble, weak, puny.
Forego. *v.* Resign, yield, surrender, relinquish, abandon. *Anto.*, take, receive, demand.
Foresight. *n.* Prudence, precaution, anticipation, forecast, prescience. *Anto.*, imprudence, rashness.
Forethought. *n. See Foresight.*
Forgive. *v.* Excuse, absolve, pardon, acquit. *Anto.*, avenge, charge, indict, implicate, accuse.
Formidable. *adj.* Dreadful, tremendous, terrible, shocking. *Anto.*, small, ridiculous, puny.
Forsake. *v.* Abandon, quit, desert, renounce, forswear. *Anto.*, cleave.
Forswear. *v.* 1. Renounce, forsake, desert. 2. Recant, abjure. *Anto.*, subscribe.

Fortitude. *n.* Resolution, firmness, endurance. *Anto.*, weakness.
Fortune. *n.* 1. Chance, luck, fortuity. 2. Property, estate, riches, wealth. 3. Destiny, lot, fate, doom. *Anto.*, 2. Poverty.
Fragile. *adj.* Weak, feeble, frail, fragible. *Anto.*, strong.
Fragrance. *n.* Aroma, perfume, balminess, incense. *Anto.*, stench, effluvia.
Frail. *adj.* *See Fragile.*
Frank. *adj.* Open, sincere, artless, candid. *Anto.*, artful.
Fraud. *n.* Cheat, deception, collusion, guile. *Anto.*, honesty.
Freak. *n.* Fancy, humor, crotchet, vagary, whim, caprice. *Anto.*, purpose, resolution.
Free. *adj.* 1. Unrestrained, unobstructed. 2. Gratuitous, willing. 3. Frank, sincere, artless. 4. Generous, liberal. *Anto.*, 1. Slavish. 2. Costly. 3. Artful. 4. Stingy.
Free. *v.* 1. Clear, rid. 2. Release, liberate, emancipate. *Anto.*, bind, enslave.
Freeze. *v.* 1. Congeal. 2. Chill, benumb. *Anto.*, melt.
Fretful. *adj.* Captious, waspish, splenetic, snappish, petulant. *Anto.*, equable, good-humored.
Frivolous. *adj.* Trifling, worthless.
Frugality. *n.* Carefulness, economy, thrift. *Anto.*, extravagance, wastefulness.
Fruitful. *adj.* 1. Fecund, prolific, productive. 2. Plenteous. *Anto.*, sterile, fruitless, unproductive.
Fruitless. *adj.* Barren, sterile, unproductive. 2. Futile, useless. *Anto.*, fruitful.
Frustrate. *v.* Balk, baffle, defeat, foil, disappoint. *Anto.*, expedite.
Fully. *adj.* Wholly, entirely, completely. *Anto.*, partly.
Furniture. *n.* 1. Effects, goods, movables, chattels. 2. Apparatus. 3. Decorations, ornaments.
Futile. *adj.* 1. Useless, fruitless, vain, idle. 2. Frivolous, trifling. *Anto.*, 1. Fruitful. 2. Earnest.

G

Gage. *n.* 1. Challenge. 2. Pawn, security, pledge.
Gain. *n.* Advantage, benefit, profit, emolument. *Anto.*, loss.
Gain. *v.* Get, secure, win, earn, achieve, obtain, procure. *Anto.*, lose.
Gang. *n.* Band, party, set, company, coterie. *Anto.*, individual.
Garb. *n.* Dress, habit, attire, apparel. *Anto.*, nudity, nakedness.
Garble. *v.* Falsify, misquote, mutilate. *Anto.*, restore, verify.
Garrulity. *n.* Babble, talkativeness, loquacity. *Anto.*, taciturnity.
Gathering. *n.* Meeting, company, assembly, concourse. 2. Earning, acquisition. 3. Abscess.
Gaudy. *adj.* *See Flashy.*
Gawky. *adj.* *See Awkward.*
Generous. *adj.* Liberal, bountiful, magnificent, noble. *Anto.*, 1. Stingy. 2. Mean.
Gentle. *adj.* 1. Bland, lenient, kind, mild, humane. 2. Docile, tame, quiet, tractable. *Anto.*, rough.
Genuine. *adj.* 1. True, authentic, unalloyed. 2. Unaffected, sincere. *Anto.*, false.
Giddiness. *n.* Dizziness, vertigo.
Giddy. *adj.* 1. Dizzy. 2. Fickle, unstable. 3. Flighty, careless, heedless. *Anto.*, sedate, balanced.
Gift. *n.* 1. Endowment, talent, faculty, genius. 2. Present, donation, offering, gratuity, contribution, subscription, douceur.
Gigantic. *adj.* Huge, vast, colossal. *Anto.*, small, mean, little.
Gingerly. *adv.* Dainty, careful, cautious, fastidious. *Anto.*, rash, careless.
Girdle. *n.* Band, cincture, belt, cestus, zone.
Glad. *adj.* 1. Pleased, gratified, rejoiced. 2. Cheerful, joyous. 3. Gratifying. *Anto.*, sad, sombre.
Gloomy. *adj.* 1. Dull, obscure, dismal, dusky, lowering. 2. Depressed, dejected, sad. *Anto.*, bright, joyful.
Go. *v.* 1. Move, advance, proceed. 2. Depart. 3. Extend. 4. Fare. 5. Lend, contribute. *Anto.*, come.
Go. *interj.* Avaunt, begone.
God. *n.* Lord, Creator, Almighty, Omnipotence, Providence, Jehovah.
Good Nature. *n.* Kindness, amiability, benevolence, benignity. *Anto.*, malevolence, rudeness.
Goods. *n., pl.* 1. Wares, merchandise. 2. Chattels, furniture.
Grandeur. *n.* Greatness, sublimity. 2. Dignity, state, magnificence, majesty. *Anto.*, humility.
Grant. *v.* 1. Concede, admit. 2. Give, bestow, vouchsafe. 3. Transfer, convey. *Anto.*, take.
Grateful. *adj.* 1. Obliged, beholden, thankful. 2. Palatable, cordial, delicious, refreshing. 3. Pleasant, agreeable, delightful. *Anto.*, ungrateful.
Gratify. *v.* Indulge, humor, delight, satisfy, please. *Anto.*, displease.
Great. *adj.* 1. Bulky, big, large, huge, vast. 2. Noted, distinguished, eminent, exalted, illustrious. 3. Noble, magnanimous. 4. Numerous. *Anto.*, small.
Greedy. *adj.* Gluttonous, rapacious, insatiate, ravenous, voracious. *Anto.*, generous, unselfish.
Grief. *n.* Distress, sorrow, regret, affliction, tribulation, woe, anguish. *Anto.*, joy.
Gruff. *adj.* Blunt, harsh, rough, rude, churlish. *Anto.*, polite.
Grumble. *v.* Croak, murmur, complain, growl. *Anto.*, rejoice.
Guard. *v.* Protect, watch, shelter, shield, defend. *Anto.*, attack, harass.
Guarded. *adj.* Careful, watchful, cautious, wary. *Anto.*, unguarded.
Guidance. *n.* Lead, conduct, direction, government. *Anto.*, following.
Guile. *n.* Artifice, duplicity, deceit, subtlety, cunning, craft, fraud. *Anto.*, honesty, simplicity.
Guiltless. *adj.* Innocent, blameless, spotless, pure, immaculate. *Anto.*, guilty.
Guilty. *adj.* Culpable, sinful, criminal. *Anto.*, guiltless.
Gyrate. *v.* Whirl, rotate, revolve.

H

Hail. *v.* Greet, welcome, salute.
Hale. *adj.* Sound, strong, healthy, hardy, hearty, robust. *Anto.*, feeble.
Handsome. *adj.* 1. Comely, fair, pretty, beautiful. 2. Ample, plentiful. 3. Generous, magnanimous, noble. *Anto.*, ugly.
Happiness. *n.* Enjoyment, bliss, beatitude, felicity. *Anto.*, sorrow.
Harass. *v.* 1. Worry, vex, plague, tease, trouble, distress. 2. Fag, exhaust, jade. *Anto.*, please, comfort, protect.
Hard. *adj.* 1. Compact, solid, impenetrable. 2. Knotty, difficult. 3. Arduous, laborious. 4. Unfavorable. 5. Callous, cruel. *Anto.*, soft.
Hasten. *v.* Accelerate, dispatch, speed, quicken, expedite. *Anto.*, hinder, delay.
Hate. *v.* Detest, abominate, loathe, abhor. *Anto.*, love.
Hate. *n.* Enmity, antipathy, hostility, detestation, hatred. *Anto.*, love.
Haughty. *adj.* Lofty, proud supercilious, arrogant. *Anto.*, modest.
Head-strong. *adj.* Unruly, dogged, stubborn, obstinate. *Anto.*, reasonable, judicious.
Heal. *v.* 1. Remedy, cure, restore. 2. Settle, reconcile. *Anto.*, 1. Hurt, wound. 2. Unsettle, disrupt.
Healthy. *adj.* Well, sound, hale, vigorous. *Anto.*, sickly.
Hearken. *v.* Attend, listen, hear.
Hearty. *adj.* *See Hale.*
Heart-broken. *adj.* Desolate, wretched, disconsolate, inconsolable. *Anto.*, joyous, happy.
Heartless. *adj.* Unkind, cruel, cold, pitiless. *Anto.*, cordial, kind.
Heavenly. *adj.* 1. Angelic, divine, godlike. 2. Celestial. *Anto.*, Mundane.
Heedless. *adj.* Careless, thoughtless, inattentive, negligent. *Anto.*, careful.
Heighten. *v.* 1. Raise, elevate, exalt. 2. Increase, enhance. 3. Intensify. *Anto.*, lower, decrease.
Hell. *n.* Hades, purgatory, Gehenna. *Anto.*, heaven.
Helpful. *adj.* Useful, beneficent, convenient. *Anto.*, helpless.
Helpless. *adj.* Weak, feeble, infirm, powerless, impotent, imbecile. *Anto.*, strong, helpful.
Herculean. *adj.* *See Strong, Difficult.*
Heroic. *adj.* 1. Bold, valiant, brave, courageous, noble, dauntless. 2. Epic. *Anto.*, 1. Cowardly.
Hesitation. *n.* Doubt, suspense, uncertainty, vacillation. *Anto.*, determination.
Hideous. *adj.* Dreadful, frightful, horrible, appalling, ghastly. *Anto.*, beautiful.
Highwayman. *n.* Robber, bandit, brigand, road-agent, marauder.
Hinder. *v.* Stop, impede, retard, check, thwart. *Anto.*, hasten.
Hint. *n.* Allusion, suggestion, intimation, insinuation.
Holiday. *n.* Festival, anniversary, celebration. *Anto.*, fast-day.
Holy. *adj.* 1. Good, pious, religious, devout, pure, saintly, godly. 2. Hallowed, sacred. *Anto.*, wicked, bad.
Home. *n.* Abode, domicile, residence, dwelling.
Homely. *adj.* 1. Plain, coarse, uncomely. 2. Domestic, homelike. 3. Ugly. *Anto.*, beautiful, handsome.
Honest. *adj.* 1. Equitable, right, proper, honorable. 2. True, faithful, just, upright, trustworthy. 3. Candid, sincere. *Anto.*, dishonest, inequitable.
Honor. *n.* Credit, esteem. 2. Respect, homage. 3. Distinction, dignity. 4. Integrity, nobility, probity. *Anto.*, dishonor.
Honor. *v.* Dignify, exalt. 2. Observe, celebrate. 3. Respect, reverence, venerate. *Anto.*, abase.
Hope. *v.* Believe, trust, desire, expect. *Anto.*, despair.
Hostile. *adj.* 1. Adverse, opposite, contrary, repugnant. 2. Unfriendly. *Anto.*, amicable, friendly.
Hostility. *n.* *See Hate.*
Hot. *adj.* 1. Fiery. 2. Pungent, biting, acrid. 3. Glowing, ardent, fervid. 4. Passionate, irascible, impetuous. *Anto.*, cold, cool.
Hue. *n.* Tint, tinge, shade, color.
Huge. *adj.* *See Gigantic.*
Humane. *a.* Kind, charitable, benevolent, gentle, tender. *Anto.*, cruel.
Humility. *n.* Modesty, meekness, lowliness, humbleness. *Anto.*, grandeur.
Humorous. *adj.* Funny, witty, jocular, jocose, facetious. *Anto.*, serious.
Hurry. *v.* *See Hasten.*
Hurry. *n.* 1. Haste, dispatch, promptitude, celerity. 2. Bustle, flutter, precipitation. *Anto.*, hinder, delay.
Hypocrisy. *n.* 1. Deceit, dissimulation, imposture. 2. Cant, pharisaism, sanctimoniousness. *Anto.*, openness, truth, candor.
Hypocrite. *n.* 1. Cheat, pretender, impostor, dissembler. 2. Pharisee, canter.
Hypothesis. *n.* Theory, supposition.

I

Ideal. *adj.* Fancied, unreal, shadowy, imaginary. *Anto.*, real.
Idleness. *n.* Inactivity, inertness, laziness, sloth. *Anto.*, labor.
Ignorance. *n.* Darkness, blindness, nescience, illiteracy. *Anto.*, knowledge.
Ill-bred. *adj.* Uncourtly, uncouth, unpolished, impolite, rude. *Anto.*, polite.
Illustrious. *adj.* 1. Bright, glorious. 2. Famous, celebrated, eminent, renowned. *Anto.*, 1. Dim. 2. Unknown, infamous.
Immoderate. *a.* Unreasonable, extravagant, inordinate, excessive. *Anto.*, moderate.
Imperious. *adj.* *See Despotic.*
Impetuous. *adj.* Hasty, precipitate, passionate, violent, vehement, furious. *Anto.*, calm.

Importance. *n.* Moment, weight, concern, significance, consequence. *Anto.*, frivolity.
Impression. *n.* 1. Stamp, impress. 2. Idea, notion. 3. Effect, sensation, influence.
Improve. *v.* 1. Mend. 2. Progress. 3. Rise, increase. *Anto.*, deteriorate, lessen.
Imprudent. *adj.* Incautious, indiscreet, injudicious, careless, rash. *Anto.*, cautious.
Impure. *adj.* 1. Unclean, dirty, foul, filthy. 2. Coarse, gross, immodest, indecent, obscene, vulgar, lewd. *Anto.*, pure.
Inability. *n.* 1. Incompetency, incapacity, inefficiency, impotence. 2. Disability, disqualification. *Anto.*, ability.
Inaccurate. *adj.* Inexact, incorrect, erroneous. *Anto.*, accurate.
Inapt. *adj.* Unfit, unsuitable, inappropriate, inapposite. *Anto.*, suitable, meet.
Incapacity. *n. See Inability.*
Incompatible. *adj.* Unadapted, incongruous, inconsistent, unsuitable. *Anto.*, compatible.
Incompetent. *adj.* 1. Unable, incapable. 2. Disqualified, incapacitated, unfit. 3. Insufficient. *Anto.*, able, fit, sufficient.
Inconsistent. *adj.* 1. Contrary. *See Incompatible.*
Incontinence. *n.* Unchastity, wantonness, lechery, lewdness, lasciviousness. *Anto.*, chastity.
Inconvertible. *adj.* Unchangeable, unalterable, not convertible. *Anto.*, changeable.
Incorrect. *adj.* 1. Faulty. 2. Inaccurate, inexact, erroneous, false, untrue. *Anto.*, correct.
Indefinite. *adj.* Undefined, indistinct, unsettled, doubtful, uncertain, loose. *Anto.*, definite.
Independence. *n.* Liberty, freedom, self-direction. *Anto.*, dependence.
Individual. *n.* Being, person, character. *Anto.*, band, community.
Ineffectual. *adj.* 1. Feeble, weak, powerless. 2. Inoperative, unavailing, useless, abortive. *Anto.*, effectual.
Inequitable. *adj.* Unfair, unjust, dishonorable. *Anto.*, equitable.
Inexperience. *n.* Ignorance, greenness, rawness. *Anto.*, experience.
Ingenuous. *adj.* Honest, frank, candid, artless, guileless. *Anto.*, crafty.
Inharmony. *n.* Discord, harshness, dissonance, discordance. *Anto.*, concert.
Innocent. *adj.* 1. Harmless, innocuous. 2. Clean, guiltless, spotless, immaculate. *Anto.*, Guilty.
Insanity. *n. See Lunacy.*
Inspire. *v.* 1. Inhale. 2. Infuse, instil. 3. Cheer, animate, inspirit. *Anto.*, 1. Respire. 3. Discourage.
Instruction. *n.* 1. Direction, mandate. 2. Discipline, teaching, training, education. 3. Counsel, precept.
Insult. *n.* Affront, indignity, offence, outrage. *Anto.*, apology, favor.
Integrity. *n.* Honesty, honor, rectitude, probity, virtue. 2. Completeness, entirety. *Anto.*, dishonesty.
Intellect. *n.* Mind, sense, brains, reason, understanding. *Anto.*, body.
Intemperance. *n.* Excess, dissipation. *Anto.*, temperance.
Intense. *adj.* 1. Extreme, excessive. 2. Severe, close, strained. 3. Ardent, earnest. *Anto.*, slight, frivolous.
Intercede. *v.* Mediate, plead, arbitrate, interpose. *Anto.*, demand, require.
Intermission. *n.* Pause, rest, suspension, stop, interruption. *Anto.*, continuation.
Intermit. *v.* Subside, abate, cease. *Anto.*, continue, persist.
Interpose. *v.* 1. Remark. 2. Mediate, arbitrate, intercede.
Interpret. *v.* Construe, render. 2. Define, explain, elucidate, decipher.
Interrogate. *v.* Ask, examine, question, catechize. *Anto.*, answer.
Interval. *n.* Season, term space, spell, period. *Anto.*, continuation.
Intervening. *adj.* Interjacent, intermediate, interposed.
Intimidate. *v.* Daunt, frighten, alarm, scare, terrify. *Anto.*, embolden, encourage.
Intoxication. *n.* Drunkenness, inebriety, inebriation. *Anto.*, temperance, sobriety.
Intrepid. *adj.* Brave, daring, valorous, bold, dauntless. *Anto.*, cowardly.
Intrinsic. *adj.* 1. True, genuine, essential, real. 2. Inherent, inborn, native. *Anto.* 1. Counterfeit. 2. Alien, foreign.
Introductory. *adj.* Preliminary, prefatory.
Intrude. *v.* 1. Obtrude. 2. Trespass, infringe, encroach. *Anto.*, eject, expel, protrude.
Intrust. *v.* Consign, deliver, commit, confide. *Anto.*, distrust.
Invade. *v.* 1. Assault, attack, assail. 2. Infringe. *Anto.*, repel.
Invalid. *adj.* 1. Weak. 2. Null, void. *Anto.*, valid.
Invalid. *n.* Valetudinarian, sick person.
Invective. *n.* 1. Abuse, contumely. 2. Satire, sarcasm, lampoon. *Anto.*, panegyric.
Invent. *v.* 1. Devise. 2. Fabricate. 3. Imagine, originate, concoct. *Anto.*, copy, follow.
Invest. *v.* 1. Put at interest. 2. Array, clothe, dress.
Investigation. *n.* Scrutiny, examination, inquisition, inquiry.
Invigorate. *v.* Animate, fortify, strengthen. *Anto.*, weaken.
Invincible. *adj.* Unconquerable. 2. Insurmountable, insuperable. *Anto.*, vincible.
Invite. *v.* 1. Bid, summon, ask, request. 2. Attract, entice allure. *Anto.*, reject, delay, provoke.
Involve. *v.* Include, embrace. 2. Entangle, implicate. 3. Entwine, interweave. *Anto.*, simplify, analyze.
Irksome. *adj.* Weary, tiresome, tedious, wearisome. *Anto.*, pleasant.
Irony. *n.* Banter, mockery, raillery, ridicule. *Anto.*, praise.
Irrational. *adj.* 1. Brutish. 2. Unwise, silly, unreasonable, absurd. *Anto.*, rational.
Irrefragible. *adj.* Undeniable, irrefutable, indubitable, incontestable. *Anto.*, dubious.
Irritate. *v.* Fret, nettle, incense, provoke, exasperate. *Anto.*, soothe.
Irruption. *n.* Inroad, foray, raid, incursion.
Issue. *n.* 1. Offspring, children, progeny. 2. Conclusion, outcome, result. 3. Outlet, exit. *Anto.*, return, inlet.
Itinerant. *adj.* Wandering, nomadic, roving, travelling. *Anto.*, homely, settled.

J

Jade. *v.* Fatigue, weary, tire, fag, exhaust. *Anto.*, invigorate.
Jealousy. *n.* Suspicion, apprehension. *Anto.*, confidence.
Jest. *n.* Quip, crank, joke, sally, witticism.
Jocose. *adj.* Droll, witty, comical, sportive, facetious. *Anto.*, serious.
Jocund. *adj.* Joyful, blithe, jolly, gay, buxom. *Anto.*, sad, gloomy.
Join. *v.* 1. Combine, unite, couple. 2. Annex, add, attach. *Anto.*, separate.
Joke. *n. See Jest.*
Jollity. *n.* Merriment, gayety, fun, frolic, hilarity.
Journey. *n.* Excursion, trip, expedition, travel, tour.
Joy. *n.* Happiness, bliss. 2. Delight, gladness, glee, ecstacy, transport. *Anto.*, sorrow.
Joyous. *adj.* Glad, happy, gleeful, joyful, jolly. *Anto.*, sad.
Judgment. *n.* 1. Opinion, decision, estimate. 2. Sense, discernment, sagacity, wisdom.
Just. *adj.* 1. Exact, correct, true. 2. Merited, deserved. 3. Equitable. 4. Honest, fair, upright. *Anto.*, Unjust, unfair, fraudulent.
Justice. *n.* 1. Right, fairness, equity. 2. Judge. *Anto.*, injustice.
Justify. *v.* Warrant, defend, exculpate, vindicate. *Anto.*, criminate.
Justness. *n.* 1. Fairness, right, equity. 2. Accuracy, propriety. *Anto.*, 1. Criminality. 2. Impropriety.
Juvenile. *adj.* Childish, puerile, young, youthful. *Anto.*, manly.

K

Keen. *adj.* 1. Shrewd, sagacious, astute. 2. Earnest, zealous. 3. Severe, poignant, caustic. 4. Sharp. *Anto.*, dull.
Keep. *v.* 1. Retain. 2. Fulfil, observe. 3. Support, maintain. 4. Preserve, continue. 5. Celebrate. *Anto.*, dispense, distribute.
Kind. *adj.* Good, clement, humane, gentle, sympathetic, tender, affectionate. *Anto.*, cruel, unkind.
Kingly. *adj.* Royal, august, imperial, regal. *Anto.*, plebeian.
Knowledge. *n.* 1. Learning, lore, scholarship, erudition. 2. Notice. 3. Perception, judgment. *Anto.*, ignorance.

L

Labor. *n.* 1. Toil, work, effort, drudgery. 2. Child-birth, parturition. *Anto.* Idleness.
Lack. *n.* Need, deficiency, scarcity, insufficiency. *Anto.*, plenty.
Lament. *v.* Mourn, grieve, weep. *Anto.*, rejoice.
Lancinate. *v.* Sever, mangle, tear, lacerate. *Anto.*, heal, join.
Land. *n.* Soil, ground, earth, real property.
Landscape. *n.* Prospect, view, rural scene.
Language. *n.* Speech, expression, vernacular, dialect, tongue.
Languish. *v.* 1. Faint, wither, fade, droop. 2. Look tender. *Anto.*, invigorate, strengthen.
Larceny. *n.* Theft, pilfering, thievery, stealing.
Large. *adj.* 1. Bulky, big, great. 2. Broad, extensive. 3. Full, abundant. *Anto.*, small.
Lascivious. *a.* Loose, unchaste, lustful, lewd, lecherous. *Anto.*, chaste, pure.
Last. *adj.* 1. Latest. 2. Ultimate, final. 3. Hindmost. 4. Extreme. *Anto.*, first.
Last. *adv.* The last time.
Last. *v.* Remain, continue, endure. *Anto.*, perish, dissolve.
Latent. *adj.* Secret, unseen, veiled, concealed. *Anto.*, patent.
Laugh. *n.* Laughter, cachinnation, roar, guffaw. *Anto.*, sigh.
Laughable. *adj.* Droll, ridiculous, farcical, comical. *Anto.*, solemn.
Lavish. *adj.* Extravagant, wasteful, profuse. *Anto.*, niggardly.
Lavish. *v.* Dissipate, waste, squander.
Law. *n.* 1. Rule, regulation, statute, enactment, ordinance. 2. Formula. 3. Code. 4. Jurisprudence. *Anto.*, lawlessness.
Lawful. *adj.* Legal, legitimate, constitutional. *Anto.*, unlawful.
Lawyer. *n.* Attorney, counsellor, advocate, counsel.
Lazy. *adj.* Idle, dronish, sluggish, inactive, slothful. *Anto.*, active, nimble.
Lead. *n.* Direction, guidance, leadership. *Anto.*, following.
League. *n.* Combination, alliance, confederacy, union. *Anto.*, disunion, separation.
Lean. *v.* Incline. 2. Bear, recline, rest. 3. Tend.
Leave. *n.* Allowance, permission, license, liberty. *Anto.*, prohibition.
Lecture. *n.* Lesson, discourse, prelection.
Legacy. *n.* Gift, bequest, devise.
Legal. *adj. See Lawful.*
Legible. *adj.* Fair, readable, plain. *Anto.*, illegible.

Leisure. *n.* Spare time. *Anto.*, occupation

Lengthen. *v.* 1. Extend, protract, prolong, continue. 2. Stretch, elongate. *Anto.*, shorten.

Leniency. *n.* Tenderness, mercy, mildness, clemency. *Anto.*, cruelty.

Letter. *n.* Note, epistle. 2. Alphabetical character.

Levity. *n.* Frivolity, giddiness, flightiness. *Anto.*, sobriety.

Liberality. *n.* 1. Bounty, generosity, beneficence, charity. 2. Toleration, candor. *Anto.*, closeness, meanness.

Liberate. *v.* Discharge, emancipate, release. *Anto.*, arrest.

Lie. *n.* Fib, untruth, falsehood. *Anto.*, truth.

Lie. *v.* 1. Falsify. 2. Recline. 3. Rest, remain. *Anto.*, 1. Verify.

Life. *n.* 1. Vitality. 2. Existence. 3. Memoir, biography. *Anto.*, death.

Light. *n.* 1. Daylight, sunrise. 2. Illumination. 3. Instruction. 4. Window. *Anto.*, darkness.

Light. *adj.* 1. Buoyant. 2. Easy. 3. Porous. 4. Unburdened. 5. Trifling, small. 6. Flimsy. 7 Airy, gay. *Anto.*, heavy.

Like. *adj.* Resembling, same, similar. *Anto.*, unlike,

Like. *v.* Choose, prefer, list, elect. *Anto.*, dislike.

Liking. *n.* Choice, preference, partiality. *Anto.*, impartiality.

Limited. *adj.* Confined, bounded, restrained, defined, restricted, circumscribed. *Anto.*, unlimited.

Lineage. *n.* Race, house, family, ancestry, line.

Link. *v.* Conjoin, tie, bind, connect, unite. *Anto.*, loosen.

Liquidation. *n.* Adjustment, discharge, settlement, payment.

Little. *adj.* 1. Small, diminutive, minute, tiny. 2. Scanty, inconsiderable. *Anto.*, noble, large.

Live. *adj.* 1. Existing, alive, living. 2. Alert, enterprising. *Anto.*, dead.

Live. *v.* 1. Exist. 2. Endure, continue. 3. Abide, dwell, reside. 4. Subsist. *Anto.*, die.

Lively. *adj.* 1. Agile, quick, nimble. 2. Sprightly, blithe, joyous. 3. Vigorous, piquant, strong. 4. Vivid. *Anto.*, slow, sluggish, languid.

Loathsome. *adj.* Offensive, disgusting, appalling, revolting. *Anto.*, delectable, pleasant.

Lofty. 1. High. 2. Dignified, sublime. 3. Haughty, proud, arrogant. *Anto.*, humble, modest.

Lonely. *adj.* 1. Companionless, lone, solitary. 2. Secluded, lonesome, isolated. *Anto.*, crowded.

Loosen. *v.* 1. Relax. 2. Loose, release. *Anto.*, tighten, tie, bind.

Lordly. *adj.* Dignified, majestic, lofty. 2. Proud, haughty. *Anto.*, meek, lowly, humble.

Lose. *v.* 1. Miss, forfeit. 2. Waste, squander. *Anto.*, 1. Find. 2. Gain, earn.

Loss. *n.* Deprivation, privation, forfeiture, waste, damage, detriment, destruction. *Anto.*, gain, profit.

Love. *v.* Like. *Anto.*, hate.

Love. *n.* Affection, attachment, rondness, liking. *Anto.*, hate.

Low. *adj.* 1. Depressed. 2. Mean, abject, disreputable. 3. Cheap. *Anto.*, 1. High. 2. Proud, worthy. 3. Dear.

Loyal. *adj.* Faithful, true. *Anto.*, disloyal, traitorous.

Lucid. *adj.* 1. Clear, transparent, pellucid, distinct, plain, bright, shining. *Anto.*, ambiguous, opaque, sombre.

Luck. *n.* Chance, hap, fortune, fate.

Lunacy. *n.* Derangement, madness, insanity, craziness. *Anto.*, sanity.

Luxuriate. *v.* 1. Revel, wanton. 2. Flourish. *Anto.*, 1. Chasten. 2. Wither.

M

Maceration. *n.* Soaking, softening, steeping. *Anto.*, drying.

Machination. *n.* Plot, stratagem, intrigue, conspiracy. *Anto.*, artlessness.

Mad. *adj.* 1. Crazy, delirious, insane. 2. Enraged, frantic, violent. *Anto.*, 1. Sane. 2. Pacified.

Magic. *n.* Enchantment, sorcery, necromancy.

Magnanimous. *adj.* *See Noble, Lofty.*

Magnificence. *n.* Grandeur, splendor, eclat. *Anto.*, squalor, poverty.

Main. *adj.* Principal, leading, chief. *Anto.*, subordinate, secondary.

Majority. *n.* 1. Manhood, full age. 2. Greater number. *Anto.*, minority.

Malefactor. *n.* Culprit, criminal, felon, convict.

Malice. *n.* Spite, rancor, hate, venom, malignity. *Anto.*, love, benevolence, benignity.

Mammoth. *adj.* *See Large.*

Manly. *adj.* Manful, brave, stout, strong, bold, noble, heroic. *Anto.*, effeminate.

Manifest. *adj.* Clear, apparent, patient, obvious, plain, glaring. *Anto.*, hidden, obscure, occult.

Manners. *n.* Breeding, behavior, deportment, habits, morals. *Anto.*, misbehavior, vulgarism.

Marry. *v.* Espouse, wed, take for husband or wife. *Anto.*, divorce.

Mask. *v.* Disguise, shroud, screen, veil, hide, cloak. *Anto.*, display.

Matchless. *adj.* Excellent, inimitable, unrivaled, peerless, incomparable. *Anto.*, common, ordinary.

Matrimony. *n.* Wedlock, marriage, nuptial state. *Anto.*, spinsterhood, bachelorhood.

Mean. *v.* 1. Purpose, intend, design. 2. Denote, imply, signify.

Mean. *adj.* 1. Average, middle, medium. 2. Miserly, stingy, base, surly, grumbling, poor, petty, wretched. *Anto.*, 1. Extreme. 2. Noble, lofty.

Meek. *adj.* Modest, humble, mild, gentle, submissive. *Anto.*, bold.

Meekness. *n.* Modesty, humility, gentleness, mildness, submissiveness. *Anto.*, boldness, hardihood.

Melancholy. *n.* Depression, gloom, sadness, dejection, despondency. *Anto.*, joy, buoyancy.

Memory. *n.* 1. Remembrance, recollection. 2. Reputation, renown, fame. *Anto.*, forgetfulness, oblivion.

Mental. *adj.* Ideal, rational, intellectual, metaphysical. *Anto.*, physical.

Mercy. *n.* Mildness, compassion, clemency, lenity. *Anto.*, harshness, implacability.

Meritorious. *adj.* Good, worthy, deserving, excellent. *Anto.*, unworthy.

Merry. *adj.* Gay, gleeful, mirthful, joyful, hilarious. *Anto.*, sad, sorrowful.

Mighty. *adj.* 1. Able, strong, puissant. 2. Effective, forcible. 3. Immense, vast, stupendous. *Anto.*, feeble, small.

Mind. *n.* 1. Reason, intellect, understanding. 2. Inclination, desire.

Minority. *n.* 1. Nonage, infancy, pupilage, childhood. 2. Smaller number. *Anto.*, majority.

Misadventure. *n.* Misfortune, mishap, reverse, mischance. *Anto.*, adventure.

Mischief. *n.* 1. Trouble. 2. Detriment, harm, hurt, evil, injury. *Anto.*, benefit, advantage, utility.

Miserable. *adj.* 1. Depressed, unhappy, affected, forlorn. 2. Abject, mean, valueless. *Anto.*, happy, lucky, lofty.

Moderate. *adj.* 1. Mild, judicious, reasonable. 2. Frugal, sparing. *Anto.*, immoderate, extravagrant.

Modern. *adj.* Late, new, novel, recent. *Anto.*, ancient, old.

Modest. *adj.* 1. Humble, unpretending. 2. Moderate. 3. Chaste, pure. *Anto.*, bold, lofty, immodest.

Morality. *n.* 1. Goodness, virtue. 2. Ethics, morals. *Anto.*, immorality.

Morbid. *adj.* Unsound, sickly, unhealthy, vitiated. *Anto.*, sound, healthy.

Morning. *n.* Daybreak, dawn, forenoon. *Anto.*, evening.

Mortal. *adj.* Deadly, fatal. 2. Human, *Anto.*, immortal.

Mortal. *n.* Human, man. *Anto.*, immortal.

Mundane. *adj.* Worldly, earthly, terrestrial. *Anto.*, heavenly.

Murmur. *n.* 1. Whisper, muttering. 2. complaint. *Anto.* 1. Shout. 2. Commendation.

Muse. *v.* Think, contemplate, reflect, ponder, meditate, brood.

Music. *n.* Harmony, symphony, melody, science of harmonics.

Mutual. *adj.* Interchanged, reciprocal, correlative. *Anto.*, solc, solitary.

Mystify. *v.* Puzzle, perplex, baffle, bewilder, pose. *Anto.*, clear, explain.

N

Naked. *adj.* 1. Nude, bare, undressed. 2. Defenceless, unprotected. 3. Sheer, simple. *Anto.*, clad, covered.

Natural. 1. Regular, normal. 2. Native, original, characteristic. *Anto.*, unnatural.

Near. *adj.* Close, nigh, adjacent 2. Familiar, allied, intimate. 3. Impending, imminent. *Anto.*, far.

Nerve. *v.* Brace, fortify, strengthen, invigorate. *Anto.*, weaken.

Never. *adv.* Not ever. *Anto.*, ever, always.

New. *adj.* Fresh, novel. 2. Modern, recent. *Anto.*, old, ancient.

Nice. *adj.* 1. Precise, exact, critical. 2. Subtle, fine. 3. Delicate, dainty, delicious. *Anto.*, 1. Careless. 2. Coarse. 3. Unpleasant.

Niggardly. *adj.* Mean, mercenary, stingy, miserly, illiberal, avaricious. *Anto.*, generous, open.

Nimble. *adj.* Quick, agile, alert, sprightly. *Anto.*, slow, lazy.

Noble. *adj.* 1. Dignified, worthy, superior, exalted. 2. Grand, magnificent. *Anto.*, ignoble.

Noise. *n.* Sound, din, clatter, uproar, clamor. *Anto.*, silence.

Nominate. *a* Name, propose, designate.

Note. *n.* 1. Minute, memorandum. 2. Comment, remark. 3. Celebrity, renown. 4. Bill, promissory note.

Note. *v.* 1. Record. 2. Notice, observe, heed. 3. Denote, designate.

Noted. *adj.* *See Illustrious.*

Notion. *n.* *See Idea.*

Notorious. *adj.* 1. Conspicuous. 2. Open, obvious, well-known. *Anto.*, unknown.

Novel. *adj.* *See New.*

Novel. *n.* Tale, story, romance, fiction.

Noxious. *adj.* Harmful, hurtful, deleterious, baleful, deadly. *Anto.*, wholesome.

Number. *n.* 1. Numeral, figure, digit. 2. Multitude, many.

Nuptials. *n.* Wedding, marriage. *Anto.*, divorce.

Nurture. *n.* Discipline, training, breeding, schooling, education.

Nutriment. *n.* Food, diet, provision, sustenance, nutrition, nourishment. *Anto.*, poison.

Nutritious. *adj.* Sustaining.

Nourishing. *adj.* Wholesome, strengthening. *Anto.*, noxious.

O

Obdurate. *adj.* Obstinate, stubborn, callous, unfeeling. *Anto.*, flexible.

Object. *n.* End, purpose, aim, design. 2. Mark. *Anto.*, subject.

Oblige. 1. Please, favor, accommodate, serve. 2. Obligate. 3. Compel, coerce. *Anto.*, disoblige.

Oblivion. *n.* Forgetfulness, amnesty. *Anto.*, remembrance.

Obscure. *adj.* Dark, dim, vague, indistinct. 2. Humble, unknown. *Anto.*, 1. Light, plain, clear. 2. Noted.

Obscure. *v.* Cloud, darken, shade, eclipse. *Anto.*, clear, illuminate.
Obsequies. *n.* Funeral rites, exequies.
Obsolete. *adj.* Disused, antiquated, neglected. *Anto.*, new, fashionable.
Obvious. *adj.* Plain, clear, manifest, visible, apparent. *Anto.*, hidden.
Occasional. *adj.* Casual, irregular, incidental. *Anto.*, regular.
Occupation. *n.* 1. Calling, business, pursuit, profession. 2. Use, possession. *Anto.*, 1. Idleness. 2. Forfeiture.
Occupy. *v.* Hold, possess, use. *Anto.*, vacate.
Occurrence. *n.* Adventure, incident, contingency.
Odor. *n.* Scent, perfume, fragrance.
Offend. *v.* Displease, annoy, vex. *Anto.*, please.
Offence. *n.* Crime, indignity, injury, insult, misdeed, transgression, trespass, outrage. *Anto.*, favor, obligation.
Offensive. *adj.* Abusive, impertinent, injurious, insulting, insolent, obnoxious, opprobrious, rude, scurrilous. *Anto.*, pleasant.
Offering. *n.* 1. Oblation, presentation, gift. 2. Sacrifice.
Office. *n.* 1. Charge, trust, duty, service. 2. Situation, berth, station.
Officious. *adj.* Active, busy, forward, intrusive, obtrusive. *Anto.*, modest.
Offspring. *n.* Children, issue, descendants, posterity. *Anto.*, ancestry.
Only. *adj.* Alone. *adv.* Barely, merely, simply, singly, solely.
Opaque. *adj.* 1. Dark, obscure. 2. Not transparent, impervious to light. *Anto.*, transparent.
Open. *a.* 1. Unclosed, extended. 2. Clear, public. 3. Fair, candid, unreserved. 4. Liberal. 5. Unsettled. *Anto.*, closed.
Opening. *n.* Aperture, cavity, hole, fissure. *Anto.*, solid.
Operation. *n.* Action, agency, surgical act, process.
Opinion. *n.* Notion, view, judgment, belief. 2. Estimate.
Opinionated. *adj.* Conceited, egotistical, obstinate. *Anto.*, modest.
Opponent. *n.* Adversary, antagonist, enemy, foe. *Anto.*, friend, ally.
Opposite. *adj.* Adverse, contrary, inimical, repugnant. *Anto.*, alike, congenial.
Opprobrious. *adj.* Abusive, insulting, insolent, offensive, scurrilous. *Anto.*, eulogistic.
Opprobrium. *n.* Disgrace, ignominy, infamy. *Anto.*, eminence.
Option. *n.* Choice, election.
Oration. *n.* Address, speech, discourse, harangue.
Ordain. *v.* Appoint, order, prescribe, invest.
Order. *n.* 1. Class, degree, fraternity, method, rank, series, succession. 2. Command, injunction, mandate, precept. *Anto.*, disorder.
Orderly. *adj.* 1. Methodical, systematic, regular, quiet. 2. *n.* Soldier. *Anto.*, irregular.
Ordinary. *adj.* 1. Usual, common, habitual. 2. Homely, plain, ugly. 3. Inferior, vulgar. *Anto.*, extraordinary.
Origin. *n.* 1. Cause, occasion. 2. Spring, beginning, source. *Anto.*, end.
Original. *adj.* First, primary, primitive, pristine. *Anto.*, copied.
Ornament. *v.* Adorn, embellish, beautify, decorate. *Anto.*, spoil, wreck, destroy.
Ornate. *adj.* Adorned, bedecked, decorated, embellished, garnished. *Anto.*, unadorned.
Ostensible. *adj.* Colorable, feasible, professed, plausible, specious, apparent, declared, manifest. *Anto.*, real.
Ostentation. *n.* Show, display, flourish, pomposity. *Anto.*, plainness.
Outlive. *v.* *See Survive.*
Outrage. *v.* Abuse, maltreat, offend, insult, shock. *Anto.*, honor, praise.
Outrage. *n.* Affront, offence, abuse, indignity, insult. *Anto.*, favor, obligation.
Outward. *adj.* Extraneous, exterior, external, extrinsic, outer. *Anto.*, inward.
Oval. *adj.* Egg-shaped, elliptical.
Overbearing. *adj.* Haughty, arrogant, lordly, imperious, domineering, dictatorial. *Anto.*, gentle.
Overcome. *v.* Conquer, subdue, surmount, vanquish. *Anto.*, surrender.
Overflow. *v.* 1. Flow, deluge, inundate. 2. Overrun, overspread.
Oversight. *n.* 1. Blunder, mistake, error, inadvertency. 2. Management, supervision, control. *Anto.*, correction.
Overthrow. *v.* 1. Defeat, overcome, conquer, vanquish. 2. Upset, overturn, subvert. 3. Ruin, molest. *Anto.*, surrender, yield.
Overwhelm. *v.* 1. Overflow. 2. Defeat, conquer, vanquish, subdue.
Owner. *n.* Holder, possessor, proprietor.

P

Pacify. *v.* 1. Appease, conciliate. 2. Calm, still, compose, tranquilize, quiet, quell. *Anto.*, excite.
Pain. *n.* 1. Ache, distress, suffering, pang, anguish, agony. 2. Penalty. 3. Uneasiness, sorrow, grief, woe. *Anto.*, pleasure.
Paint. *v.* 1. Depict, delineate, portray, pencil, sketch. 2. Color. 3. Represent.
Pair. *n.* Brace, couple. *Anto.*, single.
Pale. *adj.* 1. Colorless, wan, whitish, ashy, pallid. 2. Dim, sombre. *Anto.*, florid.
Palliate. *v.* Cover, extenuate, gloss, varnish. *Anto.*, accuse, charge.
Palpable. *adj.* Obvious, evident, manifest, plain, glaring. 2. Tangible. *Anto.*, occult.
Palpitate. *v.* Pulsate, throb, flutter, go pit-a-pat. *Anto.*, quiet.
Paltry. *adj.* 1. Little, small, unimportant, petty, miserable, trivial. 2. Abject, base, mean, pitiful, contemptible. *Anto.*, worthy, great, noble.
Panegyric. *n.* Encomium, praise, eulogy. *Anto.*, condemnation.
Pang. *n.* *See Pain.*
Parasite. *n.* Flatterer, sycophant, hanger-on.
Pardon. *n.* Grace, forgiveness, remission, absolution, mercy, amnesty. *Anto.*, implacability.
Parentage. *n.* Birth, lineage, pedigree, stock.
Parody. *n.* Burlesque, travesty, caricature.
Parsimonious. *adj.* Close, mean, stingy, miserly, penurious, covetous, sordid. *Anto.*, generous.
Partial. *adj.* 1. Incomplete, imperfect. 2. Unfair, warped, biased, prejudiced, unjust. *Anto.*, complete.
Part. *n.* 1. Piece, portion, fraction. 2. Element, ingredient. 3. Lot. 4. Charge, function.
Particle. *n.* Grain, jot, tittle, iota, bit, atom, molecule. *Anto.*, mass.
Particular. *adj.* Appropriate, circumstantial, distinct, exact, exclusive, nice, peculiar, punctual, specific. *Anto.*, careless, inappropriate.
Particularly. *adv.* Chiefly, distinctly, especially, specifically, principally. *Anto.*, generally.
Partisan. *n.* Supporter, adherent, follower, disciple, champion, votary. *Anto.*, opponent.
Partly. *adv.* In part. *Anto.*, wholly.
Partner. *n.* 1. Colleague, associate, sharer, participator, partaker. 2. Member of a firm.
Passion. *n.* 1. Ardor, emotion, fervor, zeal. 2. Love, affection, fondness, attachment, devotion. 3. Anger, wrath, fury. 4. Pathos. *Anto.*, quietude, placidity, languor.
Passive. *adj.* Calm, patient, resigned, submissive, unresisting. *Anto.*, rebellious.
Patent. *adj.* Open, plain, apparent, obvious. *Anto.*, latent.
Pathetic. *adj.* Touching, affecting, moving, tender, melting, plaintive. *Anto.*, ludicrous.
Patience. *n.* Resignation, endurance, fortitude, sufferance. *Anto.*, impatience.
Patient. *adj.* Composed, calm, enduring, passive. *n.* An invalid. *Anto.*, fretful.
Patrician. *n.* Nobleman, aristocrat. *Anto.*, plebeian.
Patronize. *v.* Aid, favor, support, help, befriend. *Anto.*, abuse, condemn.
Pause. *v.* 1. Stop, cease, desist, delay, rest, stay. 2. Waver, hesitate. *Anto.*, continue.
Pay. *n.* Compensation, reward, requital, wages, salary, hire.
Peaceable. *adj.* Calm, gentle, pacific, mild, quiet, serene, tranquil, undisturbed. *Anto.*, turbulent.
Peaceful. *adj.* 1. Still, quiet, undisturbed, calm, placid, tranquil, serene. 2. Mild, friendly. *Anto.*, disturbed.
Peculiar. *adj.* Particular, singular, special, characteristic, rare, exceptional.
Peevish. *adj.* Captious, cross, fretful, irritable, petulant. *Anto.*, patient.
Penalty. *n.* Chastisement, fine, forfeiture, mulct, punishment. *Anto.*, reward.
Penetrating. *adj.* Discerning, intelligent, sagacious, acute, keen, shrewd. *Anto.*, dull.
Penitence. *n.* Compunction, remorse, contrition, repentance. *Anto.*, impenitence.
Penniless. *adj.* Poor, destitute, needy, indigent, reduced, pinched, distressed. *Anto.*, rich, moneyed.
Penurious. *adj.* Beggarly, miserly, niggardly, parsimonious, sparing. *Anto.*, generous.
Penury. *n.* Indigence, need, poverty, want. *Anto.*, affluence.
Perceive. *v.* 1. Notice, see, discover, discern. 2. Feel. 3. Understand, know. *Anto.*, miss.
Perception. *n.* Conception, sensation, idea, notion, sentiment.
Peremptory. *adj.* Absolute, arbitrary, despotic, dogmatical, positive. *Anto.*, vacillating.
Perfect. *adj.* 1. Finished, complete, elaborate. 2. Blameless, pure, holy. *Anto.*, imperfect.
Perfidious. *adj.* Faithless, treacherous. *Anto.*, faithful.
Perforate. *v.* Bore, pierce, penetrate. *Anto.*, plug, fill.
Perform. *v.* Accomplish, achieve, effect, execute, fulfil, produce. *Anto.*, fail.
Perfume. *n.* Aroma, fragrance, balminess, incense. *Anto.*, stench.
Peril. *n.* Venture, risk, danger, hazard, jeopardy. *Anto.*, safety.
Period. *n.* Circuit, date, age, epoch, era.
Perjure. *v.* *See Forswear.*
Permanent. *adj.* Fixed, abiding, lasting, stable, enduring, steadfast, immutable. *Anto.*, unstable.
Permit. *v.* Allow, suffer, consent, admit, tolerate, yield. *Anto.*, refuse.
Pernicious. *adj.* Destructive, hurtful, mischievous, noisome, noxious. *Anto.*, healthful.
Perpetual. *adj.* Continuous, constant, incessant, unceasing, uninterrupted. *Anto.*, transient.
Perplex. *v.* 1. Puzzle, embarrass, bewilder, confound. 2. Involve, entangle, complicate. *Anto.*, explain.
Persevere. *v.* Continue, insist, persist, prosecute, pursue. *Anto.*, unstable.
Perspicuity. *n.* Transparency, clearness, translucency. *Anto.*, obscurity.
Persuade. *v.* 1. Convince. 2. Influence, induce, lead, incite, impel. *Anto.*, dissuade.
Pertinent. *adj.* Apposite, appropriate. *Anto.*, improper.
Perverse. *adj.* Cross, crooked, forward, stubborn, untractable. *Anto.*, yielding.
Pestilential. *adj.* Contagious, epidemical, infectious, mischievous. *Anto.*, wholesome.
Petition. *n.* Application, appeal, prayer, suit, entreaty, supplication.
Picture. *n.* Effigy, likeness, representation.
Pious. *adj.* Religious, devout, holy, saintly, godly. *Anto.*, impious.

Pique. *n.* Offence, resentment, umbrage, grudge. *Anto.*, pleasure, friendliness.
Pique. *v.* 1. Urge, spur, incite, instigate. 2. Displease, offend, irritate, nettle, exasperate. *Anto.*, please.
Pitiless. *adj.* Unmerciful, relentless, ruthless, cruel, unfeeling, inexorable. *Anto.*, merciful.
Pity. *n.* Sympathy, compassion, fellow-feeling. *Anto.*, cruelty.
Place. 1. *n.* Ground, post, position, seat, site, situation, space. 2. *adj.* Dispose, lay, order, put, set. *Anto.*, displace.
Placid. *adj.* *See Peaceful.*
Plague. *v.* Tease, vex, trouble, fret, bother. *Anto.*, please.
Pleasant. *adj.* 1. Agreeable, pleasing, delightful. 2. Witty, sportive, amusing. 3. Cheerful, lively, vivacious. *Anto.*, disagreeable.
Please. *v.* Delight, gratify, humor, satisfy. *Anto.*, displease.
Pleasure. *n.* 1. Comfort, enjoyment, gratification, joy. 2. Luxury, voluptuousness. 3. Choice, will, preference. *Anto.*, pain.
Plebeian. *adj.* Mean, base, vulgar, ignoble. *Anto.*, patrician.
Pledge. *n.* Deposit, earnest, hostage, security, pawn.
Plentiful. *adj.* Abundant, ample, copious, exuberant, plenteous. *Anto*, scarcity.
Pliable. *adj.* 1. Limber, flexible, supple, lithe. 2. Compliant, tractable. *Anto.*, inflexible.
Pliant. *adj.* Bending, flexible, pliable, lithe, limber, supple, yielding. *Anto.*, stiff.
Plight. *v.* Case, condition, predicament, situation state
Plot. *v.* Scheme, concoct, project, devise, brew, hatch.
Pluck. *n.* Resolution, courage, spirit, mettle, nerve, fortitude. *Anto.*, cowardice.
Polished. *adj.* 1. Refined, accomplished, polite, cultivated, elegant. 2. Burnished. 3. Attic, classic. *Anto.*, rough, coarse.
Polite. *adj.* Refined, accomplished, genteel, courteous, courtly, polished, urbane. *Anto.*, impolite.
Politeness. *n.* Affability, civility, courteousness, courtesy, good manners. *Anto.*, impoliteness
Politic. *adj* Artful, civil, cunning, prudent. *Anto.*, impolitic.
Pollute. *n.* Contaminate, corrupt, defile, infect, vitiate. *Anto* purify.
Pomp. *n.* Display, parade, show, pageantry, state, ostentation.
Pompous. *adj.* Dignified, lofty, magisterial, magnificent, stately, showy, ostentatious. *Anto.*, modest.
Ponder. *v.* Consider, muse, reflect, think.
Portion. *n.* Division, dower, fortune, part, quantity, share. *Anto.*, whole.
Position. *n.* Place, post, situation, station.
Positive. *adj.* Certain, confident, dogmatica real. *Anto.*, doubtful.
Possess. *v.* Have, hold, occupy. *Anto.*, dispossess, distrain.
Posterior. *adj.* 1. Hind, rear, back. 2. Following, succeeding, subsequent, ensuing. *Anto.*, anterior.
Postpone. *v.* Adjourn, defer, delay, procrastinate. *Anto.*, expedite
Posture. *n.* Action. attitude, gesture, position.
Potent. *adj.* Strong, influential, cogent powerful, mighty, puissant. *Anto.*, weak.
Poverty. *n.* Indigence, need, penury want. *Anto.*, wealth.
Powerful. *adj.* Mighty, influential potent, strong, vigorous. *Anto.*, weak.
Practicable. *adj.* Feasible, possible, practical. *Anto.*, impracticable.
Practice. *n.* Custom, habit, manner, use. *Anto.*, prodigy.
Praise. *n.* 1. Worship, homage. 2. Approval, commendation, laudation, applause, encomium, 3. Eulogy, panegyric. *Anto.*, blame.
Praise. *v.* 1. Exalt, glorify. 2. Approve, applaud, commend. 3. Eulogize, extol. *Anto.*, censure.
Prayer. *n.* Entreaty, petition, suit, request, supplication. *Anto.*, anathema.
Precarious. *adj.* Doubtful, equivocal, dubious, uncertain. *Anto.*, certain.
Precedence. *n.* Pre-eminence, preference, priority. *Anto.*, subsequence
Precedent. 1. *n.* Example. 2. *Adj.* Former, antecedent. *Anto.*, 2. Subsequent.
Preceding. *adj.* Antecedent, anterior, foregoing, former, previous, prior. *Anto.*, following.
Precept. *n.* Doctrine, law, rule, injunction, mandate, maxim, principle.
Precious. *adj.* Costly, uncommon, valuable. *Anto.*, common.
Precise. *adj.* 1. Accurate, correct, exact. 2. Nice. 3. Stiff, strict. *Anto.*, not exact.
Preclude. *v.* Hinder, obviate, prevent. *Anto.*, assist.
Preconcerted. *adj.* Premeditated, predetermined, considered beforehand. *Anto.*, unconsidered.
Precursor. *n.* Forerunner, harbinger, messenger. *Anto.*, follower, disciple.
Predicament. *n.* 1. Condition, plight, situation. 2. Class, state.
Predict. *v.* Foretell, prophesy, prognosticate.
Predominate. *adj.* Overruling, supreme, prevalent, prevailing.
Preface. *n.* Introduction, prelude, proem. *Anto.*, conclusion, peroration.
Prefer. *v.* Advance, choose, forward, encourage, promote. 2. Offer, present.
Preference. *n.* Choice, precedence, priority.
Preferment. *n.* Advancement, preference, promotion. *Anto.*, abasement.
Prejudice. *n.* 1. Bias, detriment, disadvantage, hurt, injury. 2. Prepossession. *Anto.*, justice.
Preliminary. *adj.* 1. Antecedent, introductory, preparatory, previous. 2. A first step.
Prepare. *v.* Equip, make ready, fit, qualify. *Anto.*, retard.
Preponderate. *v.* 1. Outweigh, overbalance. 2. Prevail.
Proficiency. *n.* Advancement, progress, improvement. *Anto.*, deficiency.
Profit. *n.* Advantage, benefit, emolument, gain. *Anto.*, loss.
Profligate. *adj.* *See Abandoned.*
Profuse. *adj.* Extravagant, lavish, prodigal. *Anto.*, niggardly.
Progeny. *n.* Issue, offspring, race.
Progress. *n.* Advancement, gradation, motion, proficiency. *Anto.*, retrogression.
Project. *n.* Design, plan, scheme.
Prolific. *adj.* Fertile, fruitful, productive. *Anto.*, barren, sterile.
Prolix. *adj.* Diffuse, long, tedious. *Anto.*, brief, laconic.
Prolong. *v.* Belay, extend, postpone, procrastinate, protract, retard. *Anto.*, shorten.
Prominent. *adj.* Conspicuous, protuberant, eminent, projecting. *Anto.*, unnoticeable.
Promiscuous. *adj.* Mingled, indiscriminate, common, confused. *Anto.*, select.
Promise. *n.* Word, assurance, engagement, pledge.
Promote. *v.* Advance, encourage, forward, prefer. *Anto.*, discourage.
Prompt. *adj.* 1. Early, punctual, timely. 2. Apt, ready, quick. *Anto.*, unready, dilatory.
Pronounce. *v.* Affirm, articulate, declare, speak, utter.
Proof. *n.* 1. Argument. 2. Demonstration, evidence, testimony.
Propagate. *v.* Circulate, diffuse, disseminate, increase, multiply. *Anto.*, diminish, prune.
Propensity. *n.* Inclination, proneness, bias, tendency.
Proper. *adj.* 1. Fitting, appropriate, suitable, becoming, seemly, right. 2. Particular, specific, not common. *Anto.*, wrong.
Propitiate. *v.* Appease, reconcile, atone, conciliate. *Anto.*, provoke.
Propitious. *adj.* 1. Auspicious, favorable. 2. Kind, merciful. *Anto.*, unfavorable.
Proportion. *n.* Form, rate, relation, ratio, size, symmetry.
Proportionate. *adj.* Adequate, equal, commensurate. *Anto.*, unequal.
Propose. *v.* Bid, intend, offer, purpose, tender.
Prosecute. *v.* 1. Arraign, accuse. 2. Continue, pursue. *Anto.*, exculpate, pardon.
Prospect. *n.* Landscape, survey, view.
Prospective. *adj.* Foreseeing, forward, future.
Prosperity. *n.* Welfare, success, thrift, luck, happiness. *Anto.*, loss, poverty.
Prosperous. *adj.* Flourishing, fortunate, lucky, successful. *Anto.*, unsuccessful.
Protect. *v.* Cherish, defend, foster, guard, patronize, shelter, shield. *Anto.*, abandon.
Protract. *v.* Defer, delay, postpone, prolong, retard. *Anto.*, contract.
Protracted. *adj.* Continued, extended, prolonged, drawn out. *Anto.*, shortened.
Proud. *adj.* Arrogant, assuming, conceited, haughty, vain. *Anto.*, unassuming.
Proverb. *n.* Adage, aphorism, maxim, apothegm, by-word, saw, saying.
Provide. *v.* Furnish, prepare, procure, supply.
Provident. *adj.* Careful, economical, cautious, frugal, far-sighted, prudent. *Anto.*, prodigal.
Provisions. *n.* Subsistence, food, victuals, viands, bread, provender.
Proviso. *n.* Condition, stipulation.
Provoke. *v.* 1. Irritate, anger, offend, affront, enrage, exasperate, infuriate. 2. Awaken, arouse, excite, stimulate, inflame. *Anto.*, propitiate.
Proxy. *n.* Deputy, representative, agent, substitute.
Prudence. *n.* Carefulness, discretion, forethought, judgment, wisdom. *Anto.*, indiscretion.
Prudish. *adj.* Coy, demure, reserved, over-modest. *Anto.*, brazen, immodest.
Publish. *v.* 1. Announce, declare, proclaim, herald, advertise. 2. Issue, emit. *Anto.*, suppress.
Puerile. *adj.* Boyish, childish, juvenile. *Anto.*, manly.
Pull. *v.* Drag, draw, gather, hale, haul, pluck, lug. *Anto.*, push.
Pulsation. *n.* Beat, beating, throb, throbbing.
Pulverize. *v.* Bruise, grind, comminute, triturate.
Punctual. *adj.* *See Prompt.*
Punish. *v.* Correct, discipline, chastise, castigate, whip, scourge. *Anto.*, reward.
Pure. *adj.* 1. Clear, clean, unsullied, undefiled, spotless, untarnished, immaculate. 2. True, innocent, sinless. 3. Chaste, modest. 4. Unmixed, genuine. *Anto.*, impure.
Purpose. *n.* Object, aim, intent, end, design.
Pursue. *v.* Chase, continue, follow, prosecute, persist. *Anto.*, escape.
Puzzle. *v.* *See Perplex.*
Puzzle. *n.* 1. Mystery, riddle, enigma. 2. Embarrassment, perplexity, nonplus.

Q

Quack. *n.* Impostor, pretender, humbug, charlatan. *Anto.*, savant.
Quail. *v.* Shrink, blanch, quake, cower, tremble. *Anto.*, brave.
Qualified. *adj.* Adapted, competent, fitted. *Anto.*, incompetent.
Qualify. *v.* Adapt, equip, furnish, fit, modify, prepare, temper.
Quality. *n.* Rank, property, distinction, accomplishment, attribute.
Quandary. *n.* Puzzle, difficulty, perplexity, strait, nonplus, dilemma.
Quarrel. *n.* Disagreement, wrangle, squabble, contention, dissension, strife, altercation, brawl. *Anto.*, agreement.
Queer. *adj.* Odd, singular, droll, strange, whimsical, unique, quaint. *Anto.*, usual, ordinary, customary.

Query. *n.* Inquiry, question, interrogatory. *Anto.*, answer.
Question. *n.* *See Query.*
Question. *v.* 1. Ask, enquire, examine, interrogate, catechize. 2. Doubt, dispute, controvert. *Anto.*, reply.
Questionable. *adj.* Doubtful, suspicious. *Anto.*, authentic.
Quick. *adj.* 1. Brisk, active, prompt, agile. 2. Rapid, swift. 3. Clever, sharp, shrewd, acute, keen, discerning. *Anto.*, dull, slow.
Quiet. *adj.* Still, resting, dormant, motionless, quiescent. *Anto.*, turbulent.
Quit. *v.* 1. Leave, withdraw, vacate. 2. Resign, abandon, forsake. 3. Clear, acquit, absolve.
Quiver. *v.* Shake, tremble, shudder, shiver, quake.
Quota. *n.* Share, portion, allotment, contingent, proportion.
Quotation. *n.* Extract, excerpt, selection, citation.
Quote. *v.* Adduce, cite. *Anto.*, originate.

R

Rabble. *n.* Mob, rout, herd.
Race. *n.* Breed, course, family, generation, lineage, progress. *Anto.*, mongrel.
Radiance. *n.* Brightness, brilliancy, lustre, splendor, effulgence. *Anto.*, gloom.
Radical. *adj.* 1. Entire, complete, thorough, perfect. 2. Fundamental, original, organic. 3. Simple, primitive, underived. *Anto.*, superficial.
Rage. *n.* Anger, choler, fury, violence. *Anto.*, calm.
Raise. *v.* Advance, collect, elevate, heighten, erect, exalt, propagate. *Anto.*, lower.
Rally. *v.* 1. Banter, deride, mock, ridicule. 2. Collect. *Anto.*, 1. Praise. 2. Scatter.
Random. *adj.* Casual, chance, fortuitous. *Anto.*, chosen, destined.
Rank. *n.* Class, degree, position.
Ransom. *n.* Free, redeem, manumit. *Anto.*, imprison.
Rapacious. *adj.* Greedy, ravenous, voracious. *Anto.*, generous.
Rapidity. *n.* Agility, celerity, fleetness, speed, swiftness, velocity. *Anto.*, sloth.
Rapt. *adj.* Charmed, delighted, enraptured, fascinated, entranced, transported, ravished. *Anto.*, dejected.
Rapture. *n.* Ecstacy, transport. *Anto.*, dejection.
Rare. *adj.* 1. Excellent, incomparable. 2. Raw. 3. Thin. 4. Scarce, singular, uncommon. *Anto.*, 1, 4. Common. 3. Dense.
Rash. *adj.* Impulsive, hasty, heedless, headlong, reckless, precipitate. *Anto.*, calculating.
Rate. *n.* Assessment, degree, proportion, price, quota, ratio, value.
Rational. *adj.* 1. Sane. 2. Sensible, wise, intelligent. 3. Reasonable. *Anto.*, irrational.
Ravenous. *adj.* Greedy, rapacious, voracious. *Anto.*, generous.
Refer. *v.* 1. Allude, suggest, hint, intimate. 2. Appeal. 3. Bear, bring.
Refined. *adj.* 1. Accomplished, cultured, polite, polished, elegant, courtly. 2. Purified. 3. Pure, chaste, classic, exquisite, Attic. *Anto.*, coarse.
Reflect. *v.* Consider, censure, muse, ponder, reproach, think.
Reform. *v.* Amend, better, correct, improve, rectify. *Anto.*, injure, mar.
Refractory. *adj.* Contumacious, perverse, ungovernable, unruly. *Anto.*, obedient.
Refrain. *v.* Abstain, forbear, spare.
Refresh. *v.* Cool, renew, invigorate, revive. *Anto.*, tire.
Refute. *v.* Disprove, oppugn. *Anto.*, accept.
Regale. *v.* Entertain, feast, gratify, refresh.
Regard. *n.* 1. Concern, esteem, respect, liking, affection. 2. Relation, reference. 3. Consideration, heed. *Anto.*, contempt.
Regardless. *adj.* Heedless, indifferent, negligent, unconcerned, unobservant. *Anto.*, Observant.
Region. *n.* 1. District, clime, territory. 2. Portion, part.
Regret. *v.* Complain, grieve, lament, repent. *Anto.*, rejoice.
Regulate. *v.* Adjust, direct, rule, dispose, govern, plan. *Anto.*, disorder.
Reiterate. *v.* Repeat again, quote, recite. *Anto.*, retract.
Rehearse. *v.* 1. Recapitulate. 2. Recite, repeat.
Reject. *v.* Refuse, repel, decline. 2. Discard. *Anto.*, accept.
Rejoice. *v.* Triumph, exult, glory. *Anto.*, lament.
Rejoinder. *n.* Answer, reply, replication, response.
Relevant. *adj.* Apposite, fit, pertinent, proper, suitable to the purpose. *Anto.*, irrelevant.
Reliance. *n.* Confidence, dependence, repose, trust. *Anto.*, suspicion.
Relieve. *v.* Aid, alleviate, assist, help, mitigate, succor. *Anto.*, injure, despoil.
Religious. *adj.* Devout, holy, pious. *Anto.*, profane.
Reluctant. *adj.* Disinclined, unwilling, indisposed, loth, averse. *Anto.*, willing.
Remain. *v.* Abide, await, continue, sojourn, stay, tarry. *Anto.*, depart.
Remainder. *n.* Remnant, residue, rest.
Remains. *n.* Leavings, relics, manes.
Remark. *n.* Annotation, observation, note, comment.
Reminiscence. *n.* Remembrance, recollection, memoir.
Remiss. *adj.* 1. Careless, negligent, inattentive. 2. Slow, slack, dilatory. *Anto.*, careful.
Remit. *v.* 1. Abate, relax. 2. Absolve, forgive, liberate, pardon. 3. Transmit.
Remorse. *n.* Compunction, sorrow, penitence, conviction. *Anto.*, callousness.
Renegade. *n.* 1. Turncoat, apostate.
Renew. *v.* Refresh, renovate, revive. *Anto.*, wear out.
Renounce. *v.* Abandon, abdicate, forego, quit, relinquish, resign. *Anto.*, keep.
Renovate. *v.* Restore, renew, revive, resuscitate.
Renown. *n.* Celebrity, fame, reputation, distinction. *Anto.*, infamy.
Renunciation. *n.* 1. Abandonment, surrender. 2. Abnegation, rejection, repudiation.
Repair. *v.* Recover, restore, retrieve. *Anto.*, destroy.
Reparation. *n.* Amends, restoration, restitution. *Anto.*, injury.
Repartee. *n.* Reply, retort.
Repeal. *v.* Abolish, abrogate, annul, cancel, destroy, revoke. *Anto.*, reënact.
Repel. *v.* Repulse, drive back. 2. Withstand, resist, confront, oppose, check. *Anto.*, attract.
Repetition. *adj.* Recital, tautology.
Replenish. *v.* Fill, refill, supply. *Anto.*, empty.
Repose. *n.* Ease, quiet, rest, sleep. *Anto.*, disquiet.
Reprehensible. *adj.* Blamable, censurable, culpable, reprovable. *Anto.*, commendable.
Reproach. *v.* Blame, condemn, censure, reprove, upbraid. *Anto.*, commend.
Reproof. *v.* Blame, censure, reprehension. *Anto.*, praise.
Reprove. *v.* Chide, rebuke, reprimand. *Anto.*, praise.
Repugnance. *n.* Antipathy, aversion, dislike, hatred. *Anto.*, liking.
Repugnant. *adj.* Adverse, contrary, hostile, inimical, opposite, distasteful. *Anto.*, similar, homogeneous.
Repulsion. *n.* Power of repelling, resistance. *Anto.*, attraction.
Reputation. *n.* Character, renown, credit, fame, honor, repute. *Anto.*, notoriety.
Request. *v.* Ask, beg, beseech, demand, entreat, implore, solicit. *Anto.*, grant.
Requisite. *adj.* Essential, expedient, necessary. *Anto.*, unnecessary.
Requite. *v.* 1. Compensate, reward, reciprocate. 2. Avenge.
Research. *n.* Examination, enquiry, investigation, careful scrutiny.
Resemblance. *n.* Likeness, similarity. *Anto.*, unlikeness.
Reservation. *n.* Reserve, retention. *Anto.*, donation.
Reside. *v.* Abide, inhabit, sojourn, dwell, live. *Anto.*, alienate.
Residence. *n.* Abode, domicile, dwelling.
Residue. *n.* Remainder, remnant.
Resign. *v.* Abdicate, forego, give up, relinquish, renounce. *Anto.*, retain.
Resignation. *n.* Acquiescence, endurance, patience, submission. *Anto.*, rebellion,
Resist. *v.* Confront, oppose, withstand, repel. *Anto.*, assist, submit.
Resolute. *adj.* Courageous, determined, fixed, steady. *Anto.*, irresolute.
Resolution. *n.* 1. Intention, resolve. 2. Firmness, constancy, decision. *Anto.*, 2. Irresolution, weakness, vacillation.
Resort. *v.* Frequent, haunt.
Resource. *n.* Expedient, means, resort.
Respect. *n.* 1. Esteem, regard, reverence, veneration. 2. Favor, good will. 3. Reference. *Anto.*, irreverence.
Respect. *v.* Honor, esteem, regard, venerate. *Anto.*, dishonor, disgrace.
Respectful. *adj.* Civil, dutiful, obedient. *Anto.*, uncivil.
Respite. *n.* 1. Interval. 2. Reprieve, suspension, delay. *Anto.*, continuation.
Response. *n.* Answer, reply, replication, rejoinder. *Anto.*, question.
Responsible. *adj.* Accountable, amenable, answerable. *Anto.*, irresponsible.
Rest. *n.* 1. Cessation, ease, intermission, quiet, repose, stop, pause. 2. Remainder, others. *Anto.*, 1. Motion, unrest.
Restless. *adj.* Unsettled, unquiet, roving. *Anto.*, quiet.
Restore. *v.* 1. Heal, cure. 2. Give up, repay, return, render, replace. *Anto.*, 2. Keep.
Restoration. *n.* Amends, reparation, restitution. *Anto.*, retention.
Restrain. *v.* Coerce, constrain, limit, repress, restrict, curb. *Anto.*, liberate.
Restrict. *v.* Bound, restrain, limit, confine. *Anto.*, free.
Result. *n.* Consequence, effect, event, issue.
Resurrection. *n.* Rising again.
Retain. *v.* Detain, hold, reserve, keep. *Anto.*, yield.
Retaliation. *n.* Reprisal, repayment. *Anto.*, pardon.
Retard. *v.* Hinder, obstruct, delay, check, impede. *Anto.*, hasten.
Retire. *v.* Recede, retreat, secede, withdraw. *Anto.*, come forward, approach.
Retract. *v.* Abjure, recall, recant, revoke. *Anto.*, reiterate.
Retrenchment. *n.* Diminution, reduction, curtailment. *Anto.*, increase.
Retrieve. *v.* Regain, recover. *Anto.*, lose.
Retrogression. *n.* Retrogradation, going backward. *Anto.*, progression.
Retrospect. *n.* Review, re-survey. *Anto.*, forecast.
Reveal. *v.* Discover, disclose, divulge, communicate, impart, publish. *Anto.*, conceal.
Revenge. *n.* Requital, retaliation. *Anto.*, forgiveness.
Revenue. *n.* Income, receipts. *Anto.*, expenditure.
Revere. *v.* Honor, venerate, adore, reverence. *Anto.*, execrate.
Reverse. *v.* Change, subvert, overturn, invert. *Anto.*, establish.
Review. *v.* Notice, revise, survey, reconsider, inspect.
Revision. *n.* Review, reconsideration, revisal.
Revive. *v.* 1. Refresh, quicken, rouse, cheer, animate. 2. Revivify.
Revoke. *v.* Abolish, abrogate, annul, cancel, repeal, retract. *Anto.*, reiterate.

Reward. *n.* Compensation, recompense, remuneration, requital, satisfaction. *Anto.*, punishment.
Riches. *n.* Fortune, wealth, affluence, opulence. *Anto.*, poverty.
Ridicule. *n.* Mockery, derision, sneer, sarcasm, raillery, satire. *Anto.*, sympathy.
Ridiculous. *adj.* Absurd, preposterous, droll, ludicrous. *Anto.*, solemn, funereal.
Right. *adj.* True, straight, just, proper, *Anto.*, wrong.
Right. *n.* Privilege, claim, immunity. *Anto.*, disadvantage.
Righteous. *adj.* Good, honest, virtuous, upright, just, devout, religious, pious, holy, saintly. *Anto.*, bad.
Rigid. *adj.* 1. Strict, stern, severe, harsh, rigorous. 2. Stiff, unpliant, inflexible. *Anto.*, pliable.
Rigorous. *adj.* 1. Rigid, severe, harsh, austere. 2. Precise, accurate, exact. *Anto.*, lax.
Ripe. *adj.* 1. Mature. 2. Finished, consummate. 3. Ready, fit, prepared. *Anto.*, green, raw, immature.
Ripeness. *n.* Maturity, perfection, growth. *Anto.*, immaturity.
Rise. *n.* Increase, ascent, origin. *Anto.*, subsidence.
Rite. *n.* Ceremony, form, observance.
Rivalry. *n.* Contention, emulation, competition. *Anto.*, friendliness.
Road. *n.* Course, path, way, route.
Roam. *v.* Ramble, range, wander, rove, stroll.
Robust. *adj.* Athletic, stout, strong, brawny, stalwart, hale, mighty, powerful. *Anto.*, weak.
Romance. *n.* Tale, story, novel, fiction. *Anto.*, history.
Room. *n.* Apartment, chamber, space.
Room. *v.* Lodge.
Rough. *adj.* 1. Coarse, rude, blunt, ungentle, churlish. 2. Uneven. 3. Unpolished. *Anto.*, smooth.
Round. *adj.* Globular, circular. *Anto.*, cubical.
Round. *n.* 1. Circuit, tour, step. 2. Globe, orb, sphere. *Anto.*, 2. Cube.
Roundness. *n.* Rotundness, rotundity, circularity, sphericity.
Route. *n.* Road, way, course, path.
Rude. *adj.* *See Rough.*
Rudeness. *n.* 1. Roughness. 2. Gruffness, coarseness, incivility, churlishness. 3. Inelegance. *Anto.*, politeness, urbanity.
Rugged. *adj.* 1. Uneven, irregular, rough. 2. Harsh. 3. Robust, vigorous. *Anto.*, smooth.
Ruinous. *adj.* Baneful, noxious, destructive, calamitous. *Anto.*, helpful.
Rule. *n.* 1. Law, government, command. 2. Maxim, method, precept. 3. Guide, regulation. *Anto.*, lawlessness.
Rule. *v.* 1. Govern, control. 2. Mark. *Anto.*, rebel.
Rumor. *n.* Talk, gossip, report, news, bruit.
Rupture. *n.* 1. Altercation, quarrel, feud. 2. Hernia. 3. Fracture, breach.
Rural. *adj.* Country, pastoral, rustic. *Anto.*, urbane.
Ruse. *n.* Artifice, fraud, trick, wile.
Rustic. *n.* Clown, peasant, swain, boor, lout, bumpkin.
Rustic. *adj.* 1. Uncouth, unpolished, awkwark, rude. 2. Country, rural. *Anto.*, urban.
Ruthless. *adj.* Cruel, pitiless, merciless, relentless, savage, inhuman. *Anto.*, pitiful.

S

Sacred. *adj.* Divine, devoted, holy. *Anto.*, profane.
Sad. *adj.* 1. Depressed, sorrowful, cheerless, disconsolate. 2. Dismal, gloomy, mournful. *Anto.*, joyous.
Safe. *adj.* 1. Guarded, protected. 2. Sound, secure. 3. Reliable. *Anto.*, dangerous.
Sagacity. *n.* Acuteness, discernment, penetration. *Anto.*, dulness.
Sailor. *n.* Mariner, seaman. *Anto.*, landsman.
Salary. *n.* Hire, pay, stipend, wages.
Sanction. *n.* 1. Countenance, support. 2. Ratification, confirmation. *Anto.*, rejection, prohibition.
Sane. *adj.* Sober, lucid, sound. *Anto.*, crazy.
Sapient. *adj.* Sagacious, wise, discerning. *Anto.*, foolish.
Sarcasm. *n.* Irony, ridicule, satire.
Satiate. *v.* 1. Cloy, glut. 2. Satisfy, gratify. *Anto.*, hunger, starve.
Satisfaction. *n.* 1. Atonement. 2. Content. 3. Remuneration, reward. *Anto.*, dissatisfaction.
Satisfy. *v.* Gratify, please. 2. Glut, satiate, cloy. *Anto.*, displease.
Saving. *adj.* Thrifty, economical, frugal, sparing. *Anto.*, prodigal.
Saying. *n.* 1. Remark, observation, statement. 2. Maxim, proverb, aphorism, adage, saw.
Scandal. *n.* Discredit, disgrace, infamy, reproach, detraction. *Anto.*, praise.
Scarce. *adj.* Singular, rare, uncommon. *Anto.*, common.
Scarcity. *n.* Want, lack, deficiency, dearth. *Anto.*, abundance.
Search. *v.* Examine, investigate, enquire, pursue, scrutinize, seek.
Secede. *v.* Recede, retire, withdraw. *Anto.*, return.
Seclusion. *n.* Loneliness, retirement, privacy, solitude.
Secondary. *adj.* Inferior, subordinate, second. *Anto.*, primary.
Secret. *adj.* Clandestine, covered, hidden, concealed, latent, mysterious. *Anto.*, open.
Secular. *adj.* Temporal, worldly. *Anto.*, religious.
Secure. *v.* 1. Be certain, guard, make sure. 2. Guarantee. *Anto.*, lose.
Sedate. *adj.* Calm, composed, quiet, still, serene, unruffled. *Anto.*, lively.
Seduce. *v.* Allure, attract, decoy. *Anto.*, repel.
See. *v.* Behold, eye, look, observe, perceive, view.
Seek. *v.* 1. Search for, ask for. 2. Strive, try, endeavor. *Anto.*, lose.
Sell. *v.* Vend, barter, dispose of. *Anto.*, buy.
Senile. *adj.* Aged, old, infirm. *Anto.*, juvenile.
Sensation. *n.* Perception, sentiment, feeling.
Sense. *n.* Feeling, judgment, import, meaning, reason.
Sensibility. *n.* Delicacy, feeling, susceptibility.
Sensitive. *adj.* 1. Impressible, easily affected. 2. Perceptive. *Anto.*, callous.
Sentence. *n.* Decision, judgment, period, phrase, proposition.
Sentiment. *n.* Feeling, notion, opinion, sensation. *Anto.*, insensibility.
Sentimental. *adj.* Romantic. *Anto.*, prosaic.
Separate. *v.* 1. Disjoin, divide, detach, disunite, isolate. 2. Cleave, sever. *Anto.*, join.
Serious. *adj.* 1. Weighty, momentous. 2. Sober, grave, solemn, earnest. *Anto.*, jocose.
Servile. *adj.* Fawning, mean, slavish. *Anto.*, free.
Settle. *v.* Adjust, arrange, determine, establish, regulate, fix. *Anto.*, unsettle.
Settled. *adj.* Conclusive, confirmed, decisive, definitive, established. *Anto.*, unsettled.
Sever. *v.* Detach, disjoin, divide, separate. *Anto.*, join.
Several. *adj.* Different, distinct, diverse, sundry, various.
Severe. *adj.* Austere, cruel, harsh, rigid, rigorous, rough, sharp, strict, unyielding, stern. *Anto.*, mild.
Severity. *n.* 1. Austerity, rigor, sternness. 2. Keenness, causticity. 3. Violence. *Anto.*, mildness.
Shake. *v.* Agitate, quake, quiver, shiver, shudder, totter, tremble. *Anto.*, steady.
Shallow. *adj.* 1. Shoal. 2. Frivolous, flimsy, trivial. 3. Superficial, ignorant. *Anto.*, deep.
Shame. *n.* Disgrace, dishonor, ignominy, reproach. *Anto.*, honor.
Shameless. *adj.* Immodest, impudent, indecent, indelicate. *Anto.*, modest.
Shape. *v.* Fashion, form, mould.
Share. *v.* Apportion, distribute, divide, partake, participate.
Share. *n.* Dividend, part. *Anto.*, whole.
Sharpness. *n.* Acrimony, acuteness, penetration, shrewdness, sagacity. *Anto.*, dulness.
Shelter. *n.* Asylum, refuge, retreat.
Shelter. *v.* Cover, defend, harbor, lodge. protect, screen. *Anto.*, cast forth.
Shine. *v.* Gleam, glare, glisten, glitter. *Anto.*, darken.
Shining. *adj.* 1. Brilliant, glittering, radiant, sparkling. 2. Bright, splendid, resplendent. *Anto.*, dark, dim.
Shock. *v.* 1. Affright, terrify. 2. Appal, disturb, dismay. 3. Offend, disgust. *Anto.*, encourage, inspirit.
Shocking. *adj.* Dreadful, disgusting, terrible. *Anto.*, pleasant.
Short. *adj.* 1. Defective, scanty, wanting. 2. Brief, concise, compendious, laconic, succinct, summary. *Anto.*, long.
Shorten. *v.* 1. Abridge, abbreviate, retrench. 2. Diminish. *Anto.*, extend.
Show. *n.* 1. Display, parade, pomp. 2. Exhibition, representation, sight, spectacle.
Show. *v.* Display, exhibit, parade. *Anto.*, hide, cover.
Showy. *adj.* Gay, gorgeous, gaudy, flaunting, garish. 2. Pompous, ostentatious, magnificent. *Anto.*, simple, plain.
Shrewd. *adj.* Acute, keen, penetrating, artful, sly, sagacious. *Anto.*, dull.
Shudder. *v.* Shrink, shake, quake, quiver.
Shun. *v.* Avoid, elude, evade, eschew. *Anto.*, seek.
Sickly. *adj.* Diseased, ill, indisposed, morbid, sick, unwell. *Anto.*, healthy.
Sign. *n.* 1. Mark, note, symptom, prognostic, presage, signal. 2. Omen, token, symbol.
Signify. *v.* 1. Betoken, declare, express, intimate, testify, utter. 2. Denote, imply.
Significant. *adj.* 1. Indicative, expressive, betokening. 2. Momentous. *Anto.*, common, usual.
Silence. *n.* Stilness, taciturnity, muteness, oblivion. *Anto.*, sound, noise.
Silence. *v.* Still, stop, appease.
Silent. *adj.* 1. Dumb, mute, speechless. 2. Still, quiet. *Anto.*, noisy.
Silly. *adj.* Absurd, foolish, simple, stupid, weak, dull. *Anto.*, sedate.
Similarity. *n.* Likeness, resemblance, similitude. *Anto.*, unlikeness.
Simile. *n.* Comparison, similitude.
Simple. *adj.* 1. Elementary, single, not complex. 2. Open, artless, sincere. 3. Plain. 4. Silly. *Anto.*, complex, artful.
Simplicity. *n.* Artlessness, plainness, singleness. 2. Folly. *Anto.*, artfulness.
Simply. *adv.* 1. Merely, only, solely. 2. Artlessly.
Since. *conj.* As, because, for, insomuch as.
Sincere. *adj.* 1. Frank, honest, plain, genuine. 2. True, upright, incorrupt. *Anto.*, false.
Sinewy. *adj.* *See Robust.*
Single. *adj.* 1. Unmarried. 2. Alone, solitary. 3. Particular, individual. *Anto.*, married, double, several.
Singular. *adj.* 1. Odd, strange, uncommon, rare. 2. Peculiar, exceptional. *Anto.*, customary, usual.
Situation. *n.* 1. Case, plight, predicament, condition. 2. Locality, place, position, site.
Skilful. *adj.* Clever, skilled, knowing, intelligent, ready, adroit, quick. *Anto.*, unskilful.

Slander. *v.* Asperse, blacken, defame, traduce, libel. *Anto.*, praise.
Slavery. *n.* Bondage, captivity, servitude, drudgery. *Anto.*, freedom.
Slender. *adj.* 1. Fragile, slight. 2. Slim, thin. 3. Limited. *Anto.*, thick.
Slight. *adj.* 1. Cursory, desultory, superficial. 2. Slim, weak. *Anto.*, 1. careful. 2. solid.
Slight. *v.* Neglect, scorn. *Anto.*, notice, commend.
Slow. *adj.* 1. Deliberate. 2. Heavy, dull, stupid. 3. Sluggish. *Anto.*, quick.
Small. *adj.* 1. Little, diminutive, stunted, tiny. 2. Minute, microscopic. 3. Narrow, illiberal. *Anto.*, large, great.
Smell. *n.* Fragrance, odor, perfume, scent, stench.
Smooth. *adj.* 1. Bland, mild, easy. 2. Even, level. *Anto.*, rough.
Smother. *v.* 1. Stifle, suffocate. 2. Suppress.
Snarling. *adj.* Cynical, snappish, waspish.
Sober. *adj.* 1. Abstemious, abstinent, temperate, moderate. 2. Grave. *Anto.*, intemperate, gay.
Sobriety. *n.* 1. Abstinence, temperance. 2. Coolness, soberness, gravity. *Anto.*, intemperanee, intoxication.
Social. *v.* Companionable, conversable, familiar, sociable, convivial. *Anto.*, unsocial.
Society. *adj.* 1. Company, association, fellowship, corporation. 2. The public.
Soft. *adj.* 1. Compliant, ductile, flexible, tractable, pliant, yielding. 2. Mild, docile, gentle. *Anto.*, hard.
Soiled. *adj.* Stained, spotted, tarnished, defiled, polluted. *Anto.*, elean, pure.
Solicit. *v.* 1. Ask, request. 2. Beg, entreat, implore. 3. Beseech, supplicate. *Anto.*, give.
Solicitation. *n.* 1. Importunity, entreaty. 2. Invitation. *Anto.*, offering.
Solicitude. *n.* Anxiety, carefulness, trouble. *Anto.*, carelessness.
Solid. *adj.* Firm, hard, stable, substantial. *Anto.*, unstable.
Solitary. *adj.* 1. Alone, retired, sole. 2. Desolate, deserted, remote. 3. Lonely, only. *Anto.*, crowded.
Sombre. *adj.* 1. Dark, shady, dusky, sunless. 2. Sad, doleful, mournful. *Anto.*, gay, bright.
Soothe. *v.* 1. Allay, lessen, mitigate, ease. 2. Quiet, compose, pacify, appease. *Anto.*, irritate.
Sorrow. *n.* 1. Grief, affliction, trouble, sadness. 2. Regret. *Anto.*, joy.
Sort. *n.* 1. Kind, species. 2. Order, rank. 3. Manner.
Sound. *adj.* 1. Hearty, healthy, sane. 2. Entire, perfect, unhurt. *Anto.*, ill.
Sound. *n.* 1. Tone, noise, report. 2. Strait. *Anto.*, silence.
Sour. *adj.* Acid, acrimonious, acetose, acetous, sharp, tart. *Anto.*, sweet.
Source. *n.* Cause, fountain, origin, reason, spring.
Spacious. *adj.* Ample, capacious. *Anto.*, small.
Sparkle. *v.* 1. Twinkle, glitter, glisten, scintillate, corruscate. 2. Bubble, effervesce. *Anto.*, darken.
Speak. *v.* Articulate, converse, discourse, pronounce, say, talk, tell, utter. *Anto.*, silence.
Speaking. *n.* 1. Elocution, declamation, oratory. 2. Discourse, talk.
Species. *n.* Class, kind, sort, race.
Specific. *adj.* Particular, special, definite. *Anto.*, indefinite.
Specimen. *n.* Model, pattern, sample, example.
Specious. *adj.* Colorable, feasible, ostensible, plausible, showy. *Anto.*, real, genuine.
Spectator. *n.* Beholder, bystander, observer.
Speculation. *n.* Conjecture, scheme, theory.
Speech. *n.* 1. Talk. 2. Language, dialect. 3. Address, discourse, harangue, oration.
Speechless. *adj.* Dumb, mute, silent.
Spend. *v.* Dissipate, exhaust, lay out, expend, squander, waste, consume. *Anto.*, save.
Sphere. *n.* Circle, globe, orb. *Anto.*, cube.
Spill. *v.* Pour, shed, waste. *Anto.*, fill, gather.
Spirit. *n.* 1. Ardor, breath, courage, temper. 2. Ghost, soul. *Anto.*, mortal.
Spirited. *adj.* Active, animated, ardent, lively, vivacious. *Anto.*, stupid.
Spiritless. *adj.* 1. Dull, cold, apathetic, feeble, soulless. 2. Dejected, downeast. 3. Stupid, heavy, prosy, insipid. *Anto.*, spirited.
Spirits. *n.* Animation, courage, life, vivacity. *Anto.*, dullness.
Spiritual. *adj.* Ecclesiastical, immaterial, incorporeal, unearthly, heavenly. *Anto.*, worldly, terrestrial.
Spite. *n.* Grudge, malice, malignity, malevolence, pique, rancor. *Anto.*, forgiveness.
Spite. *v.* Anger, vex, thwart. *Anto.*, pardon, please.
Splendid. *adj.* 1. Showy, sumptuous, gorgeous, magnificent, superb. 2. Beaming, radiant, glowing, effulgent, brilliant. 3. Noble, heroic. 4. Glorious, eminent. *Anto.*, mean, dull, low.
Splendor. *n.* Brightness, brilliancy, lustre, magnificence, pomp, pageantry. *Anto.*, dullness, poverty.
Splenetic. *adj.* 1. Fretful, peevish. 2. Gloomy, morose, sullen. *Anto.*, amicable.
Sport. *n.* 1. Amusement, game, pastime, play. 2. Diversion, recreation. *Anto.*, work.
Spotless. *adj.* 1. Blameless, faultless, stainless. 2. Unblemished, unspotted. 3. Innocent. *Anto.*, stained.
Spread. *v.* 1. Circulate, disseminate, distribute, scatter. 2. Disperse, dispense. 3. Propagate, diffuse. *Anto.*, collect.
Spring. *v.* 1. Emanate, flow, proceed, issue. 2. Arise, start, leap.
Sprinkle. *v.* Bedew, scatter, besprinkle.
Sprout. *v.* Bud, germinate, shoot out.
Squander. *v.* Expend, spend, lose, lavish, dissipate, waste. *Anto.*, earn, husband.
Stability. *n.* Firmness, steadiness, fixedness. *Anto.*, instability, unstableness, inconstancy, fickleness.
Stain. *v.* 1. Foul, soil, sully, tarnish, blot, spot. 2. Color, tinge. *Anto.*, clean.
Stain. *n.* 1. Color, discolor. 2. Dye, tinge. 3. Flaw, speck, spot, blemish, blot.
Stale. *adj.* 1. Old, faded. 2. Common, trite. 3. Vapid, flat, musty, insipid. *Anto.*, new, fresh.
Stammer. *v.* Falter, hesitate, stutter.
Stamp. *n.* Print, mark, impression.
Standard. *n.* Criterion, rule, test.
Standard. *adj.* 1. Legal, usual, approved. 2. Banner. *Anto.*, unusual.
State. *n.* Condition, position, situation, predicament, plight.
Station. *n.* Post, place, position, situation.
Stay. *v.* 1. Prop, support. 2. Abide, continue, remain. 3. Delay, hinder, stop. 4. Support.
Steadfast. *adj.* Firm, constant, resolute. *Anto.*, shaky.
Steal. *v.* 1. Pilfer, purloin, poach, embezzle. 2. Win, gain, allure. *Anto.*, lose.
Stench. *n.* Bad smell, stink. *Anto.*, fragranee, perfume.
Sterling. *adj.* Real, genuine, true, pure. *Anto.*, false, counterfeit.
Sterility. *n.* Barrenness, unfruitfulness, aridity. *Anto.*, fruitfulness.
Stern. *adj.* Austere, rigid, rigorous, severe, strict. *Anto.*, mild.
Sticking. *adj.* Adherent, adhesive, tenacious.
Still. *n.* 1. Allay, appease, assuage. 2. Calm, lull, quiet, silence, pacify. *Anto.*, enrage, move, disturb.
Stimulate. *v.* Animate, excite, incite, arouse, kindle, fire. *Anto.*, depress.
Stingy. *adj.* Close, mean, miserly, niggardly, penurious, sordid. *Anto.*, generous.
Stock. *n.* 1. Accumulation, fund, hoard, provisions, store, supply. 2. Cattle.
Stoic. *n.* Follower of Zeno. *Anto.*, epicurean.
Stoop. *v.* Bend, condescend, submit. *Anto.*, straighten.
Stop. *n.* Cessation, intermission, rest. *Anto.*, continuance.
Stop. *v.* Check, hinder, impede. *Anto.*, aid.
Stormy. *adj.* 1. Gusty, squally, tempestuous, boisterous. 2. Rough, passionate. *Anto.*, calm.
Story. *n.* Anecdote, incident, memoir, tale.
Stout. *adj.* *See Strong, Robust.*
Strait. *adj.* 1. Close, narrow. 2. Strict. *Anto.*, wide, loose.
Strange. *Adj.* Curious, eccentric, odd, singular, surprising, wonderful, foreign, unusual. *Anto.*, usual.
Stratagem. *n.* Device, artifice, ruse, dodge, trick. *Anto.*, simplicity.
Strength. *n.* 1. Authority. 2. Force, might, power, potency. *Anto.*, weakness.
Strenuously. *adv.* Ardently, zealously, earnestly, vigorously. *Anto.*, weakly, feebly.
Strict. *adj.* Accurate, exact, nice, particular, precise, rigorous, severe, stern. *Anto.*, lenient.
Stricture. *n.* Animadversion, censure, contraction, criticism. *Anto.*, commendation,
Strife. *n.* Contention, contest, dissension, discord. *Anto.*, peace.
Strong. *adj.* 1. Efficient, powerful, potent, mighty. 2. Athletic, stalwart, robust, stout. 3. Forcible, cogent. 4. Tough, tenacious. *Anto.*, feeble, weak.
Structure. *n.* 1. Make, construction, texture. 2. Building, pile, edifice.
Stubborn. *adj.* Wilful, obstinate, mulish, perverse, obdurate, cantankerous. *Anto.*, docile.
Stupid. *adj.* 1. Sleepy, drowsy, torpid. 2. Flat, heavy, insipid, humdrum. 3. Dull, obtuse, foolish, witless, daft. *Anto.*, shrewd.
Style. *n.* Manner, mode, phraseology, diction.
Style. *v.* Characterize, designate, denominate, entitle, name.
Subdue. *v.* 1. Defeat, conquer, vanquish, overwhelm. 2. Subject, control. *Anto.*, submit.
Subject. *adj.* Exposed, liable, subservient. *Anto.*, shielded, secured.
Subject. *n.* Object, matter, material.
Subject. *v.* Subdue, subjugate.
Sublime. *adj.* Elevated, exalted, grand, great, lofty, majestic, high. *Anto.*, mean, low, base.
Submissive. *adj.* Compliant, obedient, humble, yielding. *Anto.*, rebellious.
Submission. *n.* 1. Compliance, obedience, meekness, humility. 2. Forbearance, endurance. *Anto.*, revolt.
Subordinate. *n.* Inferior, dependent. *Anto.*, superior.
Suborn. *v.* Forswear, perjure. *Anto.*, verify.
Subsequent. *adj.* 1. After, following. 2. Posterior, consequent. *Anto.*, preceding.
Subservient. *adj.* 1. Inferior, subordinate. 2. Subject. *Anto.*, superior.
Subside. *v.* 1. Abate, sink. 2. Intermit. *Anto.*, rise.
Subsistence. *n.* *See Sustenance.*
Substantial. *adj.* 1. Responsible. 2. Solid, stout, strong. *Anto.*, unstable.
Substantiate. *v.* Prove, establish, corroborate, verify. *Anto.*, disprove.
Substitute. *v.* Change, exchange. *Anto.*, retain.
Subterfuge. *n.* 1. Evasion, shift. 2. Quirk, trick.
Subtile. *adj.* 1. Fine, delicate, nice. 2. Thin, rare, ethereal. *Anto.*, coarse, rough.
Subtle. *adj.* 1. Keen, sagacious, profound. 2. Artful, sly, astute, crafty. *Anto.*, 1. Dull. 2. Open.
Subtract. *v.* Deduct, withdraw. *Anto.*, add.
Subvert. *v.* 1. Invert, reverse. 2. Overturn, overthrow. *Anto.*, maintain, build.
Successful. *adj.* Fortunate, lucky, prosperous. *Anto.*, unsuccessful.
Succession. *n.* Order, series. *Anto.*, disorder.

Succinct. *adj.* Brief, concise, terse, compact. *Anto.*, verbose.
Succor. *v.* Aid, help, assist, relieve. *Anto.*, injure, harry, mar.
Sudden. *adj.* Hasty, unanticipated, unexpected, unlooked-for. *Anto.*, slow.
Suffer. *v.* 1. Allow, permit, tolerate. 2. Endure, bear.
Suffocate. *v.* Choke, smother, stifle.
Sufficient. *adj.* 1. Adequate, enough. 2. Competent. *Anto.*, want.
Suffrage. *n.* 1. Aid, voice. 2. Vote.
Suggest. *v.* Allude, hint, insinuate, intimate.
Suggestion. *n.* Hint, allusion, intimation, insinuation.
Suitable. *adj.* 1. Agreeable, becoming. 2. Apt, fit, expedient. *Anto.*, unfit.
Suitor. *n.* 1. Lover, wooer. 2. Petitioner.
Summary. *n.* Abstract, compendium, digest, synopsis, epitome.
Summon. *v.* Bid, call, cite, invite. *Anto.*, send.
Sundry. *adj.* 1. Different, diverse. 2. Several, various. *Anto.*, single.
Superficial. *adj.* Flimsy, shallow, slight. *Anto.*, thorough.
Supersede. *v.* 1. Supplant, displace. 2. Annul, suspend.
Supplicate. *v.* Ask, beg, beseech, entreat, implore, solicit. *Anto.*, command.
Support. *v.* Assist, cherish, defend, endure, encourage, favor, forward, maintain, nurture, patronize, protect, prop, sustain, stay, second, uphold. *Anto.*, destroy, injure.
Suppose. *v.* Consider, imagine, apprehend, presume, think, believe.
Supreme. *adj.* Paramount, first, principal, chief, highest, greatest. *Anto.*, secondary.
Sure. *adj.* Certain, confident, infallible. *Anto.*, uncertain.
Surface. *n.* Outside, superficies. *Anto.*, interior.
Surly. *adj.* Morose, touchy, cross, fretful, peevish. cynical, rude. *Anto.*, amiable.
Surmise. *v.* Believe, conjecture, presume, suppose, suspect, think. *Anto.*, doubt.
Surmount. *v.* Conquer, overcome, rise above, subdue, vanquish. *Anto.*, yield.
Surpass. *v.* Excel, exceed, outdo, outstrip. *Anto.*, fall short.
Surprise. *n.* Admiration, amazement, astonishment, wonder. *Anto.*, habit, use.
Surrender. *v.* Cede, deliver, give up, resign, yield. *Anto.*, take.
Surround. *v.* Beset, encircle, encompass, environ, enclose, invest.
Survey. *n.* Prospect, retrospect, review.
Suspense. *n.* Doubt, indetermination, hesitation. *Anto.*, certainty.
Suspicion. *n.* Distrust, jealousy. *Anto.*, trust.
Sustain. *v.* *See Support.*
Sustenance. *n.* Living, maintenance, livelihood, subsistence, support.
Swarm. *n.* Crowd, throng, multitude, concourse. *Anto.*, few.
Sweetheart. *n.* Admirer, beau, lover, wooer. 2. Flame, lady-love.
Sweetness. *n.* 1. Beauty, loveliness. 2. Agreeableness. 3. Mildness, gentleness, amiability. *Anto.*, bitterness, sourness.
Swiftness. *n.* 1. Celerity, rapidity, fleetness, speed, velocity. *Anto.*, slowness.
Swiftly. *adv.* Speedily, post-haste, quickly, apace. *Anto.*, slowly.
Sycophant. *n.* Toady, fawner, parasite.
Symbol. *n.* Token, sign, figure, emblem.
Symmetry. *n.* Harmony, proportion. *Anto.*, inharmony.
Sympathy. *n.* 1. Pity, kindness, compassion, condolence, commiseration, fellow-feeling. 2. Harmony, affinity, correlation. 3. Agreement. *Anto.*, apathy, mercilessness, cruelty.
Symptom. *n.* Indication, mark, note, sign, token.
Synopsis. *n.* *See Summary.*
System. *n.* Method, order, scheme. *Anto.*, confusion.
Systematize. Arrange, order, regulate, methodize. *Anto.*, disarrange.

T

Table. *n.* 1. Board. 2. Repast, food, fare. 3. List, index, catalogue.
Tacit. *adj.* Implied, silent, inferred, understood. *Anto.*, spoken, expressed.
Taciturnity. *n.* Reserve, reticence, closeness. *Anto.*, loquacity.
Tact. *n.* Adroitness, skill, quickness, judgment. *Anto.*, awkwardness, gaucherie.
Talent. *n.* Ability, capability, faculty, endowment, gift.
Talk. *n.* Chat, communication, conference, colloquy, conversation, dialogue, discourse. *Anto.*, silence.
Talk. *v.* Chat, converse, discourse, speak, state, tell. *Anto.*, silence.
Talkativeness. *n.* Loquacity, garrulity. *Anto.*, taciturnity.
Tally. *v.* Accord, agree, match, comport, harmonize.
Tantalize. *v.* 1. Aggravate, irritate, provoke, tease, torment. 2. Taunt. *Anto.*, please, harmonize, gladden.
Taste. *n.* 1. Discernment, judgment, perception. 2. Flavor, relish, savor.
Tattler. *n.* Gossip, prattler, babbler, gadabout.
Taunt. *v.* Deride, mock, ridicule, jeer, flout. *Anto.*, praise, commend.
Tax. *n.* 1. Assessment, custom, duty, toll, rate. 2. Contribution, tribute.
Teacher. *n.* *See Schoolmaster.*
Tedious. *adj.* Dilatory, slow, tiresome, tardy, wearisome. *Anto.*, prompt.
Tell. *v.* Acquaint, communicate, disclose, impart, inform, mention, make known, report, reveal, talk. *Anto.*, listen.
Temerity. *n.* Heedlessness, rashness, precipitancy. *Anto.*, caution.
Temper. *n.* Disposition, temperament. 2. Humor, mood. 3. Frame.
Temperate. *adj.* Abstinent, abstemious, moderate, sober. *Anto.*, immoderate.
Tempest. *n.* 1. Storm, gale, squall, hurricane, tornado. 2. Tumult, disturbance. *Anto.*, calm.
Tempt. *v.* 1. Allure, entice, induce, decoy, seduce, inveigle. 2. Incline, provoke. 3. Test, try, prove.
Temporal. *adj.* 1. Secular, worldly. 2. Sublunary. *Anto.*, spiritual, eternal.
Temporary. *adj.* 1. Transient, transitory. 2. Fleeting. *Anto.*, permanent.
Tendency. *n.* 1. Inclination, propensity, proneness. 2. Drift, scope. 3. Aim. *Anto.*, disinclination.
Tender. *adj.* 1. Kind, compassionate, mild, lenient, sympathetic. 2. Delicate, soft. 3. Womanly, effeminate. 4. Feeble, infantile. 5. Pathetic. 6. Sensitive. *Anto.*, tough, callous, brutal.
Tenderness. *n.* Affection, benignity, fondness, humanity. *Anto.*, roughness.
Tenet. *n.* Doctrine, dogma, opinion, position, principle.
Term. *n.* 1. Boundary, limit. 2. Condition, stipulation. 3. Expression, word.
Terminate. *v.* Complete, finish, end, close. *Anto.*, commence, begin.
Terrible. *adj.* Dreadful, fearful, frightful, terrific, horrible, shocking. *Anto.*, delightful.
Territory. *n.* Country, domain, land.
Terror. *n.* Alarm apprehension, consternation, dread, fear, fright. *Anto.*, confidence.
Terse. *adj.* Compact, concise, pithy, sententious. *Anto.*, verbose.
Test. *n.* Criterion, experiment, trial, experience, proof, standard.
Testify. *v.* Declare, prove, signify, witness, affirm.
Testimony. *n.* Evidence, proof.
Text. *n.* Verse, passage, sentence, paragraph. 2. Topic, subject, theme. 3. Body.
Thankful. *adj.* Grateful. *Anto.*, ungrateful.
Theory. *n.* Speculation. *Anto.*, practice.
Therefore. *adv.* Accordingly, hence, so, then, consequently, thence, wherefore.
Thick. *adj.* Dense, close. *Anto.*, thin.
Think. *v.* Cogitate, conceive, consider, contemplate, deliberate, imagine, opine, meditate, ponder, surmise.
Thirsty. *adj.* 1. Dry, parched. 2. Eager, longing, craving, greedy.
Though. *conj.* Although, while.
Thought. *n.* Cogitation, conception, conceit, contemplation, deliberation, fancy, idea, imagination, meditation, notion, reflection, supposition.
Thoughtful. *adj.* Anxious, attentive, careful, circumspect, considerate, contemplative, deliberate, discreet, reflective, solicitous, wary. *Anto.*, thoughtless.
Thoughtless. *adj.* Careless, gay, inconsiderate, foolish, hasty, indiscreet, unreflective. *Anto.*, thoughtful.
Thrive. *v.* 1. Succeed, prosper. 2. Improve, flourish, grow, advance. *Anto.*, decay.
Throng. *n.* Multitude, crowd, horde, host.
Through. *prep.* By, with.
Throw. *v.* Cast, fling, hurl, toss. *Anto.*, catch.
Thwart. *v.* 1. Balk, defeat, oppose, obstruct, frustrate. 2. Cross, traverse. *Anto.*, aid.
Time. *n.* Age, date, duration, epoch, era, period, season.
Timely. *adj.* Prompt, punctual, opportune, seasonable. *Anto.*, untimely.
Timidity. *n.* 1. Bashfulness, coyness, diffidence, sheepishness. 2. Timorousness, cowardice, pusillanimity. *Anto.*, audacity.
Tiny. *adj.* Small, little, puny, diminutive. *Anto.*, great, large.
Tired. *adj.* Fatigued, harassed, jaded, wearied. *Anto.*, buoyant, eager.
Tiresome. *adj.* Tedious, wearisome. *Anto.*, interesting.
Title. *n.* 1. Name, appellation, designation, cognomen. 2. Right. 3. Inscription.
Toast. *n.* 1. Toasted bread. 2. Pledge, health. 3. Sentiment.
Token. *n.* Indication, mark, note, sign, symptom.
Tolerate. *v.* Admit, allow, suffer, permit. *Anto.*, prohibit, decline.
Tolerance. *n.* Toleration, sufferance, endurance. *Anto.*, intolerance.
Too. *adv.* 1. Over, more than enough. 2. Also, besides.
Torment. *v.* 1. Tease, plague, provoke, worry, harass, tantalize. 2. Distress, agonize, torture, rack. *Anto.*, appease.
Torture. *See Torment.*
Tortuous. *adj.* Tormenting, twisting, winding. *Anto.*, easy, straight.
Total. *adj.* Complete, entire, whole, gross. *Anto.*, part.
Touch. *n.* Contact, proof, test, feeling.
Touching. *adj.* Tender, moving, pathetic, melting, affecting. *Anto.*, ridiculous, prosy.
Tough. *adj.* 1. Cohesive, tenacious. 2. Hardy, strong, firm. 3. Stubborn, obdurate, refractory. *Anto.*, tender, brittle.
Tour. *n.* Circuit, excursion, ramble, jaunt, round, trip.
Toy. *n.* Bubble, trifle, bagatelle. 2. Plaything, trinket, gimcrack.
Trace. *v.* 1. Deduce, derive. 2. Sketch, follow.
Trace. *n.* Mark, track, vestige, footstep.
Trade. *n.* Avocation, business, calling, dealing, employment, occupation, traffic.
Traduce. *v.* 1. Calumniate, vilify, defame, decry, degrade, deprecate, detract, disparage. 2. Censure, condemn. *Anto.*, eulogize.
Tranquility. *n.* Calmness, quiet, repose, peace, placidity, screneity. *Anto.*, turmoil, tumult.
Transact. *v.* Conduct, negotiate, manage.
Transcend. *v.* Pass, excel, exceed, surpass, out-do.
Transient. *v.* Fleeting, short, momentary. *Anto.*, permanent.
Transparent. *adj.* Clear, pellucid, pervious, translucent, transpicuous. *Anto.*, opaque.
Transpire. *v.* 1. Occur, happen. 2. come out, be disclosed. 3. Exhale, evaporate.
Transport. *n.* 1. Carriage, conveyance, transportation. 2. Ecstacy, rapture. 3. Rage. *Anto.*, depression, melancholy.

Traveller. *n.* Tourist, passenger, itinerant, voyager, pilgrim.
Treacherous. *adj.* Faithless, perfidious, insidious, false. *Anto.*, faithful.
Treachery. *n.* Treason, perfidy, disloyalty, perfidiousness. *Anto.*, loyalty.
Treasonable. *adj.* Traitorous, treacherous. *Anto.*, loyal.
Treat. *v.* Entertain, negotiate, feast.
Tremendous. *adj.* Dreadful, terrible, horrible, frightful, alarming, awful, appalling. *Anto.*, small, mean.
Trepidation. *n.* Agitation, emotion, tremor, trembling. *Anto.*, calm.
Trespass. *v.* 1. Offend, transgress, sin. 2. Intrude, infringe, encroach.
Trial. *n.* 1. Attempt, effort, endeavor, experiment, examination, proof, test. 2. Temptation.
Tribunal. *n.* 1. Court, bar, judicatory. 2. Bench.
Trick. *n.* Artifice, cheat, deception, fraud, finesse, imposture, sleight, stratagem.
Trifling. *adj.* Futile, frivolous, inconsiderable, light, petty, unimportant. *Anto.*, important.
Trim. *v.* 1. Lop, clip, shear. 2. Arrange, adjust. 3. Deck, decorate, adorn, garnish, ornament, embellish. *Anto.*, 1. Increase, add. 2. Disarrange.
Trip. *n.* Excursion, jaunt, tour, ramble.
Triumphant. *adj.* Victorious, successful, conquering. *Anto.*, subdued.
Troth. *n.* 1. Faith, fidelity, belief. 2. Truth. *Anto.*, falsehood, lie.
Trouble. *n.* Adversity, affliction, anxiety, distress, sorrow, vexation. *Anto.*, happiness.
Trouble. *v.* Disturb, grieve.
Troublesome. *adj.* Annoying, disturbing, harassing, importunate, irksome, perplexing, teasing. *Anto.*, pleasant.
True. *adj.* Honest, plain, upright, sincere. *Anto.*, treacherous.
Truce. *n.* 1. Cessation, intermission. 2. Armistice. *Anto.*, continuance.
Trust. *n.* Belief, credit, confidence, faith, hope. *Anto.*, suspicion.
Trustee. *n.* Agent, depositary, fiduciary.
Truth. *n.* Faithfulness, fidelity, honesty, veracity. *Anto.*, falsehood.
Try. *v.* Attempt, endeavor, essay, test, examine.
Tug. *v.* Hale, haul, pluck, pull.
Tuition. *n.* Schooling, instruction, teaching, education. *Anto.*, ignorance.
Tumble. *v.* Drop, fall, rumple, sink, turn over. *Anto.*, rise.
Tune. *n.* 1. Air, strain, melody. 2. Concord, harmony.
Turbid. *adj.* Roily, unsettled, thick, muddy, foul. *Anto.*, clear.
Turbulent. *adj.* Mutinous, riotous, seditious, tumultuous, violent. *Anto.*, quiet.
Turmoil. *n.* Disturbance, uproar, commotion, tumult. *Anto.*, peace.
Turn. *n.* Bent, cast, gyration, meander. *Anto.*, disinclination.
Turn. *v.* Bend, circulate, contort, distort, gyrate, revolve, twist, wind, wheel, whirl. *Anto.*, straighten, still, quiet.
Turncoat. *n.* *See Renegade.*
Turpitude. *n.* Wickedness, baseness, depravity, vileness. *Anto.*, goodness.
Tutor. *n.* Instructor, governess, governante.
Twaddle. *n.* Stuff, nonsense, tattle, gossip, balderdash, moonshine. *Anto.*, sense.
Twilight. *n.* Dusk. *Anto.*, daylight.
Twine. *n.* Encircle, embrace, entwine, *Anto.*, untwine.
Twinge. *v.* Pinch, pull, twitch, tweak.
Twinge. *n.* Pang, grip, twitch, spasm.
Twit. *v.* Taunt, blame, reproach. *Anto.*, commend.
Type. *n.* 1. Printing character. 2. Kind, form, sort. 3. Exemplar, original, model. 4. Mark, symbol, sign, token, emblem.
Tyro. *n.* Beginner, learner, novice. *Anto.*, licentiate.

U

Ugliness. *n.* Homeliness, plainness. 2. Hideousness, frightfulness. *Anto.*, beauty.
Ugly. *adj.* 1. Plain, homely, ordinary, unsightly. 2. Horrid, hideous, shocking. *Anto.*, pretty.
Ultimate. *adj.* Final, last, eventual, extreme. *Anto.*, first.
Umpire. *n.* Judge, referee, arbitrator, arbiter.
Unacceptable. *adj.* Unwelcome, displeasing, unpalatable. *Anto.*, acceptable.
Unadorned. *adj.* Undecorated, ungarnished, not embellished, not bedecked. *Anto.*, ornate.
Unbecoming. *adj.* Improper, unsuitable, indecorous, unseemly. *Anto.*, becoming.
Unbelief. *n.* Disbelief, infidelity, skepticism, incredulity, distrust. *Anto.*, belief.
Unblemished. *adj.* Pure, clean, spotless, sinless, guileless, immaculate. *Anto.*, blemished.
Unbounded. *adj.* Boundless, illimitable, infinite, interminable, unlimited. *Anto.*, limited.
Unceasingly. *adv.* Always, constantly, continually, ever, perpetually. *Anto.*, intermittently.
Uncertain. *adj.* Doubtful, precarious, dubious, equivocal. *Anto.*, certain.
Unchangeable. *adj.* Immutable, unalterable. *Anto.*, fickle.
Uncivil. *n.* Impolite, ungracious, uncourteous, rude. *Anto.*, polite.
Uncommon. *adj.* Choice, unfrequent, rare, scarce, singular, unique. *Anto.*, usual.
Uncongenial. *adj.* 1. Unsuited, disagreeable. 2. Dissimilar. *Anto.*, congenial.
Unconcerned. *adj.* Cool, unaffected, indifferent, careless, apathetic, nonchalant. *Anto.*, concerned, excited, vexed.
Uncover. *v.* 1. Discover, reveal, disclose. 2. Strip, lay bare. *Anto.*, conceal.
Undaunted. *adj.* Fearless, brave, bold, manful, resolute, intrepid. *Anto.*, weak.
Undeniable. *adj.* Evident, obvious, indisputable, incontrovertible, irrefragible. *Anto.*, disputable.
Under. *prep.* Below, beneath, inferior, lower, subjacent, subject.
Understanding. *n.* 1. Mind, intellect, reason, sense. 2. Notion, idea, judgment, knowledge. 3. Agreement.
Undetermined. *adj.* Doubtful, fluctuating, hesitating, irresolute, unsteady, vacillating, wavering. *Anto.*, resolute.
Unfaithful. *adj.* False, treacherous, faithless, recreant, perfidious, dishonest, disloyal. *Anto.*, faithful.
Unfit. *adj.* 1. Inapt, inappropriate, unsuitable. 2. Incapable, unqualified. *Anto.*, competent, convenient.
Unfold. *v.* Develop, display, open, divulge, expand, reveal, unravel. *Anto.*, hide.
Unguarded. *adj.* 1. Thoughtless, careless. 2. Undefended, naked, unprotected. *Anto.*, guarded.
Ungrateful. *adj.* Unpleasing, thankless. *Anto.*, thankful.
Unhandy. *adj.* 1. Inconvenient. 2. Clumsy, bungling, awkward, maladroit. *Anto.*, skilful.
Unhappy. *adj.* 1. Afflicted, distressed, wretched, miserable. 2. Disastrous, hard, severe. *Anto.*, happy.
Unhealthy. *adj.* Diseased, sickly, infirm, invalid. *Anto.*, healthy.
Uniform. *adj.* 1. Regular, unvarying, alike, undeviating. 2. Consonant. *Anto.*, irregular.
Unkind. *adj.* Harsh, unamiable, unfriendly, cruel. *Anto.*, kind.
Unimportant. *adj.* Inconsiderable, immaterial, insignificant, trifling, petty, trivial. *Anto.*, weighty.
Unison. *n.* Accordance, agreement, concord, harmony, melody. *Anto.*, discord.
Unlawful. *adj.* Illegal, unlicensed, illicit. *Anto.*, legal, lawful.
Unlearned. *adj.* Ignorant, illiterate, uneducated, unlettered. *Anto.*, learned.
Unlike. *adj.* Different, dissimilar, distinct. *Anto.*, similar.
Unlimited. *adj.* Boundless, illimitable, infinite, unbounded. *Anto.*, limited.
Unmerciful. *adj.* Callous, cruel, hard-hearted, merciless, severe. *Anto.*, merciful.
Unquestionable. *adj.* Indisputable, undeniable, certain, obvious, incontestable, indubitable, irrefragible. *Anto.*, questionable.
Unravel. *v.* Develop, disentangle, extricate, unfold. *Anto.*, tangle.
Unreal. *adj.* Shadowy, imaginary, insubstantial, visionary, ghostly, spectral.
Unrelenting. *adj.* Unpitying, relentless, rigorous, inexorable, harsh, cruel, merciless. *Anto.*, tender.
Unruly. *adj.* Ungovernable, mutinous, seditious, insubordinate, turbulent. *Anto.*, obedient.
Unseen. *adj.* Invisible, undiscovered, hidden. *Anto.*, visible.
Unsettled. *adj.* 1. Vacillating, uncertain, unsteady, wavering, restless. 2. Turbid. 3. Undetermined. *Anto.*, resolute.
Unspeakable. *adj.* Unutterable, inexpressible, ineffable.
Unskilful. *adj.* Ignorant, wanting art or knowledge. *Anto.*, skilful.
Unsocial. *adj.* Unsociable, unkind. *Anto.*, sociable.
Unstable. *adj.* 1. Fickle, inconstant, mutable, vacillating. 2. Fluctuating.
Untimely. *adj.* Premature, inopportune, unseasonable. *Anto.*, timely.
Unsuccessful. *adj.* Unfortunate, unlucky. *Anto.*, successful.
Untwine. *v.* Untwist, unwind.
Unwearied. *adj.* Indefatigable, restless, fresh. *Anto.*, tired.
Unwilling. *adj.* Reluctant, loath, indisposed, disinclined. *Anto.*, willing.
Upbraid. *v.* Blame, censure, reprove, condemn, stigmatize, taunt.
Upright. *adj.* 1. Erect. 2. Honest, bold. *Anto.*, prone.
Uproar. *n.* Commotion, hubbub, disturbance, clamor, tumult. *Anto.*, calm.
Urbanity. *n.* Civility, courtesy, politeness, suavity. *Anto.*, incivility.
Urge. *v.* 1. Instigate, incite, stimulate, spur. 2. Solicit, entreat. 3. Impel, push, drive. *Anto.*, hinder.
Urgent. *adj.* Importunate, pressing, cogent. *Anto.*, unimportant.
Usage. *n.* 1. Habit, practice, custom. 2. Treatment.
Use. *v.* 1. Employ. 2. Consume, exhaust, expend. 3. Exercise, practice. 4. Accustom, inure. *Anto.*, abuse.
Useful. *adj.* Helpful, serviceable, good, convenient, profitable. *Anto.*, futile.
Usually. *adv.* Regularly, ordinarily, generally, habitually. *Anto.*, seldom.
Useless. *adj.* Fruitless, ineffectual, vain.
Utility. *n.* Use, service, usefulness, avail, benefit, profit. *Anto.*, worthlessness.
Utterly. *adv.* Wholly, completely, fully, totally. *Anto.*, partly.
Uttermost. *adj.* 1. Utmost, greatest. 2. Extreme, farthest. *Anto.*, nearest, next.
Unusual. *adj.* Rare, uncommon.
Unwelcome. *adj.* 1. Unacceptable. 2. Displeasing. *Anto.*, welcome.

V

Vacant. *adj.* 1. Empty, unfilled, void. 2. Thoughtless. *Anto.*, filled.
Vacancy. *n.* 1. Chasm. 2. Emptiness, vacuity. *Anto.*, fulness, plethora.
Vacate. *v.* 1. Make empty, void, annul. 2. Leave. *Anto.*, occupy.
Vague. *adj.* Indefinite, uncertain, dim, doubtful, obscure. *Anto.*, definite.
Vain. *adj.* 1. Inflated, conceited, overweening, ostentatious. 2. Useless, fruitless. *Anto.*, modest.
Valediction. *n.* Taking leave, farewell. *Anto.*, welcome.
Valid. *adj.* Sound, just, logical, sufficient, grave. *Anto.*, invalid.
Valuable. *adj.* Costly, precious, worthy, estimable. *Anto.*, worthless.
Value. *n.* Account, appreciation, estimation, price, rate, worth.
Value. *v.* Appraise, assess, calculate, appreciate, compute, esteem, estimate, regard, respect.
Vanity. *n.* Arrogance, conceit, pride. haughtiness. *Anto.*, modesty, humility.

Vanquish. *v.* Beat, overcome, quell, conquer, subdue, confuse, defeat, subjugate. *Anto.*, yield.
Vapid. *adj.* 1. Insipid, flat, spiritless. 2. Dull, tame, prosy. *Anto.*, spirited.
Variable. *adj.* Changeable, capricious, fickle, unsteady, versatile, wavering. *Anto.*, unchangeable.
Variance. *n.* Discord, strife, discussion. *Anto.*, unison.
Variation. *n.* 1. Difference, deviation, diversity. 2. Change, mutation. *Anto.*, permanence.
Variety. *n.* 1. Difference, diversity. 2. Multiplicity. *Anto.*, simplicity.
Various. *adj.* 1. Different, several, sundry, many. 2. Diversified. *Anto.*, simple.
Veer. *v.* Turn, shift, change course.
Vegetate. *v.* Spring, grow, shoot, germinate.
Vehement. *adj.* 1. Passionate, violent, furious. 2. Earnest, fervid. 3. Forcible, strong. *Anto.*, gentle.
Velocity. *n.* Speed, rapidity, swiftness, fleetness. *Anto.*, sloth.
Venerate. *v.* Honor, respect, revere, adore. *Anto.*, despise.
Veracity. *n.* Candor, truthfulness, honesty, ingenuousness. *Anto* , mendacity.
Verbal. *adj.* 1. Literal. 2. Unwritten, oral, spoken, parole. *Anto.*, written.
Verbose. *adj.* Diffuse, wordy, windy, prolix. *Anto.*, succinct, terse, concise
Vestige. *n.* Mark, trace, track, footstep.
Vexation. *n.* 1. Annoyance, trouble, torment. 2. Displeasure. *Anto.*, pleasure.
Vice. *n.* Wickedness, crime, sin, moral ill. *Anto.*, virtue.
Vicinity. *n.* 1. Neighborhood. 2. Proximity, nearness.
View. *n.* 1. Scene, vista, prospect. 2. Picture, sketch. 3. Sight, inspection. 4. Opinion.
Vigilant. *adj.* Watchful, circumspect. *Anto.*, heedless.
Vigorous. *adj.* 1. Strong, energetic. 2. Healthy, sound. 3. Racy, pointed. *Anto.*, weak.
Violent. *adj.* 1. Fierce, hot. 2. Vehement, boisterous, furious, impetuous, turbulent. 3. Sharp, intense. *Anto.*, gentle.
Vile. *adj.* 1. Wicked, knavish. 2. Low, base, mean, foul. *Anto.*, noble, lofty.
Vindicate. *v.* Clear, defend, protect, justify. *Anto.*, implicate, criminate.
Virtue. *n.* 1. Goodness, integrity, worth. 2. Power, efficacy. *Anto* , vice
Virtuous. *adj.* 1. Pure, chaste. 2. Good, righteous, exemplary. *Anto.*, bad.
Visible. *adj.* 1. Patent, apparent, evident, obvious. 2. Perceptible. *Anto.*, unseen.
Visionary. *adj.* Enthusiastic, fantastic, fanatical, imaginary. *Anto.*, cautious, sensible.
Visitation. *n.* 1. Affliction, trouble, dispensation. 2. Inspection.
Vital. *adj.* Necessary, essential, indispensable. *Anto.*, unnecessary.
Vitiate. *v.* Contaminate, pollute, defile, infect, sophisticate, taint. *Anto.*, cleanse.
Vivid. *adj* Active, bright, clear, lively, lucid, quick, sprightly, striking. *Anto.*, Dull.
Volitility. *n.* Flightiness, giddiness, levity, lightness, liveliness. *Anto.*, steadiness.
Voluptuous. *adj.* Sensual, epicurean, luxurious. *Anto.*, stoical, harsh.
Voluptuary. *n.* Epicure, sensualist. *Anto.*, ascetic.
Vouch. *v.* 1. Attest, warrant, avouch. 2. Back, support. *Anto.*, deny.
Vulgarity. *v.* Coarseness, grossness, meanness, rudeness, vileness. *Anto.*, refinement.

W

Wag. *n.* Humorist, joker, jester, wit. *Anto.*, dullard, butt.
Wages. *n., pl.* Pay, salary, hire, compensation, stipend, earnings.
Wakeful. *adj.* Sleepless, vigilant, watchful, wary. *Anto.*, drowsy.
Walk. *n.* Carriage, gait, path.
Walk. *v.* Perambulate.
Wander. *v.* 1. Stray, swerve, digress, deviate. 2. Stroll, ramble, roam. *Anto.*, run.
Want. *n.* 1. Need. 2. Poverty, indigence. 3. Lack, dearth, scarcity. *Anto* , plenty.
Wares. *n.* Commodities, goods, merchandise.
Wariness. *n.* Care, caution, circumspection, forethought, prudence. *Anto.*, heedlessness.
Warlike. *adj.* 1. Hostile, inimical. 2. Military, bellicose. *Anto.*, peaceful.
Warm. *adj.* 1. Genial, pleasant, sunny. 2. Not cold. 3. Fervent. 4. Excited. *Anto.*, cool.
Warmth. *n.* 1. Glow. 2. Zeal, vehemence, ardor, fervor, *Anto.*, coolness.
Warning. *n.* 1. Monition, admonition. 2. Notice. 3. Caution.
Wary. *adj.* Vigilant, cautious, discreet, guarded. *Anto.*, heedless.
Waste. *n.* 1. Loss, consumption. 2. Refuse. 3. Pillage, ruin, destruction, devastation. *Anto.*, replenishment, frugality.
Wasteful. *adj.* 1. Destructive. 2. Profuse, lavish, extravagant. *Anto.*, frugal,
Watchful. *adj.* Vigilant, careful, wary, circumspect, alert. *Anto.*, careless.
Wave. *n.* Ripple, undulation, swell, surge, billow, breaker.
Waver. *v.* 1. Fluctuate, vacillate. 2. Flicker, wave. *Anto.*, steadfast.
Way. *n.* Path, route, course, road. 2. Mode, method.
Wayward. *adj.* Forward, perverse, obstinate, willful, headstrong, stubborn. *Anto.*, docile.
Weak. *adj.* 1. Feeble, languid, weakly. 2. Frail, sickly. *Anto.*, strong.
Weaken. *v.* Debilitate, unnerve, enfeeble. 2. Lower, reduce. *Anto.*, invigorate.
Weakness. *n.* Debility, effeminacy. *Anto.*, strength.
Wealth. *n.* Abundance, fortune, affluence, riches, opulence. *Anto.*, poverty.
Weariness. *n.* Exhaustion, languor, lassitude, fatigue. *Anto.*, buoyancy, vigor.
Weary. *adj.* Annoy, fatigue, harass, jade, subdue, tire, vex. *Anto.*, fresh, unwearied
Wedding. *n.* Bridal, espousal, marriage, nuptials. *Anto.*, divorce.
Wedlock. *n.* Marriage, matrimony.
Wee. *adj.* Small, little, diminutive, pigmy, tiny. *Anto.*, large.
Weight. *n.* 1. Gravity, ponderosity. 2. Burden, load. 3. Influence, importance. *Anto.*, lightness.
Weighty. *adj.* Momentous, important. *Anto.*, unimportant, light, trifling.
Welcome. *adj.* 1. Pleasing, acceptable, agreeable, gratifying. 2. Admitted with pleasure. *Anto.*, unwelcome.
Welfare. *n.* Weal, well-being, success, prosperity. *Anto.*, failure, poverty.
Whet. *v.* 1. Stimulate, quicken, excite, arouse, kindle. 2. Sharpen. *Anto.*, dull.
Whimsical. *adj.* Capricious, fantastic, fanciful. *Anto.*, commonplace.
Whiten. *v.* Bleach, fade, blanch. *Anto.*, blacken.
Whole. *adj.* All, sum, total. *Anto.*, part.
Wicked. *adj.* 1. Bad, ill, evil, iniquitous. 2. Sinful, vicious, impious. *Anto.*, virtuous.
Willingly. *adj.* Spontaneously, voluntarily, readily. *Anto.*, unwillingly.
Wily. *adj.* Crafty, artful, sly, cunning, insidious, subtle, snaky. *Anto.*, ingenuous.
Win. *v.* 1. Gain, get, obtain, acquire, earn, achieve. 2. Gain over. *Anto.*, lose.
Wince. *v.* Shrink, flinch, startle.
Winding. *adj.* Meandering, serpentine, flexuous, sinuous. *Anto.*, straight.
Windy. *adj.* Breezy, stormy, gusty, tempestuous, blustering. *Anto.*, calm.
Wisdom. *n.* 1. Sagacity, sense, judgment. 2. Learning, knowledge. 3. Reasonableness. *Anto.*, ignorance.
Wise. *adj.* 1. Sage, sensible, judicious. 2. Erudite. 3. Sly, subtle, knowing. *Anto.*, ignorant.
Wit. *n.* Burlesque, contrivance, humor, irony, ingenuity, stratagem *Anto.*, dullness.
With. *prep.* by, through.
Withdraw. *v.* 1. Recant, disavow. 2. Remove. 3. Disengage, wean, go back, recede, retire, retreat, retrograde, take back. *Anto.*, 1. Endorse, come forward.
Withhold. *v.* 1. Retain. 2. Restrain. *Anto.*, release.
Withstand. *v.* Oppose, thwart, resist.
Witness. *n.* Deponent, evidence, testimony.
Wonder. *n.* 1. Marvel, prodigy, miracle. 2. Surprise, amazement. 3. Curiosity. *Anto.*, commonplace.
Wonderful. *adj.* Admirable, astonishing, curious, marvellous, strange, surprising. *Anto.*, usual, customary.
Wood. *n.* 1. Copse, grove, forest. 2. Timber.
Word. *n.* Expression, promise, term.
Worker. *n.* 1. Performer. 2. Operative, laborer, workman, artificer. *Anto.*, idler.
Worship. *n.* Adore, honor, revere. *Anto.*, execrate.
Worth. *n.* Desert, excellence, merit, price, rate, value. *Anto.*, worthlessness.
Worthless. *adj.* Valueless, degraded. *Anto.*, valuable.
Worthy. *adj.* 1. Good, excellent, estimable, virtuous. 2. Deserving. *Anto.*, unworthy.
Wretched. *adj.* 1. Poor, bad, vile, pitiful. 2. Calamitous. 3 Forlorn, unhappy, miserable. *Anto.*, happy.
Written. *adj.* Penned, inscribed, transcribed. *Anto.*, verbal.
Writer. *n.* 1. Author. 2. Scribe, clerk, secretary, amanuensis. 3 Penman.
Wrong. *v.* Maltreat, injure, abuse, oppress. *Anto.*, right.
Wrong. *adj.* Untrue, faulty, not fit, unsuitable, unjust. *Anto.*, right.
Wrong. *n.* Injustice, error, injury. *Anto.*, right, justice.
Wrongly. *adv.* Erroneously.
Wrought. *v.* Done, performed, effected.
Wry. *adj.* Crooked, askew, distorted, twisted. *Anto.*, straight.

X

Xeres. *n.* Sherry.
Xiphoid. *adj.* Swordlike, ensiform.
Xylography. *n.* Wood-engraving.

Y

Yearly. *adj.* Annually, per annum.
Yeoman. *n.* Farmer, freeholder, commoner. *Anto.*, gentleman.
Yet. *conj.* or *adv.* But, however, nevertheless, notwithstanding, still, hitherto, further, besides.
Yield. *v.* Allow, cede, communicate, comply, conform, concede, give, produce, permit, resign, surrender. *Anto.*, take.
Yield. *n.* Crop, product.
Yielding. *adj.* Compliant, submissive, facile, unresisting, accomodating. *Anto.*, stubborn.
Yoke. *n.* 1. Link, chain, tie, bond. 2. Servitude, dependence, bondage, subjection, thraldom.
Yoke. *v.* Associate, join, link, couple, conjoin. *Anto.*, sever.
Youth. *n.* 1. Lad, boy, stripling. 2. Young men, young women. 3. Juniority, minority, juvenility, adolescence. *Anto.*, age.

Z

Zany. *adj.* Clown, buffoon, harlequin, punch, fool.
Zeal. *n.* Earnestness, fervor, cordiality, ardor, passion.
Zealot. *n.* Enthusiast, bigot, fanatic, visionary.
Zealous. *adj.* Earnest, fervid, glowing, burning, passionate. *Anto.*, lukewarm.
Zenith. *n.* Top, apex, summit, pinnacle, climax. *Anto.*, nadir.
Zephyr. *n.* 1. Breeze. 2. West wind. *Anto.*, calm.
Zero. *n.* Cipher, naught, nothing.
Zest. *n.* Flavor, taste, savor, relish.
Zone. *n.* 1. Girdle, belt. 2. Clime, region.

Vocal Culture and Gesture

ELOCUTION.

HOW TO READ AND SPEAK CORRECTLY AND ELEGANTLY.

ELOCUTION does not consist, as many suppose, in merely learning to "recite pieces." It is the art of reading and speaking in the most correct and elegant manner. Before this can be attained it is necessary to articulate distinctly, to pronounce correctly, and to cultivate and strengthen the vocal organs.

The study of Elocution is one in which none can be pronounced perfect. As, in penmanship, a proficient may greatly improve by practice, and thousands are content to possess a handwriting next to illegible, instead of the neat, elegant hand of which they could easily become master, so thousands are satisfied with a harsh, disagreeable voice, a careless articulation, a monotonous expression and a repulsive manner, when by a proper training they might become fluent conversationalists, expressive readers and easy, if not eloquent, speakers. How many are content to work with one talent, when they could readily possess five! Among well educated persons of taste and refinement, how often do we find those to whom a knowledge of Elocution would be invaluable, because of its power to set forth their other accomplishments! The first tones of a speaker's voice always convey an idea, favorable or unfavorable, of the speaker himself; and, if the latter, much effort will be required of him to regain the estimation so unwittingly lost. What can be more satisfactory to its possessor than a rich, clear, melodious tone, a distinct, clean-cut articulation, a perfect command of the modulations, and a pleasing style both in voice and manner? All this is possible to any one who does not possess imperfect vocal organs and who will assiduously devote himself or herself to the study, believing it to be worthy of all efforts required to obtain a mastery of the art.

Elocution consists in the utterance or expression of thought.

Thought may be conveyed by *voice* or *gesture;* the latter reaching the hearer through the eye, the former through the ear.

Elocution may be divided into four branches, viz.: *Vocal Culture, Articulation, Expression,* or *Modulation,* and *Gesture.*

Vocal Culture.

Voice is produced by breath passing over the vocal chords, which are situated in the larynx, or upper portion of the windpipe.

The voice is the principal agent by which thought is conveyed, and is the basis of elocution.

Proper Breathing consists in taking in and giving out full inspirations of pure air in such a manner as not to interfere with speech. Correct breathing is an important factor in elocution, of more consequence than might be supposed. It should be so timed as not to interfere with speech. Breath should be taken only at pauses. Study at first never to destroy the connection of the thought by a pause for breathing purposes. In long sentences we should economize the breath as much as possible.

The culture of the voice should be a matter of necessity as well as the training of the mind or the development of the body. Frequent vigorous practice induces healthy activity; the voice is strengthened and rendered pure and resonant.

Articulation.

Articulation consists of a distinct and correct utterance of the elementary sounds. These sounds, forty-six in number, are formed by the organs of speech and are divided into *Vocal Sounds, Aspirate Sounds* and *Combined Sounds.*

The **Organs of Articulation** are the tongue, lips, palate and teeth, forming the *Lingual, Labial, Palatal* and *Dental* sounds, respectively. These organs, like valves, act either singly or together upon the stream of breath issuing from the larynx, and mould sound into speech. The mouth cavity and nasal cavity assist in modifying the tone of voice, giving it character and resonance.

Vocal Sounds are those having vocality.

Aspirate Sounds are those produced by the breath only.

Combined Sounds are those which are produced by both voice and breath.

Cognates are those sounds which occur in pairs, one vocalized and the other not, but both having the same articulate modification.

The **Trilled "R"** often adds much to the rendering of a passage; but, like the flourish, it may be misplaced. It should be used sparingly, seldom or never in the most serious discourse. In light descriptions and imitative modulations it may be employed, taking care, however, that it is never used unless immediately followed by a vowel sound.

Practice in articulation should be directed especially to those exercises in which **transitions** or **repetitions** of the same sound occur, as those will be quite difficult of mastery. See that both sounds are correctly and distinctly given, and that the organs of speech pass rapidly from one to the other.

Examples.—*S, s.* False *s*ounds.
sh, sh. Hu*sh*, *Ch*arlotte!
z, z. As *z*ealous.
st, st. Severe*st* *st*orms.

Pronunciation.

The subject of Pronunciation should receive special attention by the learner, as a good voice and a distinct articulation tend to magnify any defect in utterance. In reading, foreign words are often found which are utterly unpronounceable to one not having at least an elementary knowledge of the language to which they belong. To pronounce such words according to English rules would in many cases be allowable; but this could not apply to *Goethe* and similar names. Clearly the only correct way is to approach as nearly as possible to the native pronunciation, except in words and names thoroughly anglicized. To pronounce Paris *Paree* would be pedantry.

Modulation.

Modulation consists in such a use of the voice as will convey the thought in the best manner. It has reference to *Quality, Melody, Form, Force, Time* and *Stress.* Modulation concerns the proper management of the voice in speech and treats of those changes that should be made in it to best express the sentiment.

QUALITY OF THE VOICE.

The **Quality** or kind of voice may be **Pure** or **Impure.** In ordinary conversation, reading or speaking, we should always use the Pure; but in expressing fear, anger, contempt, hatred, loathing, etc., we should employ a different quality of tone. When we feel the influence of these passions, we can easily make use of the proper form, but we should so control the voice that, in reading or speaking in the absence of passion, we can assume the tone best adapted to give expression to the sentiment.

The **Pure** quality is used in all cases when there is not a demand for the *Impure.* Great attention should be given to the cultivation of the conversational voice, until a habit of correct speech is acquired. This tone should always be full, rich and resonant. Of it there are two varieties, the *Simple* and *Orotund.*

The **Simple Pure** is used in ordinary conversation, reading and speaking.

Example.—And he said, A certain man had two sons; and the younger of them said to his father, Father, give me the portion of goods that falleth to me. And he divided unto them his living.

The **Orotund** is a full, round tone used in expressing grandeur, awe, sublimity, courage, reverence, veneration and other holy emotions.

Example.—Thou too, sail on, O Ship of State!
Sail on, O Union, strong and great!

The **Impure** quality of voice is used to express the action of the baser passions. It is also used in mimicry. The Impure qualities are the *Aspirate, Pectoral, Guttural* and *Falsetto.*

The **Aspirate** is the intense whisper, with little or no vocality. It is used to denote fear, secrecy, great caution, etc.

Example.—Soldiers, you are now within a few steps of the enemy's outposts.

The **Pectoral** is the deep tone of despair and anger. It is used to denote great solemnity and in describing the supernatural. It is orotund, very low in pitch, and is formed wholly in the throat.

Example.—Oh, I have passed a miserable night—
So full of dreadful dreams and ugly sights,
That, as I am a Christian, faithful man,
I would not spend another such a night,
Though 'twere to buy a world of happy days—
So full of dismal terror was the time.

The **Guttural** is a harsh throat-tone, lacking the orotund quality of the Pectoral—the language of hatred, intense anger, loathing and contempt.

Example.—I loathe ye in my bosom,
I scorn ye with mine eye,
And I'll taunt ye with my latest breath,
And fight ye till I die!

The **Falsetto** is a shrill, high-pitched tone used in expressing pain or terror. It is also employed in imitating the female voice.

Example.—When the lorn damsel, with a frantic screech
And cheeks as hueless as a brandy peach,
Cries, "*Help, kyind Heaven!*" and drops upon her knees
On the green—baize, beneath the—canvas—trees.

MELODY.

Melody in elocution is the effect produced upon the ear by the succession of vocal notes. It has reference to *Pitch, Slides* and *Cadence.*

Pitch.

Pitch relates to the elevation or depression of the tone. It may be *Natural, Low* or *High.*

Natural Pitch is used in all ordinary discourse.

Example.—
England's sun was slowly setting o'er the hills so far away,
Filling all the land with beauty at the close of one sad day.

Low Pitch is used in language serious, grave, sublime, grand, solemn, reverential and vehement.

Example.—Silence how dead, and darkness how profound;
No eye nor listening ear an object finds;
Creation sleeps.

High Pitch is used to express sentiment lively, joyous or impassioned. It is also characteristic of fear and grief.

Example.—"Oh, spare my child, my joy, my pride;
Oh, give me back my child!" she cried.

Slides.

Slides are inflections of the voice used to prevent monotony and to give better expression to the idea. They are *Ascending* and *Descending;* both are united in the *Circumflex*. In music the ascent and descent is made by distinct steps; but in speech the voice is bent more or less upward or downward. These changes are continually taking place, except in the *Monotone*, and they give *expression* to the voice.

Ascending Slides denote uncertainty, doubt, interrogation and incompleteness of idea.

Example.—Hast thou ever known
the feeling
I have felt, when I have
seen,
'Mid the tombs of aged
heroes,
Memories of what hath
been?

Descending Slides indicate positiveness, determination or a completion of the thought.

Example.—Come one, come all, this
rock shall fly
From its firm base as
soon as I!

The **Circumflex** is used to denote surprise or to express a secondary meaning which may be in harmony with or directly opposite to that conveyed by the words.

Example.—What! shear a *wolf*, a prowling *wolf?*

SELF-POSSESSION ON THE PLATFORM.

Cadence.

Cadence is the tone with which a sentence terminates. According to the sentiment, it may have the ascending or the descending slide, the rising or the falling circumflex, or it may vanish with no slide whatever. A sentence expressing a complete thought, having no modifying phrase or clause, and not affected by anything preceding or following it, should always terminate with a downward inflection; but when so modified it should close with a tone adapted to the connection or meaning. The reader should study variety and avoid uniformity in closing sentences.

FORM.

Form of voice may be *Natural, Effusive, Expulsive* or *Explosive.*

The **Natural** is that ordinarily used in conversation.

Example.—While a single white cloud to its haven of rest,
On the white wing of peace floated off in the west.

The **Effusive** is a very light, gentle form usually characterized by a swell. It is used in expressing that which is beautiful, tranquil or pathetic. It is characteristic of lofty sentiment not requiring vigorous expression.

Example.—How beautiful she is! how fair
She lies within those arms that press
Her form with many a soft caress
Of tenderness and watchful care.

The **Expulsive** is a forcible utterance expressive of determination and intensity of feeling.

Example.—Up, all, and shout for
Rudiger—
Defiance unto Death!

The **Explosive** is used in vehement language and in powerful description. It usually manifests itself in the bursting of the voice on a single word.

Example.—
"Halt!"—the dust-brown rank
stood fast;
"Fire!"—out blazed the rifle blast.

FORCE.

Force or power of the voice is of three kinds, *Natural, Heavy* and *Gentle.*

Natural Force is that most commonly used in speaking or reading.

Example.—
We are two travellers, Roger and I.
Roger's my dog—come here,
you scamp!
Jump for the gentleman—mind your
eye'
Over the table—look out for the
lamp!

Heavy Force is used in grand description and in conveying any idea of power.

Example.—Bell never yet was hung
Between whose lips there swung
So grand a tongue.

Gentle Force is used in tender and pathetic description, and in all cases where a subdued form is necessary to correctly express the sentiment.

Example.—Noiselessly as the daylight
Comes when the night is done,
And the crimson streak on ocean's cheek
Grows into the great sun.

TIME.

Time in Elocution has reference to *Quantity, Rate* and *Pause.*

Quantity.

Quantity is the amount of time given to a word. It may be *Natural, Long* or *Short.*

Natural Quantity is that usually given to words in unemotional language.

Example.—There is one accomplishment, in particular, which I would earnestly recommend to you. Cultivate assiduously the ability to read well.

Long Quantity is used in expressing that which is grand, sublime, gloomy or humble.

Example.—O thou Eternal One! whose presence bright
All space doth occupy, all motion guide.

Short Quantity is used to express sentiment light, joyous, gay and brisk. It also expresses haste, fear, command, indignation, etc.

Example.—
The year is going, let him go;
Ring out the false, ring in the true.

Rate.

Rate is the degree of rapidity or slowness with which several successive words are uttered. It may be *Natural, Slow* or *Fast.*

Natural Rate is that which a person naturally uses in reading or speaking.

Example.—
O good painter, tell me true,
Has your hand the cunning to draw
Shapes of things that you never saw?

Slow Rate may denote horror and awe; it should be used in language serious, sublime and pathetic.

Example.—
Meanwhile the shapeless iron mass
Came moving o'er the wave,
As gloomy as a passing hearse,
As silent as the grave.

Fast Rate is used to express sentiment lively, joyous, impassioned and vehement.

Example.—
Hurrah! the foes are moving! Hark to the mingled din
Of fife and steed, and trump and drum, and roaring culverin!

THE AWKWARD SPEAKER.

Pause.

Pause is the suspension of the voice. *Poetic* and *Oratorical Pauses* express emotion. *Rhetorical Pauses* are those demanded by the sense and structure of a sentence. *Grammatical Pauses* are those indicated by the usual marks of punctuation, and *Prosodical Pauses* are those used only in verse. But in this connection it is best to make three divisions, viz.: *Natural Pause, Long Pause* and *Short Pause.*

Natural Pause is used in unimpassioned language and ordinary description.

Example.—Have you heard the tale of the Aloe plant,
Away in the sunny clime?
By humble growth of a hundred years
It reaches its blooming time.

Long Pause usually accompanies Slow Rate or a change of sentiment, and marks a suspension of the sense.

Example.—Pause a moment. I heard a footstep. Listen now. I heard it again. But it is going from us. It sounds fainter—still fainter. It is gone.

Short Pause accompanies Fast Rate, and is characteristic of haste, fear, etc.

Example.—John, be quick! Get some water! Throw the powder overboard! It cannot be reached! Jump into the boat, then! Shove off! There goes the powder—thank Heaven, we are safe!

STRESS.

Stress has much to do with the power, beauty and general effect of a sentence. It is that finishing, polishing touch which causes the thought to stand out in relief—throwing it vividly upon the background, with its profile well defined, its lights and shadows harmoniously blended—rendering it complete, beautiful and symmetrical.

There are six distinct kinds of Stress, viz.: *Initial, Final, Median, Compound, Thorough* and *Tremulous.*

Initial Stress is an explosive force on the first part of a syllable or word. It is characteristic of lively, joyous description.

Example.—
I come from haunts of coot and hern;
I make a sudden sally,
And sparkle out among the fern,
To bicker down a valley.

The **Final Stress** is an explosive force on the latter part of a syllable or word. It is used in expressing defiance, determination, or intensity of feeling or purpose.

Example.—A breath of submission we *breathe* not;
The sword we have drawn we will *sheathe* not.

Median Stress, or the **Swell,** characteristic of the Orotund Quality and Effusive Form, is most marked in the sublime, but it is found in all classes of literature, sometimes occurring on a single word and again continually through an entire sentence.

Example.—Roll on, thou deep and dark blue ocean, roll!

Compound Stress is a union of the Initial and Final in one word. It is indicative of surprise, irony and determination.

Example.—*Gone* to be *married! Gone* to swear a *peace!*
Shall *Lewis* have *Blanche,* and *Blanche* these *provinces?*

Thorough Stress is an abrupt, heavy force, used in command, fearlessness and braggadocio.

Example.—Blaze, with your serried columns!
I will not bend the knee!
The shackles ne'er again shall bind
The arm which now is free.

Tremulous or **Intermittent Stress** is used in fear, joy and laughter, in the broken voice of sorrow, and in imitation of the feeble voice of age.

Example.—Ho, why dost thou shiver and shake, Gaffer Gray,
And why does thy nose look so blue?
"'Tis the weather is cold, 'tis I've grown very old,
And my doublet is not very new, well-a-day."

Emphasis.

"Emphasis," it has been said, "is in speech what coloring is in painting. It admits of all possible degrees, and must, to indicate a particular degree of distinction, be more or less intense, according to the groundwork or current melody of the discourse." It consists of any peculiarity of utterance which will call special attention to a particular word or words in a sentence. Thus it will be seen that emphasis may be of force, stress, quality, pitch or rate. No definite rule can be given for the use of emphasis. It is so subtile, its shadings so delicate, that it can never be cabled to inflexible rules. But in general we should emphasize:

1. Words, phrases or clauses that are particularly *significant.*
2. Words, phrases or clauses that *contrast.*
3. Anything *repeated* for the sake of emphasis.
4. A *succession* of objects or ideas.

Word Individuality.

The "royal road" to success in reading lies in a true conception of the spirit of the piece and a faithful delineation of the author's meaning. Endeavor to grasp the ideas, make them a part of yourself and clothe your hearers with them. Another element of power lies in *playing upon* words and giving them their full individual expression. For instance, the word *firm* should usually be spoken in a firm tone of voice, *strong* in a strong tone, *light* in a light tone, *grand* in a manner conveying an idea of grandeur.

Word Individuality. *Expressive Intonation*, *Imitative Modulation* and *Sound to Sense* are the terms used to express the act of playing upon words, sounding the syllables or intoning the vowels in such a way as to more fully bring out the meaning of the word by its sound. *Old, sweet, long, gay, cold, deep, roar, whisper, fierce, wild, growl, titter, gush, burst, dash*—these and similar words may be rendered infinitely more expressive by giving each word its own peculiar individual character.

The following table of derivatives indicates the peculiar character of words:

St denotes firmness or strength; as, *stand, stay, stout, stop, stamp,* etc.

Str indicates violent force or energy; as, *strive, stress, strength, strife,* etc.

Thr indicates forcible motion; as, *throw, throb, thrust, threaten, thrill,* etc.

Gl indicates smoothness or silent motion; as, *glib, glide, glow,* etc.

Wr denotes obliquity or distortion, as, *wry, wrest, wrestle, wring, wrath, wrangle,* etc.

Sw implies silent agitation or lateral motion; as, *sway, sweep, swerve, swing,* etc.

Sl denotes gentle fall or less observable motion; as, *sly, slide, slip, slit, slack, sling,* etc.

Sp indicates dissipation or expansion; as, *spread, sprout, sprinkle, split, spoil, spring,* etc.

—*ash* indicates something acting nimbly or sharply; as, *crash, dash, rash, flash, lash, splash,* etc.

—*ush* denotes something acting more obtusely and dully; as, *crush, brush, hush, gush, blush,* etc.

Analysis and Grouping.

In reading it is necessary first to analyze the thought, to decide in the mind what portions are most prominent, and these should receive greatest emphasis. The subordinate thoughts should be properly grouped together and expressed in such a manner as will clearly show them to be subordinate. To use a figure of speech, let the more important parts stand in the foreground, giving them intensest light; the auxiliary thoughts may repose in the shadows of the background. In general the subject, predicate, object and connectives of a sentence should receive emphatic force. Give the same degree of force to words having a close grammatic connection, but separated from each other in the sentence. The intervening portions should be read parenthetically.

Transition.

Transition is the art of changing easily, rapidly and completely from one modulation or form of voice to another. It should be carefully practiced.

Climax.

It has been previously stated that a succession of objects or ideas should receive emphasis; that is, each of the series should be made more emphatic than the one immediately preceding. This gives a constantly increasing emphatic scale. The extreme point of the scale is called the **Climax.** There the vocal efforts should reach their culmination, giving great strength to the sentence.

Repose.

Repose is the sublime emblem of infinite power. It is reserve force that is immeasurable. He who by violent exertion shows that he has reached his limit loses that greater conception that we may have formed regarding his powers. Where Climax is employed in speech, in order to convey the greatest possible idea of power it is necessary to make the concluding portion of the sentence with that repose which indicates unlimited reserve strength. It has been well said, "The highest power is mastery, and the highest mastery is self-mastery, and of self-mastery repose is the emblem."

Impersonation.

In **Impersonation** the reader or speaker puts himself in the place of another, using the tone and style required by the assumed character. This, however, should not be resorted to when the beauty or sublimity of thought contained in a passage would be weakened thereby, as an assumed form always detracts from the *ideas* by directing our attention to the *manner*. But there are many times when personation really adds to the beauty and effectiveness of the rendering. The judgment of the reader must decide when it should be employed, and in what particular cases it may be omitted. When impersonating the voice may be changed, as well as the general manner. A heavy or light voice, fast or slow rate, low or high pitch will often be a sufficient change. *Old age* requires a feeble or cracked voice, higher pitch, slower rate, gentler force, a greater use of the inflections, and an apparent toothlessness easily secured by retracting the lower jaw and drawing the underlip as far as possible over the teeth. *Children's voices* are imitated by light force, many rising and falling slides, using great expression. Let the throat be contracted that the voice may appear to be formed in the front part of the mouth. In imitating the *voices of women* the reader should employ greater or heavier force, as required.

Dialogue Reading.

In dialogue reading several impersonated voices may occur, varying one from another by changes of force, pitch, rate or quality. As a *general rule*, the direction of the eyes and head should change with each transition of character. When only two speakers are represented, the whole body may change position, but when several appear a slight change only is required. In representing two characters the gaze is alternated left and right, but the descriptive portions (those not spoken by either of the characters) should always be given front. Let changes of position and voice be sudden and decided, especially so when one speaker is interrupted by another.

GESTURE.

Elocution may be divided into two parts: that which is *heard*, and that which is *seen*. The former is called **Voice**; the latter, **Gesture.** Both are important and indispensable to its proper study. The manner may be so out of harmony that it entirely contradicts the words, and an idea is conveyed directly opposite to that intended. It is important, then, that we study manner as well as matter. A pleasing style of delivery adds much to the effectiveness of a production, and in this Gesture plays an important part. It is absolutely essential to the perfect success of vocal delivery that it be accompanied by a manner that will not provoke criticism, nor in any way draw the hearer's attention from the thought uttered. It should rather *aid* that thought by conveying to the eye what the voice sends to the ear. Gesture should always be an assistant, never a hindrance, as it certainly is when not properly used. Those who naturally employ many gestures should learn how to correctly use them; those who use few should cultivate the use of more by making themselves familiar with the laws that govern intelligent gesticulation. *Double Gestures* have the same significance as single gestures. They are used for variety and greater effect and force. In speaking, do not employ one hand exclusively, but occasionally use the other to avoid sameness.

Rules Governing Gesture.

Gesture is that part of elocution which appeals to the eye. It relates to *Position* and *Movements*.

POSITION OF THE BODY.

The position of the body should be in harmony with the character of the thought. Vigorous expression requires a firm posture; beauty of sentiment, a graceful attitude. The position should be changed, not too often, as quietly and with as few movements as possible. The *arms*, when not in use, should hang easily at the sides, and *one foot* should be slightly in advance, the *head* being held naturally erect. The speaker should always take his position near the front of the stage, to be better seen and heard. *In reading*, always stand or sit erect, with lungs well inflated.

MOVEMENTS.

Movements of the body are necessary to give character to the delivery, but they must be natural, graceful and appropriate.

The Head.

The **Head** should maintain an easy position and allow the eyes to move deliberately over the audience. Do not stare into vacancy while before a company, but fix your gaze upon the individuals composing the assemblage. Avoid an excessive use of the head, both in reading and speaking. In reading, the eyes should be raised from the book as much as possible. Practice will give facility in reading long sentences with a single glance at the book. The *expression of the face* should reflect the character of the thought.

The **Hands** in gesture should be used easily and gracefully. Frequent practice before a mirror will be advantageous in securing freedom and grace of movement. The hands may be *Supine, Prone, Vertical, Pointing* and *Clenched.*

The SUPINE HAND lies easily opened, with the palm upward. It is a common form of gesture.

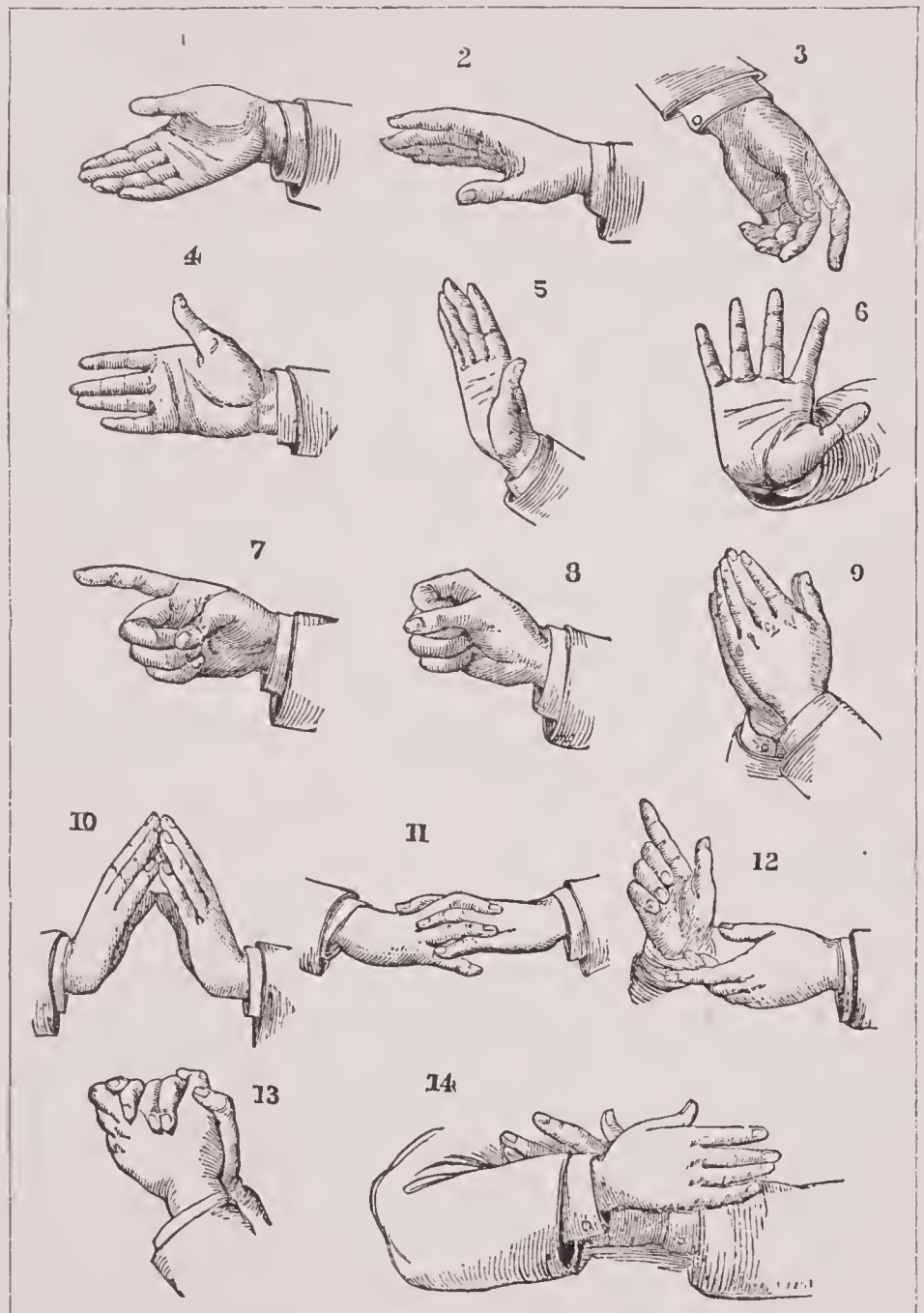
The PRONE HAND is opened with the palm downward. It is used to denote negative assertion, superposition, etc.

The VERTICAL HAND is opened, with the palm outward from the speaker. It is used in warding off and in denoting a limit.

The POINTING HAND, forefinger extended, is used in designating or pointing out any particular thing or place. *Ordinarily,* the hand is loosely opened, but, when the gesture is *emphatic,* it is tightly closed.

The CLENCHED HAND denotes intense action of the will or passions.

The accompanying illustration, with explanations appended, shows the principal forms of hand gestures.



POSITIONS OF THE HANDS.

1. Simple affirmation. 2. Emphatic declaration. 3. Apathy or prostration. 4. Energetic appeal. 5. Negation or denial. 6. Violent repulsion. 7. Indexing or cautioning. 8. Determination or anger. 9. Supplication. 10. Gentle entreaty. 11. Carelessness. 12. Argumentation. 13. Earnest entreaty. 14. Resignation.

The Arms.

The **Arms** should be used naturally and with decision. In forcible utterance they move in straight lines; in graceful expression they move in curves, but even in the curves they should show that they are servants sent to perform certain duties, and that they are guided in every motion by a power beyond themselves. Sometimes, in familiar gesture, the forearm only is used, but ordinarily the arm moves freely from the shoulder.

Hand and Arm Gestures.

Hand and Arm Gestures are made in four general directions, viz.: *Front, Oblique, Lateral* and *Backward.* Each of these is subdivided into *Horizontal, Descending* and *Ascending.*

FRONT GESTURES are used to designate or to illustrate that which is near to us, whether it be an object, a thought or a feeling. In addressing an object, real or ideal, we suppose it to be placed in the direction of the Front gesture.

OBLIQUE GESTURES are less emphatic and more general in their application than the Front Gestures. They relate to things indefinitely.

LATERAL GESTURES denote expansion, extreme distance, breadth, or the placing of persons, objects or ideas in contrast with one another.

BACKWARD GESTURES indicate things remote, obscure or hidden.

HORIZONTAL GESTURES are employed in general allusions; they indicate a level or equality and belong to the realm of the Intellect.

DESCENDING GESTURES denote inferiority or inequality, and, when emphatic, they show determination and purpose. They belong to the Will.

ASCENDING GESTURES denote superiority, greatness, an unfolding or lifting up figuratively or literally. They belong to the Imagination.

Make all gestures with decision. When the gesture is completed, let the arm fall slowly to the side. *Never allow the arms to swing.*

THE THREE FORMS OF SPEECH.

Conversation. This is the simplest form of speech, and it is the most natural. In conversation we are ourselves; we use no forced, unnatural style of utterance. Always endeavor in

conversation to express the best thoughts in the best manner, avoiding those subjects not of general interest to the listeners, using the best language at command.

Reading. In conversation our ideas are evolved from our own minds. In reading the thought may be the same and the manner the same, though the phraseology differ. In reading *our own* composition, we are too liable to fall into a reading tone—an unnatural mode of expression. This droning process causes the hearer to lose a large portion of the thought which he would receive were the reading *intelligent* instead of *mechanical*. In *emotional* reading, he receives all the thought, and it is intensified in its conveyance to him. When you desire to read *well*, be sure to previously familiarize yourself with the words, arrangement of paragraphs and logical connection of all the thoughts contained in the piece of reading. Always hold your book or paper in such a way that you can readily take in a whole line at once. Allow the letters to be about fourteen inches from the eye, not directly below, nor horizontal with the eye, but half-way between these two positions. Look off the book as much as possible.

Public Speaking. This is conversation magnified. The same forms of voice are employed as in conversation; the difference lies in a symmetrical enlargement of the sentences. In this, do not *distort*, but preserve the form in its simplicity and you will have it in its greatest purity and power. Apply all rules of elocution and rhetoric to your conversation, and you will have the form best suited to public address. Always make a marked distinction between the conversational (or explanatory) and the oratorical and dramatic portions. Studiously avoid anything like an oratorical style in simple descriptions or narratives. Never appear in public without thorough preparation, and be sure that this is succeeded by a period of rest, that you may be in your best condition. Tone the voice just before beginning your vocal effort. In your approach, do not appear hurried; but let your manner be graceful and your bearing dignified. This will insure respect. Put yourself at ease by a strong mental effort and begin deliberately, gradually warming up with your subject. Never acquire the useless habit of drinking water during a vocal performance. Water will not supply the natural moisture of the vocal organs, and if they are properly used there is no necessity for artificial moistening. Pay special attention to the articulation, and let it always be distinct. Deliver the sounds sharply and correctly, and your audience will appreciate your efforts, though they may not themselves know wherein lies the charm of the voice to which they listen.

DRAMATIC ACTION.

Dramatic action differs from oratory, though it employs the same vocal expression. The orator is always himself, in his best condition; the actor acts an assumed character which would often not be consistent with the dignity of the orator. In oratory we may borrow certain gestures (termed *Special Gestures*) from the art of acting; hence it is necessary for us to be informed as to the significance and proper method of using these gestures.

In acting, the moderate step may become a stride. Actors are permitted to move in a lateral direction, while the orator can only advance and recede from his audience. The actor may also stamp, start or kneel. These demonstrations are forbidden the orator.

An erect position is the only one suitable to the dignity of the orator. In acting, grief depresses, and pride throws the body backward.

The head is raised in arrogance, inclined in languor or indifference, and hung in shame. The head may take the following positions: *Inclined, Erect, Assenting, Denying, Shaking, Tossing, Aside.*

Considered in reference to the direction of the eyes, it may be *Averted, Downward, Upward, Around* or on *Vacancy.*

The countenance may take the expression of anger, shame, contempt, pride, despair, terror or any other violent passion. In oratory this is not admissible.

The hand may take the following positions: *Hollow, Holding* or *Grasping* (according to the degree of energy), *Applied* (palms together), *Clasped, Crossed* (upon the breast), *Folded* (fingers of right hand between the thumb and forefinger of the left), *Enclosed* (back of the one within the palm of the other), *Touching* (points of the thumb and fingers of each hand brought into contact), *Wringing* (clasped hand, lowered, and separated at wrists, but without fingers disengaged), *Enumerating* (first finger of the right hand laid successively upon first and other fingers of the left).

The arms may be *Folded* (crossed and enclosing each other), *Akimbo* (one or both hands on hips, elbows extended at one or both sides), *Reposed* (elbows nearly resting on the hips, one hand holding the wrist of the other—a female position).

In designating the manner of motion, Gesture may be considered as *Noting* (the hand being drawn back and raised, then advanced and by gentle stroke depressed), *Projecting* (arm thrust forward in the direction in which the hand may be pointing), *Retracting* (the arm drawn back preparatory to projecting or to avoid an object), *Waving* (fingers pointing downward, the hand flung smartly upward), the *Flourish* (in which the hand describes a circle or part of a circle above the head), the *Sweep* (the hand making a curved movement, descending from the opposite shoulder and rising high above the head; or the reverse, changing in the first case from the Supine to the Vertical, and in the second from Vertical to Supine; sometimes a Double Sweep is used, combining both movements), *Beckoning* (with whole hand or simply the forefinger), *Repressing* (the opposite of Beckoning), *Advancing* (the hand moved slowly forward and upward to the horizontal, the whole body aiding the action, and a step in advance being taken), *Springing* (the hand, having nearly arrived at the limit of the gesture, springs suddenly up to it by a quick movement of the wrist), *Striking* (hand and arm), *Bending* (preparation for Striking), *Recoiling* (a return to position after Striking), *Throwing* (arm flung outward in the direction of a person addressed), *Clinching* (clenched hand raised threateningly), *Collecting* (arm sweeps inward toward the body), *Shaking* (tremulous motion given to arm and hand), *Pressing* (the hand being laid upon any part, the elbow is raised and the fingers contracted), *Rejecting* (vertical hand pushed toward the object, head averted).

CAUSES OF SUCCESS AND FAILURE.

"IS THERE ONE WHOM DIFFICULTIES DISHEARTEN — WHO BENDS TO THE STORM? HE WILL DO LITTLE. IS THERE ONE WHO WILL CONQUER? THAT KIND OF A MAN NEVER FAILS."
JOHN HUNTER.

WHILE it is impossible, in a world made up of widely differing individuals, to formulate a set of rules by which each could be shown the surest and swiftest way to secure success in life, still it is possible to call attention to certain qualities of mind and character whose possession has come to be universally looked upon as essential to those who may aspire to struggle into the front rank of the world's workers. As a matter of fact, it would be as difficult to define the common expression "success in life" as it would be to lay down a royal road which leads to it. Given a hundred definitions, from as many men, each treating the subject from his own standpoint, and no two of them would be found alike; and the opinion of each of these, as time passed along with its inevitable ups and downs, would be found to vary considerably. Flushed with recent success, the speculator to-day would see in the possession of millions and in the control of vast interests the only proper goal for a man of his great genius; tamed a few days later by unexpected reverses, and he sees in some conservative enterprise the fittest sphere of his future usefulness. Perhaps, then, without attempting the impossible, in a definition of success in life which will fit all who are seeking it, it will do to look upon it as the accomplishment of the laudable life-purpose of a man of natural or cultivated parts, who has found an object in life worth living and working for, and has worked honestly and perseveringly to attain it. As a rule, the larger the endowment of those faculties which go to build up success in life, the higher the aim which accompanies them; but it must not be forgotten that man is the most cultivable of all God's creatures, and that by careful and intelligent study of the qualities which have enabled others to shine, one may acquire them and employ them in building up similar accomplishments. This being so, it does not lie in the power of the young man who feels that he possesses only a moderate share of intelligence, force and ability, to decide, on this account, that he is not called upon to make fight for one of the front places in the life of his generation. The most brilliant lives have often been those of men of ordinary gifts, who, exerting to the utmost such power as has been given them, have accomplished more than hundreds of men who were much more bountifully supplied with mental qualifications. If any man look among the circle of his acquaintances he will be surprised to see how few have made the voyage of life successfully, and sorrow cannot but arise when he considers the impotent conclusions to which

young men of brilliant parts frequently come. Every day witnesses the triumph of patient and studious mediocrity, and men of great intellect are constantly being forced to acknowledge, with surprise, the success of persons whose abilities, in comparison with their own, have been deemed inconsiderable. These men know precisely the scope of their faculties, and never wander beyond them. They wait patiently for opportunities which are of the kind they can improve, and they never let one pass unimproved. Being unnoticed, they excite so much the less opposition, and at last they surprise the world by the attainment of an object which others deemed as far away from their ambition as it seemed beyond their reach.

How to Avoid Failure.

It is a common thing, with both the brilliant and the mediocre, when the reward of their exertions and the result of their plans seem unsatisfactory, to blame the ever-ready scapegoat, bad luck, as the cause of the untoward outcome. One of the most healthful and profitable exercises which a young man who has just experienced failure of any kind can perform, will be to analyze the whole transaction with merciless candor, finding out just what proportion of the disaster is due to his own fault and what is due to fortuitous circumstances, and then make a cold-blooded comparison. If this were more generally done than it is, there would be far fewer believers in, or rather blamers of, luck as a business marplot than are at present to be found. To come down to the facts in the case, without going so far as to dispute the existence of such a thing as chance, in almost all cases of failure the cause is to be found in the man, and the reason it is not found there is because that is the last place in which the man hunts for it. "Untoward accidents," "fate," "destiny," "ill-fortune," "evil star," "chance," "luck," or some other synonym of the scapegoat, suggests itself to the victim of ill-success, and he consoles himself with charging upon it his failure. He has the poets on his side, too. Does not Shakespeare say:

> "There's a divinity that shapes our ends,
> Rough-hew them how we will."

And Byron:

> "Men are the sport of circumstances, when
> The circumstances seem the sport of men."

And, after all has been said, it were better, perhaps, that the young business man place some little, very little, credence in luck's existence, just enough, in fact, to cause him to so organize upon solid and substantial foundation each of his enterprises, and to so honestly and perseveringly conduct them, that the smallest possible loop-hole will be left for ill-luck to make its appearance.

Choosing an Occupation

Is seldom an easy matter. In some few cases, a young man feels the possession of such an unmistakable bias to some peculiar profession that neither he nor his friends have any hesitancy in deciding upon his future. In most cases, however, there is no particular preference, and a wise decision is not reached before many considerations have been carefully weighed. In far too many cases wrong considerations are given attention, and a decision is reached whose ultimate result is a life failure which, had the profession been selected with greater wisdom, would not have happened. A socially ambitious father and mother check their young son's honest ambition to become a mechanic, send him to college, and make a briefless barrister out of the material which could have been moulded into an honest and efficient artisan. Many a boy whose soul yearned for the higher walks of intellectual culture, to share in which he had been endowed, has been doomed by injudicious parents, who despised colleges, to dull life at a dry-goods counter or counting-room desk. Parents are not by any means infallible judges upon this point, and every young man about to start out in search of success in life should study himself carefully in order to discover his aptitudes. The natural bent may be hard to find, but the discovery will well repay the search. Historical biography teems with the lives of men whose peculiar aptitude was early displayed to the advantage of themselves and the world. Napoleon, a school boy at Brienne, led the mimic armies of his youthful associates; Nelson had conceived the idea of future greatness as a sailor before he entered the navy; Pascal contributed to the mathematical literature of his age before he was seventeen; Pope acknowledged that

> "While yet a child and still a fool of fame,
> I lisped in numbers, for the numbers came;"

Dryden illustrated the growth of natural aptitude when he wrote:

> "What the child admired
> The youth endeavored, and the man acquired;"

Michael Angelo stayed away from school to draw pictures; Murillo covered his text-books with them; West, at seven, plundered the cat's tail of hair with which to make pencils; Calhoun, a student, held his own in debate with the college president—and so on, until the examples of the theory of natural aptitude become too numerous for recapitulation.

Taking for granted that one has discovered, or believes that he has discovered, his bent, he must beware of the danger which lies in fickleness of purpose, which may, shortly after the weariness of work begins to be felt, lead him to suppose that he has chosen unwisely, and that some other field of usefulness would be more suitable to his temper and parts. It is the practical repetition of the old story of the traveller in the express train sighing for the quiet pleasure of the farmer, whose broad fields are flying past, while the farmer looks longingly at the train as it dashes by, and dreams of the enjoyable excitements of a life of endless bustle, stir and energy. Whatever the calling, there will be toil and trial for its

follower, and these come from him rather than from the occupation, which might be changed a dozen times in the vain hope of escaping from them. Having deliberately selected a profession, stick to it. The longer you remain in it, the more expert you become and the easier becomes the work and the larger the pay. It is only the early days which bring weariness and pain. These conquered by perseverance, the rest is easy, and the success in conquering the first pleadings of the siren fickleness of purpose, who is of closer kin to laziness than one might think, lays the corner-stone of success in life.

Excelsior!

Having chosen his occupation, the young man of proper ambition will not be long in selecting for himself an honorable position in it, to be filled as soon as he has shown himself worthy and able. What men have accomplished shows that hardly any ambitious longing can be considered as unwise on the part of those who are willing to undertake all work and suffer all want in the struggle.

The extremest poverty has been no obstacle in the way of men devoted to the duty of self-culture. Professor Alexander Murray, the linguist, learned to write by scribbling his letters on an old wool-card with the end of a burnt heather-stem. The only book which his father, who was a poor shepherd, possessed, was a penny Shorter Catechism; but that, being thought too valuable for common use, was carefully preserved in a cupboard for the Sunday catechizings. Professor Moor, when a young man, being too poor to purchase Newton's "Principia," borrowed the book, and copied the whole of it with his own hand. Many poor students, while laboring daily for their living, have only been able to snatch an atom of knowledge here and there at intervals, as birds do their food in winter time when the fields are covered with snow. They have struggled on, and faith and hope have come to them. A well known author and publisher, William Chambers, of Edinburgh, speaking before an assemblage of young men in that city, thus briefly described to them his humble beginnings for their encouragement: "I stand before you," he said, "a self-educated man. My education is that which is supplied at the humble parish-schools of Scotland; and it was only when I went to Edinburgh, a poor boy, that I devoted my evenings, after the labors of the day, to the cultivation of that intellect which the Almighty has given me. From seven or eight in the morning till nine or ten at night was I at my business as a bookseller's apprentice, and it was only during hours after these, stolen from sleep, that I could devote myself to study. I did not read novels; my attention was devoted to physical science and other useful matters. I also taught myself French. I look back to those times with great pleasure, and am almost sorry I have not to go through the same experience again; for I reaped more pleasure when I had not a sixpence in my pocket, studying in a garret in Edinburgh, than I now find when sitting amid all the elegancies and comforts of a parlor."

William Cobbett learned English grammar when he was a private soldier on the pay of sixpence a day.

These are men who have selected an aim in life and have attained it through sticking to it. Concentration of purpose carried them through. The "Admirable Crichtons" are scarce geniuses, and no young man need be ashamed, in these days of special accomplishment, of having decided to follow a single pursuit in life—to become a man of one idea—provided it is a good one. Almost all the great men in war, literature, science, diplomacy, business, the professions, have been men of "one idea," not because they were incapable of harboring more than one, but because, having selected some one object as worthy of attainment, they gave themselves up to it solely. If was often long of coming, but it came at last. Adam Smith gave ten years to his "Wealth of Nations;" Edward Gibbon, twenty to the "Decline and Fall of the Roman Empire;" Bishop Butler, twenty to his famous "Analogy;" Kant, fifty years to his metaphysical researches; Dr. Johnson, seven years to his Dictionary. These men sought one prize and gained it. As many years have been spent by thousands of men of equal ability, who sought each a number of prizes and gained none.

A Sound Body

Is another of the essentials of success in life which are largely attainable by those who lack their possession. Mental as well as physical accomplishment depends largely upon the condition of the worker's digestion, and the thorough aeration of his blood. This can only be obtained with healthy exercise, which can only be taken by those whose muscles and nerves and wind are in good condition. "Walk twelve miles before speaking and you'll never break down," says Sidney Smith to an English Parliamentary debater. A strong intellect cannot well work with a weak body as its case. Energy without talent will accomplish more than talent without energy. The sharp edge of the woodman's axe avails nothing until the sinewy arm throws it, stroke upon stroke, against the monarchs of the forest. Take the great men of the century, and it will be seen that they combined intellectual force with physical vigor. In England, Brougham, Lyndhurst, Peel, Bright, Gladstone, Palmerston; in America, Webster, Clay, Calhoun, Grant, Sherman, Sheridan, Lincoln—all these were men capable of strong muscular exertion and of standing a prolonged physical as well as mental strain. It is told of Lord Brougham that he once worked six days on a stretch without sleep, slept from Saturday night to Monday morning, and began work again thoroughly refreshed. These men are the conservers as well as the possessors of physical force, and the young man who seeks to retain the "sound mind in a sound body" will remember that it is not so much in the cultivation of additional body strength as in the economy of what he already possesses that the art of physical culture is best applied. The idea used to be that muscularity and rowdyism were natural associates, but people found out that it is possible for a young man to be a good rower, or boxer even, and still be a worthy Christian and admirable member of society, and even that it was difficult for him to be these unless with the employment of manly

AN ADVANCED STUDENT IN PHYSICAL CULTURE

exercises he brought his physical condition up to the healthy standard. This is merely a recurrence to the old belief of the Greeks, who reverenced the muscular body as one of the noble parts of man, and made gymnastics and calisthenics a regular school exercise. Without good health and a sound body, moderate success in life may be painfully possible; with it a place in the front rank may be attained with far greater ease than otherwise.

Self-Reliance.

Among all the mental qualifications which help on to success in life, there is none which is of more importance than self-reliance. If you want a thing well done, do it yourself, says the old saw, and hence comes it that those who rely most upon themselves for the accomplishment of any aim are the ones who do the best work. "Heaven helps those who help themelves" is a well-tried maxim, embodying in small compass the results of vast human experience. The spirit of self-help is the root of all genuine growth in the individual; and, exhibited in the lives of many, it constitutes the true source of national vigor and strength. Help from without is often enfeebling in its effects, but help from within invariably invigorates. Whatever is done *for* men or classes, to a certain extent takes away the stimulus and necessity of doing for themselves; and where men are subjected to over-guidance and over-government, the inevitable tendency is to render them comparatively helpless.

It is energetic individualism which produces the most powerful effect upon the life and actions of others, and really constitutes the best practical education. The determination to be one's own helper is the secret of this individual development and strength. No greater misfortune could befall an ambitious and able young man than a legacy. A story is told of a critic who, after reviewing the promising work of a young artist, praised it, but added: "It is a pity that he can never make a great painter." "And why not?" rejoined his companion. "Because he has ten thousand pounds a year," was the sententious response. When John C. Calhoun was ridiculed by his fellow-students at Yale for his intense application to study, he raised a louder laugh against himself by replying, "I am forced to make the most of my time that I may acquit myself creditably when in Congress," and then, when the laugh was over, adding, "I assure you, if I were not satisfied of my ability to reach Congress in three years, I would at once leave college." Here was self-reliance and self-help. Calhoun knew the difficulties that lay between him and the goal of his ambition, and, while the other students were laughing at him, he was helping himself to overcome them. "The man who dares to think for himself and act independently, does a service to his race," says one of the brightest modern thinkers, and daily experience shows that it is energetic individualism which produces the most powerful effects upon the life and action of others, and really constitutes the best practical education. Schools, academies and colleges give but the merest beginnings of culture in comparison with it. Far more influential is the life-education daily given in our homes, in the streets, behind counters, in workshops, at the loom and the plough, in counting-houses and manufactories, and in the busy haunts of men. This is that finishing instruction as members of society which Schiller designated "the education of the human race," consisting in action, conduct, self-culture, self-control—all that tends to discipline a man truly, and fit him for the proper performance of the duties and business of life—a kind of education not to be learned from books, or acquired by any amount of mere literary training. With his usual weight of words, Bacon observes that "studies teach not their own use; but that is a wisdom without them and above them won by observation"—a remark that holds true of actual life as well as of the cultivation of the intellect itself. For all experience serves to illustrate and enforce the lesson that a man perfects himself by work more than by reading—that it is life rather than literature, action rather than study, and character rather than biography, which tend perpetually to renovate mankind.

Attention to Detail

Is a matter which constitutes much more than half of the battle in many spheres of usefulness, and, the more intellectual the task, the greater the necessity, very frequently, of careful and constant devotion to the little things which help to form it. Sedulous attention and painstaking industry always mark the true worker. The greatest men are not those who "despise the day of small things," but those who improve them the most carefully. Michael Angelo was one day explaining to a visitor at his studio what he had been doing at a statue since his previous visit. "I have retouched this part—polished that—softened this feature—brought out that muscle—given some expression to this lip, and more energy to that limb." "But these are trifles," remarked the visitor. "It may be so," replied the sculptor, "but recollect that trifles make perfection, and perfection is no trifle." So it was said of Nicolas Poussin, the painter, that the rule of his conduct was, that "whatever was worth doing at all was worth doing well;" and when asked, late in life, by his friend Vigneul de Marville, by what means he had gained so high a reputation among the painters of Italy, Poussin emphatically answered, "Because I have neglected nothing." On the first publication of Wellington's dispatches, one of his friends said to him, on reading the records of his Indian campaigns: "It seems to me, Duke, that your chief business in India was to procure rice and bullocks." "And so it was," replied Wellington, "for, if I had rice and bullocks, I had men; and if I had men, I knew I could beat the enemy." All men who have accomplished success in life have been conspicuous for minute attention to details as well as for general scope and vigor. The great Napoleon was a wonderful example of this. His correspondence shows him arranging for supplies of saddles, directing where cattle could be purchased, advising the procurement of shoes for the infantry, and making suggestions as to various minor details, and complaining because of discovered carelessness in the reports upon matters of detail supplied by others. Lord Brougham, alluding to this quality,

said: "The captain who conveyed Napoleon to Elba expressed to me his astonishment at his precise and, as it were, familiar knowledge of all the minute details connected with the ship."

In the face of these examples, no one should come to the conclusion that details are beneath one's notice, or that one is less brilliant in the great things of life because he pays attention to the little things. Of General Thomas it is said that he was careful in all the details of a battle, but, once in the fight, was as "furious and impetuous as Jackson." Attention to details makes a business man, or any other kind of man, "sure that he is right," and then, of course, it only remains for him to "go ahead."

Perseverance

Is the ever ready and kindly ally of those who are seeking success and feel that they do not possess the ability to attain it so quickly as others. The greatest results in life are usually attained by simple means and the exercise of ordinary qualities. The road of human welfare lies along the old highway of steadfast well-doing; and they who are the most persistent, and work in the truest spirit, will usually be the most successful. Buffon's definition of genius, "It is patience," may be exaggerated, but it hardly seems so when the accomplishments of patience are considered. Fortune has often been blamed for her blindness; but Fortune is not so blind as men are. Those who look into practical life will find that Fortune is usually on the side of the industrious, as the winds and waves are on the side of the best navigators. In the pursuit of even the highest branches of human inquiry, the commoner qualities are found the most useful—such as common sense, attention, application and perseverance. Genius may not be necessary, though even genius of the highest sort does not disdain the use of these ordinary qualities. The very greatest men have been among the least believers in the power of genius, and as worldly-wise and persevering as successful men of the commoner sort.

The extraordinary results effected by dint of sheer industry and perseverance have led many distinguished men to doubt whether the gift of genius be so exceptional an endowment as it is usually supposed to be. Thus Voltaire held that it is only a very slight line of separation that divides the man of genius from the man of ordinary mould. Beccaria was even of opinion that all men might be poets and orators, and Reynolds that they might be painters and sculptors. If this were really so, that stolid Englishman might not have been so very far wrong, after all, who, on Canova's death, inquired of his brother whether it was "his intention to carry on the business!" Locke, Helvetius and Diderot believed that all men have an equal aptitude for genius, and that what some are able to effect, under the laws which regulate the operations of the intellect, must also be within the reach of others who, under like circumstances, apply themselves to like pursuits. But, while admitting to the fullest extent the wonderful achievements of labor, and recognizing the fact that men of the most distinguished genius have invariably been found the most indefatigable workers, it must nevertheless be sufficiently obvious that, without the original endowment of heart and brain, no amount of labor, however well applied, could have produced a Shakespeare, a Newton, a Beethoven or a Michael Angelo.

The world's history is full of the triumphs of those who have had to fight from beginning to end for recognition. Carey, the great missionary, began life as a shoemaker; the chemist Vanquelin was the son of a peasant; Richard Cobden was the son of a small farmer; Cook, the navigator, and Burns, the poet, were day-laborers; Ben Jonson was a bricklayer; David Livingstone, the traveller-missionary, was a weaver; Sturgeon, the electrician, and Bloomfield, the poet, were shoemakers; Andrew Johnson, President of the United States, was a tailor. At the plow, on the bench, or at the loom, these men dreamed of their future greatness, and persevered in their endeavors to accomplish it, and did so at last. Literature has provided several examples of single-handed triumph over difficulties by the persevering. Lord Brougham, working for over sixty years at law, literature, politics and science, and achieving distinction in all, was advised by Sir Sidney Smith to confine himself to only the transaction of so much business as three strong men could get through.

Another hard-working man of the same class was Lord Lytton. Few writers did more, or achieved higher distinction in various walks—as a novelist, poet, dramatist, historian, essayist, orator and politician. He worked his way step by step, disdainful of ease, and animated throughout by the ardent desire to excel. On the score of mere industry there are few living English writers who have written so much, and none that have produced so much of high quality. Like Byron, his first effort was poetical ("Weeds and Wild Flowers") and a failure. His second was a novel ("Falkland"), and it proved a failure too. A man of weaker nerve would have dropped authorship; but Bulwer had pluck and perseverance; and he worked on, determined to succeed. He was incessantly industrious, read extensively, and from failure went courageously onward to success. "Pelham" followed "Falkland" within a year, and the remainder of Lord Lytton's life was a succession of triumphs.

A certain Premier of England, Lord Beaconsfield, affords a similar instance of the power of industry and application in working out an eminent public career. His first achievements were, like Bulwer's, in literature; and he reached success only through a succession of failures. His "Wondrous Tale of Alroy" and "Revolutionary Epic" were laughed at, and regarded as indications of literary lunacy. But he worked on in other directions, and his "Coningsby," "Sybil" and "Tancred" proved the sterling stuff of which he was made. As an orator, too, his first appearance in the House of Commons was a failure. It was spoken of as "more screaming than an Adelphi farce." Though composed in a grand and ambitious strain, every sentence was hailed with "loud laughter." "Hamlet" played as a comedy were nothing to it. But he concluded with a sentence

which embodied a prophecy. Writhing under the laughter with which his studied eloquence had been received, he exclaimed, "I have begun several times many things, and have succeeded in them at last. I will sit down now, but the time will come when you will hear me." The time did come; and how Disraeli succeeded in at length commanding the attention of the first assembly of gentlemen in the world affords a striking illustration of what energy and determination will do; for Disraeli earned his position by dint of patient industry. He did not, as many young men do, having once failed, retire dejected, to mope and whine in a corner, but diligently set himself to work. He carefully unlearned his faults, studied the character of his audience, practiced sedulously the art of speech, and industriously filled his mind with the elements of parliamentary knowledge. He worked patiently for success; and it came, but slowly; then the House laughed with him instead of at him. The recollection of his early failure was effaced, and by general consent he was at length admitted to be one of the most finished and effective of parliamentary speakers, and finally became the favored Prime Minister of Queen Victoria.

Decision of Character

Is one of the greatest of God's gifts to man, and, as every man has the germ of this quality, it can be cultivated to great advantage. It outstrips even talent and genius in the race for success in life. Thousands and thousands of brilliant men have failed for the want of courage, faith and decision, perishing in the sight of less gifted but more adventurous competitors. As Sidney Smith says, "We must not stand shivering on the brink and thinking of the cold and the danger, but jump in and scramble through as well as we can."

The old poem says:

> "He either fears his fate too much,
> Or his deserts are small,
> That dares not put it to the touch,
> To gain or lose it all."

Decision of character enables one to do the right thing at the right time. Every one knows that

> "There is a tide in the affairs of men
> Which, taken at the flood, leads on to fortune;"

but not every one has the ability to tell the time of flood, and many, after telling it, have lost its advantages through lack of nerve to embark upon it before the ebb came, and the opportunity was lost. In the smoke and din of battle, it was the genius of Napoleon which enabled him to see where one or two bold and rapid movements would secure the advantage; but it was his decision of character which enabled him to profit to the full by the discovery. To be decisive on important occasions, one must keep cool. The Duke of Wellington's calmness never forsook him, even in the most trying emergencies. At sea, one terrible night, the captain of the vessel rushed to the Duke, who was preparing for bed, and announced that the vessel would soon sink. "Then I shall not take off my boots," the imperturbable hero of Waterloo responded as he paused in his preparations for sleep. There is need for this coolness of manner and decision of action in all lines of business. The surgeon, brought face to face with a sudden complication in the case beneath his knife; the lawyer, surprised by the springing of the trap which his wily opponent had prepared for him; the merchant, apprised of a turn in his enterprises that threatens immediate disaster—all are called upon to exercise this quality, and in thousands of cases the dullest man in a company has obtained the prize simply because he grasped it while others were revolving in their minds what they had better do in order to secure it.

Other Causes of Success and Failure.

Attention, application, accuracy, method, punctuality and dispatch are the principal qualities required for the efficient conduct of business of any sort. These, at first sight, may appear to be small matters; and yet they are of essential importance to human happiness, well-being and usefulness. They are little things, it is true; but human life is made up of comparative trifles. It is the repetition of little acts which constitutes not only the sum of human character, but which determines the character of nations; and where men or nations have broken down, it will almost invariably be found that neglect of little things was the rock on which they split. Every human being has duties to be performed, and, therefore, has need of cultivating the capacity for doing them—whether the sphere of action be the management of a household, the conduct of a trade or profession, or the government of a nation.

It is the result of every-day experience that steady attention to matters of detail lies at the root of human progress; and that diligence, above all, is the mother of good luck. Accuracy is also of much importance, and an invariable mark of good training in a man—accuracy in observation, accuracy in speech, accuracy in the transaction of affairs. What is done in business must be well done; for it is better to accomplish perfectly a small amount of work than to half-do ten times as much. A wise man used to say, "Stay a little, that we may make an end the sooner."

Too little attention, however, is paid to this highly important quality of accuracy. As a man eminent in practical science lately observed to us, "It is astonishing how few people I have met with in the course of my experience who can *define a fact* accurately." Yet in business affairs, it is the manner in which even small matters are transacted that often decides men for or against you. With virtue, capacity and good conduct in other respects, the person who is habitually inaccurate cannot be trusted; his work has to be gone over again; and he thus causes an infinity of annoyance, vexation and trouble.

Method is essential, and enables a larger amount of work to be accomplished satisfactorily. "Method," said the Rev. Richard Cecil, "is like packing things in a box; a good packer will get in half as much again as a bad one." Cecil's dispatch of business was extraordinary, his maxim being, "The shortest way to do many things is to do only one thing

at once;" and he never left a thing undone with a view of recurring to it at a period of more leisure.

A French Minister, who was alike remarkable for his dispatch of business and his constant attendance at places of amusement, being asked how he contrived to combine both objects, replied, "Simply by never postponing till to-morrow what should be done to-day." Lord Brougham has said that a certain English statesman reversed the process, and that his maxim was never to transact to-day what could be postponed till to-morrow. Unhappily, such is the practice of many besides that Minister, already almost forgotten; the practice is that of the indolent and the unsuccessful. Such men, too, are apt to rely upon agents, who are not always to be relied upon. Important affairs must be attended to in person. "If you want your business done," says the proverb, "go and do it; if you don't want it done, send some one else."

An indolent country gentleman had a freehold estate producing about five hundred a year. Becoming involved in debt, he sold half the estate, and let the remainder to an industrious farmer for twenty years. About the end of the term the farmer called to pay his rent, and asked the owner whether he would sell the farm. "Will *you* buy it?" asked the owner surprised. "Yes, if we can agree about the price." "That is exceedingly strange," observed the gentleman; "pray, tell me how it happens that, while I could not live upon twice as much land for which I paid no rent, you are regularly paying me two hundred a year for your farm, and are able, in a few years, to purchase it?" "The reason is plain," was the reply; "you sat still and said *Go;* I got up and said *Come:* you lay in your bed and enjoyed your estate; I rose in the morning and minded my business."

Men of business are accustomed to quote the maxim that time is money; but it is more: the proper improvement of it is self-culture, self-improvement and growth of character. An hour wasted daily on trifles or in indolence would, if devoted to self-improvement, make an ignorant man wise in a few years, and, employed in good works, would make his life fruitful and death a harvest of worthy deeds. Fifteen minutes a day devoted to self-improvement will be felt at the end of the year. Good thoughts and carefully gathered experience take up no room, and may be carried about as our companions everywhere, without cost or encumbrance. An economical use of time is the true mode of securing leisure; it enables us to get through business and carry it forward, instead of being driven by it. On the other hand, the miscalculation of time involves us in perpetual hurry, confusion and difficulties; and life becomes a mere shuffle of expedients, usually followed by disaster. Nelson once said, "I owe all my success in life to having been always a quarter of an hour before my time."

Some take no thought of the value of money until they have come to an end of it, and many do the same with their time. The hours are allowed to flow by unemployed, and then, when life is fast waning, they bethink themselves of the duty of making a wiser use of it. But the habit of listlessness and idleness may already have become confirmed, and they are unable to break the bonds with which they have permitted themselves to become bound. Lost wealth may be replaced by industry, lost knowledge by study, lost health by temperance or medicine, but lost time is gone forever.

A proper consideration of the value of time will also inspire habits of punctuality. "Punctuality," said Louis XIV., "is the politeness of kings." It is also the duty of gentlemen, and the necessity of men of business. Nothing begets confidence in a man sooner than the practice of this virtue, and nothing shakes confidence sooner than the want of it. He who holds to his appointment and does not keep you waiting for him, shows that he has regard for your time as well as for his own. Thus, punctuality is one of the modes by which we testify our personal respect for those whom we are called upon to meet in the business of life. It is also conscientiousness, in a measure; for an appointment is a contract, express or implied, and he who does not keep it breaks faith, as well as dishonestly uses other people's time, and thus inevitably loses character. We naturally come to the conclusion that the person who is careless about time is careless about business, and that he is not the one to be trusted with the transaction of matters of importance. When Washington's secretary excused himself for the lateness of his attendance, and laid the blame upon his watch, his master quietly said, "Then you must get another watch or I another secretary."

Napoleon was a thorough man of business. Though he had an immense love for details, he had also a vivid power of imagination, which enabled him to look along extended lines of action, and deal with those details on a large scale with judgment and rapidity. He possessed such knowledge of character as enabled him to select, almost unerringly, the best agents for the execution of his designs. But he trusted as little as possible to agents in matters of great moment, on which important results depended.

Like Napoleon, the Duke of Wellington was a first-rate man of business; and it is not perhaps saying too much to aver that it was in no small degree because of his possession of a business faculty amounting to genius that the Duke never lost a battle. His magnificent business qualities were everywhere felt; and there can be no doubt that, by the care with which he provided for every contingency, and the personal attention which he gave to every detail, he laid the foundations of his great success.

THE STUDY OF CHARACTER IN ITS RELATION TO BUSINESS SUCCESS.

AS TAUGHT BY PHRENOLOGY AND PHYSIOGNOMY.

THE science of Phrenology is based on the theory that the faculties of the mind are shown on the surface of the human skull. It points out those connections and relations which exist between the conditions and developments of the *brain* and the manifestations of the *mind*, discovering each from an observation of the other.

THE ORIGIN OF PHRENOLOGY.

Franz Joseph Gall, born at Tiefenbrunn, in Baden, March 9, 1758, was the first to mark the separate functions of the human mind and trace the location of the respective organs in the human brain. After studying the natural sciences at Strasburg, he graduated as a physician at Vienna in 1785, practicing there for many years. As a boy he had observed that among his schoolmates good memories were invariably indicated by large eyes, and from this he conceived the idea that individual characteristics could be determined by external signs. The result of long-continued observation in schools, prisons, lunatic asylums and other places was the conviction that the brain, and not the heart, was the seat of all mental manifestations. After twenty years of study he decided the location of some twenty distinct mental organs and satisfied himself that their degree of activity could be determined from the shape of the skull. In 1791 he published "Medical and Philosophical Researches on Nature and Art," and in 1796 he began lecturing in Vienna on his novel theories, creating a marked sensation. In 1802 his lectures were prohibited by the Austrian government as dangerous to religion, but in company with Johann Gaspar Spurzheim, he made considerable headway in Central and Northern Europe. His principal work is entitled, "The Anatomy and Physiology of the Nervous System and of the Brain."

FRANZ JOSEPH GALL.

MEASUREMENT OF THE HEAD.

Other things being equal, the size of the head, and of the brain, the different portions of which are called organs, and classified according to their par-

ticular functions, constitutes the principal phrenological condition by which character is determined. Most great men have had great heads. Webster's head measured a little more than 24 inches, and Clay's considerably over 23. Napoleon's reached nearly 24. Hamilton's hat passed over the ears of a man whose head measured 23½. Burke's head was very large; so was Jefferson's, while Franklin's hat passed over the ears of a 24-inch head. Small and average heads often astonish us by their brilliancy and learning, and perhaps eloquence, yet fail in that commanding greatness which impresses and sways.

The general rule laid down for head-measurement of adults is as follows: The smallest size compatible with fair talents, 20¼; moderate, 20¾ to 21¼; average, 21¼ to 22; full, 22 to 22¾; large, 22¾ to 23¾; very large, above 23¾. Female heads ½ to ¾ below these averages; but as some heads are round, others long, some low and others high, these measurements cannot be depended upon to carry any accurate idea of the actual quantity of brain.

In judging of the manifestations of the mind, the *activity* of the brain is a consideration quite as important as its size. While size gives power or momentum of intellect and feeling, activity imparts quickness, intensity, willingness and even a restless desire to act, which go far to produce efficiency of mind, with accompanying effort and action. Under the heads of size, given below, the effects of the different degrees of *activity* are presented.

Very Large. One having a very large head, with activity *average* or *full*, on great occasions, or when his powers are thoroughly roused, will be truly great, but ordinarily will seldom manifest any remarkable amount of mind or feeling, and perhaps pass through life with the credit of being a person of good natural abilities and judgment, yet nothing more. With activity *great*, strength, and the intellectual organs the same, will be a natural genius, endowed with very superior powers of mind and vigor of intellect; and even though deprived of the advantages of education, his natural talents will surmount all obstacles. With activity *very great*, and the organs of practical intellect and of the propelling powers large or very large, will possess the first order of natural abilities, manifest a clearness and force of intellect that will astonish the world, and a power of feeling that will carry all before him, and, with proper cultivation, enable him to become a bright star in the firmament of intellectual greatness; his mental enjoyments will be most exquisite, and his sufferings equally excruciating.

Large. One having a large-sized brain, with activity *average*, will *possess* considerable energy of intellect and feeling, yet seldom manifest it unless it is brought out by some powerful stimulus. With activity *full*, will be endowed with an uncommon amount of the mental power, and be capable of doing a *great* deal, yet require considerable to awaken him to that vigorous effort of mind of which he is capable. If the perceptive faculties are strong or very strong, and his natural powers put in vigorous requisition, he will manifest a vigor and energy of intellect and feeling quite above mediocrity. With activity *great* or *very great*, will exercise a commanding influence over those minds with which he comes in contact; when he enjoys, will enjoy intensely, and when he suffers, suffer equally so; be susceptible of strong excitement, and with the organs of the propelling powers and of practical intellect large or very large, will possess all the mental capabilities for conducting a large business, for rising to eminence, if not to pre-eminence, and discover great force of character and power of intellect and feeling. With activity *moderate*, when powerfully excited, will evince considerable energy of intellect and feeling, yet be too indolent and too sluggish to do much; lack clearness and force of idea and intensity of feeling; unless literally driven to it, will not be likely to be much or do much, and yet actually *possess* more vigor of mind and energy of feeling than he will manifest. With activity *small*, will border on idiocy.

Full. One having a full-sized brain, with activity *great* or *very great*, with the organs of practical intellect and of the propelling powers large or very large, although he will not possess *greatness* of intellect, nor a deep, strong mind, will be very clever; have considerable talent, and that so distributed that it will show to be *more* than it really is; is capable of being a good scholar, doing a fine business, and with advantages and application, of distinguishing himself somewhat, yet he is inadequate to a great undertaking, can not sway an extensive influence, nor be really great. With activity *full* or *average*, will do only tolerably well, and manifest only a common share of talents. With activity *moderate* or *small*, will neither be nor do much worthy of notice.

Average. One having an average-sized brain, with activity only *average*, will discover only an ordinary amount of intellect; be inadequate to an important undertaking, yet, in a small sphere, or one that requires only a mechanical routine of business, may do well. With activity *great* or *very great*, and the organs of the propelling powers and of practical intellect large or very large, is capable of doing a fair business and may pass for a man of some talent. With *moderate* or *small* activity, will hardly have common sense.

Moderate. One with a head of only moderate size, combined with *great* or *very great activity*, and the organs of the propelling powers and of practical intellect, large, will possess a tolerable share of intellect. With others to plan for and direct him, will execute to advantage, yet be unable to do much alone. Will have a very active mind, and be quick of perception, yet, after all, lack momentum both of mind and character. With activity only *average* or *fair*, will have but a moderate *amount* of intellect. With activity *moderate* or *small*, will be an *idiot*.

Small or Very Small. One with a very small head, no matter what may be the activity of his mind, will be incapable of intellectual effort, of comprehending even easy subjects, or of experiencing much pain or pleasure; in short, will be a natural fool.

PHYSIOGNOMY, OR FACE-READING.

PHRENOLOGISTS do not claim that the system in which they believe is perfect, but that they have demonstrated the following facts beyond question: That the brain is the organ through which the mind manifests itself, and that each faculty of the mind has a separate and distinct organ in the brain; that the organs relating to each other are grouped together in the brain; that, other things being equal, the power of the brain may be estimated by its size; that the manifestations of brain are affected by the bodily conditions; that every faculty of the mind is devised for a good purpose, and that every faculty may be enlarged and cultivated by exercise, or may be lessened by neglect. While differences of opinion may exist as to the right which Phrenology has to be considered one of the exact sciences, all mankind tacitly acknowledges the fact that the face is a reliable reflex of the mind and character. Upon meeting a stranger we instinctively scan his face to learn whether we will like or dislike him. Our judgment is instantaneous, the impression being favorable or unfavorable. To what instinct or fact do we ascribe this? We of course judge by the expression of the face—in other words, by the *physiognomy*. This unfailing index tells whether he is intellectual or dull, kind or brutish, strong or weak of mind.

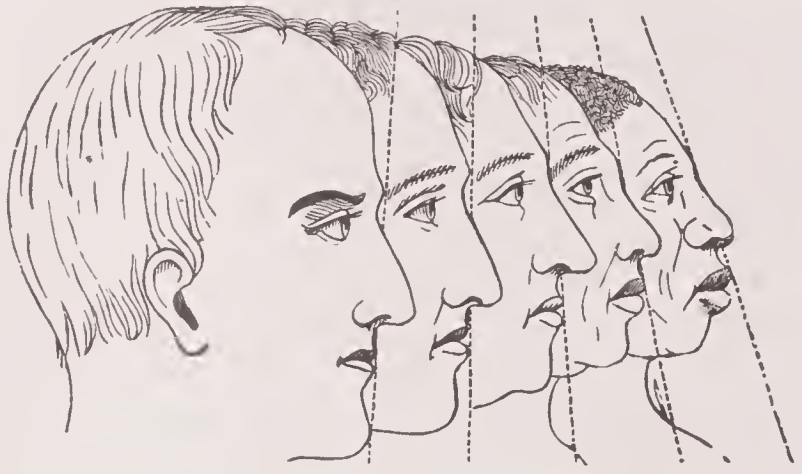


FIG. 1. THE GRADES OF INTELLIGENCE.

FIG. 3.

Beyond and outside of all physical characteristics, it is claimed that the mental peculiarities of the individual can be seen and known in the tone of the voice, the rapidity of speech, the sprightliness of motion, the grasp of the hand, etc.

The five faces given above, in Figure 1, illustrate the various grades of intelligence.

The face at the left is easily recognized as one of intellectual vigor. The one to the right, with its thick lips and retreating chin and forehead, bears all the evidence of intellectual feebleness. The intervening faces represent the gradations from a high to a low state of intelligence, and our opinion as to the relative intellectuality of these five faces is instantaneously formed by the shape of the head, the nose, the chin and the lips.

In the next illustrations are contrasted a pair of faces whose features and expression exemplify boldly the theory of physiognomy. Figure 2, with its straight, darting, frank eye, its intellectual Grecian nose, forehead which bears the stamp of strong perceptive faculty, firm closed lips and resolute chin, at once impresses the beholder with the presence of a person of strong and clearly defined characteristics, which have been improved by cultivation. Figure 3, on the other hand, bears all the evidences of vulgarity and ignorance, untempered by culture's softening influences. The smoothly rounded and retreating brow, the small and sunken eye, the coarse, misshapen nose, thick and sensuous lips, and weak, receding chin, indicate at a glance a nature which is strong only in vulgar and vicious propensities, and lacking almost entirely the intellectual and moral power to restrain them.

THE TEMPERAMENTS.

One of the arguments frequently used against the claim that mental ability can be determined by the size of the brain is the fact that men with small heads often accomplish more than those who have heads and bodies of much greater size.

The reply of phrenologists to this is that there are four temperaments, viz.: the *Lymphatic*, the *Sanguine*, the *Bilious* and the *Nervous;* and that every person possesses more or less of these in his physical constitution.

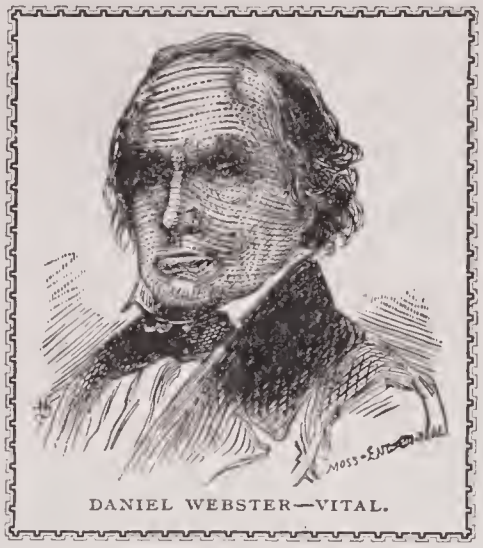
FIG. 2.

The Lymphatic.

The LYMPHATIC temperament is indicated by the predominance of stomach, which makes roundness of form, softness of flesh, a weak pulse and a languid condition of the system. With such the hair is light, complexion pale, eyes blue and dull.

The Sanguine.

The SANGUINE temperament largely depends upon a preponderance of the arterial system. He who possesses it will have light hair and blue eyes, will be fairly rounded in muscle, will be ardent, active and enthusiastic.



DANIEL WEBSTER—VITAL.

The Bilious.

With the BILIOUS temperament the liver is taken as the basis. This is indicated by black eyes and hair, a dark and tawny skin, solid and spare flesh, angular form, great energy and activity, and, if coupled with superior mental development, large power.

The Nervous.

The NERVOUS temperament rests upon a preponderance of the nervous system. Those possessing it are known by their delicacy of health, thin and angular features, light, thin hair, rapid movements and mental activity.

ANDREW JACKSON—MOTIVE.

COMBINATION OF TEMPERAMENTS.

Fortunately these temperaments are generally found blended more or less with each other, and out of the combination phrenologists designate another class of temperaments called the *Motive*, the *Vital* and the *Mental*.

The Motive.

The MOTIVE temperament, corresponding to the Bilious, has a strong, bony system, an abundance of muscle, dark, wiry hair, dark eyes, rough, prominent features, dark complexion and great executive force. The Motive temperament, in its influence on mental manifestation, is favorable to dignity, sternness, determination, power of will and desire to govern and control others. It gives slowness of passion, desire for heavy labor or large business, and a liability to miasmatic diseases.

The Vital.

The VITAL temperament is evinced by large lungs, a powerful circulatory system, and large digestive and assimilating organs, abundance of blood and animal spirits. The form is plump and limbs rounded and tapering, the complexion light or florid, with an inclination to take on flesh as age advances. This temperament is a combination of the Sanguine and the Lymphatic, as set forth by Combe and other writers; but as the digestive and assimilating organs, which constitute the Lymphatic temperament, together with the respiratory and circulatory systems, which constitute the Sanguine temperament, are really vital organs, their combination into one, under the name of Vital temperament, is both convenient and philosophical.

MME. DE STAEL—A PERFECT UNION AND BALANCE OF THE TEMPERAMENTS.

The Mental.

The MENTAL temperament depends on the development of the brain and nervous system, and is indicated by mental activity, light frame, thin skin, fine hair, delicate features, and large brain as compared with the body. It imparts sensitiveness and vivacity to the mind, a disposition to think, study, or follow some light and delicate business.

HENRY CLAY—MENTAL.

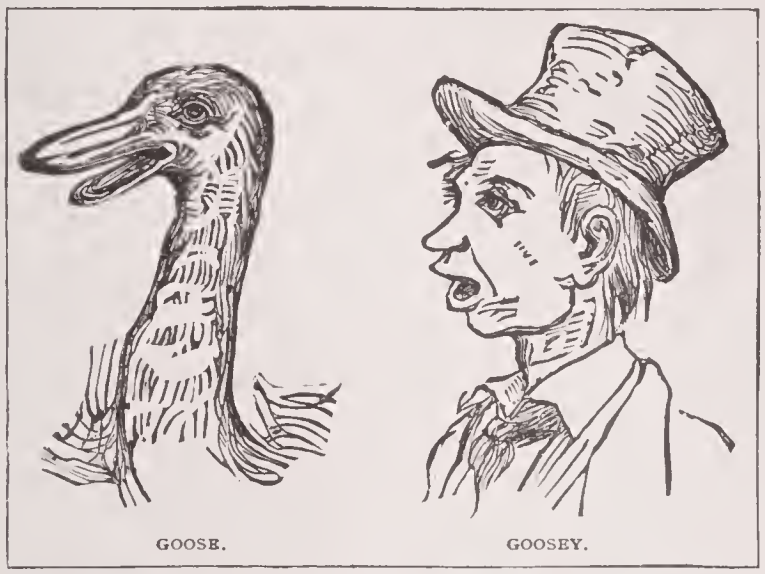
The structures which, in excess or great predominance, determine these temperaments, exist in each individual. In one person one temperament may predominate; in the next, another. They can be modified by proper training. When combined, they give harmony of character and excellent health.

The Brain.

There are still other conditions upon which the phrenologist rests his case, without which he admits the *mental* power of the individual cannot be determined. It is claimed, for instance, that a loose and flabby flesh reveals a soft and spongy brain, and that a close-knit frame and firm flesh show intellectual power. Then, again, the state of the health must be taken into consideration. In perfect health the brain is strong.

COMPARATIVE * PHYSIOGNOMY.

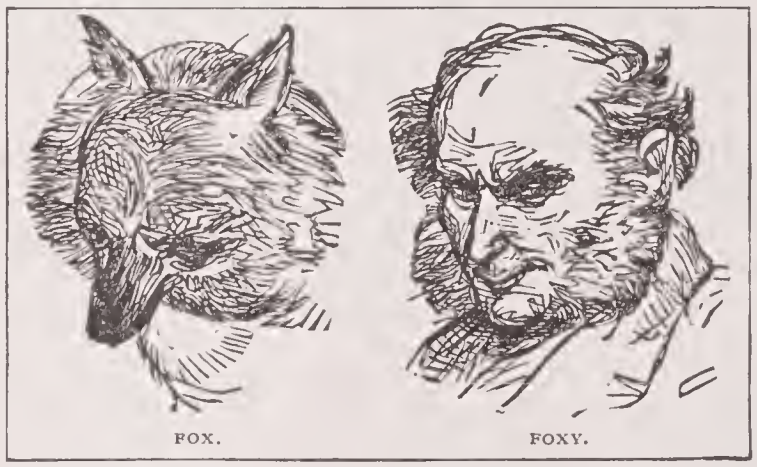
FACIAL RESEMBLANCES BETWEEN MEN AND ANIMALS.



GOOSE. GOOSEY.

MAN is distinguished from the lower animals by his reasoning powers and spiritual sentiments. The more these are developed and refined, the greater his superiority over the rest of creation. But there are many things which man has in common with the inferior creatures. Both have the senses of sight, hearing, taste, smell and touch; in both has been implanted love of life and the instinct of self-preservation. Affection and anger, caution, secretiveness, acquisitiveness, combativeness and destructiveness, in great or small degree, are manifested in animals as in men. The fox is known for his cunning. It does not surprise us, therefore, when we see in the face of a wily, crafty man, a strong resemblance to the wiliest of animals. In the illustrations the artist has depicted some striking resemblances, showing how those qualities and instincts which man has in common with the lower animals are often plainly stamped on the human face.

"What a goose!" is an expression we often hear, and no one will doubt that the young man depicted in the first of the comparative illustrations is just the kind that will be easily "plucked" if he go "gabbling" about.



FOX. FOXY.

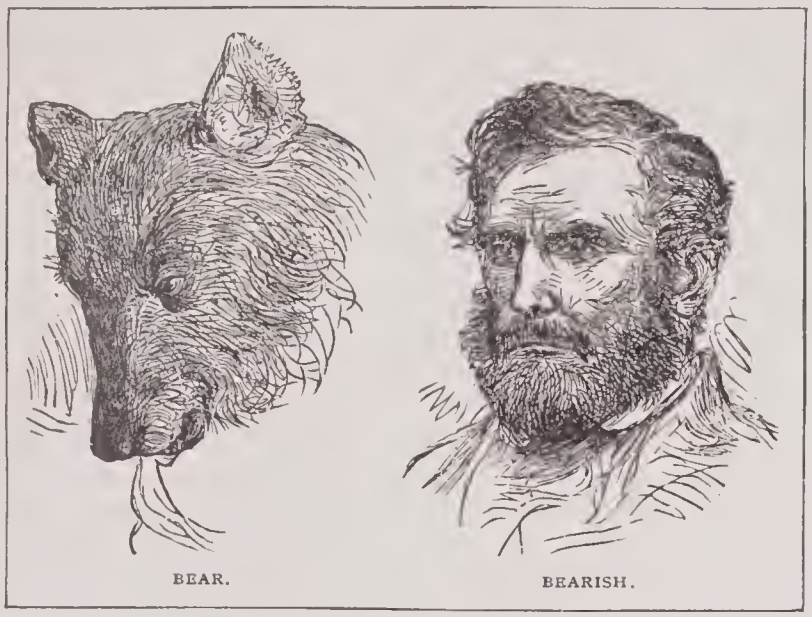
The lion is noted for his strength and consciousness of power He is ferocious and bloodthirsty, but also capable of generosity and magnanimity. Disdaining cunning devices, he leaps upon his prey with terrible and resistless impetuosity. These characteristics are apparent in the face of his human counterpart, in which, though gentleness and amiability may be lacking, there are certainly depicted nobility and consciousness of power. Such a man, though he may crush the strong, will spare the weak and defenseless, and, though he may take counsel of his sagacity, will never descend to low cunning.

When we call one "a great bear," we hardly mean to pay him a compliment. It may be inferred that he is somewhat rough, coarse and uncouth—hardly a gentleman—but he may have his good qualities and be a useful member of society. One may be bearish and yet not unbearable. The ancients seem to have had considerable respect for the bear, at least in the feminine gender, for we have from the Latin the not uncommon name of *Ursula*, meaning a she-bear.

We have all seen people that may with great propriety be called "hoggish," though a resemblance as strong as that depicted in the illustration is but seldom met with. The characteristics of the hog are selfishness, filthiness, acquisitiveness, and, in a low sense, *in*quisitiveness. The hoggish man is greedy, makes a god of

LION. LEONINE.

his belly, and, however well supplied his table may be, he has only enough for himself. Selfishness, however, is natural and inherited by most men, while kindness and generosity are more often the result of culture. Were children not *taught* to be generous, to divide, there would be far more selfishness in the world than there is.

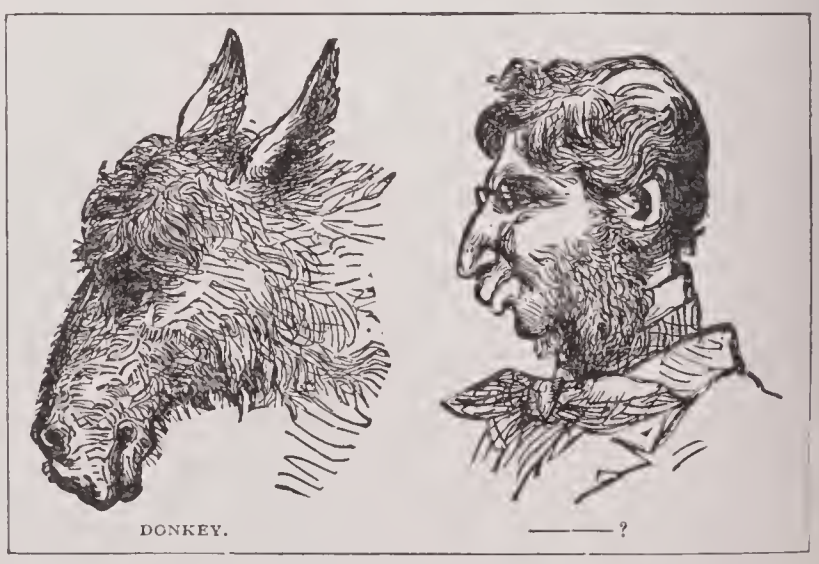


BEAR. BEARISH.

We read in one of Shakespeare's comedies of a certain character who loudly lamented that no reporter was present to write him down an ass.* In our day the reporter is generally at hand, and men who "make donkeys of themselves" are often "written down" in that way without even being consulted in the matter. There is little harm done, of course, for if left alone they are sure to make the record themselves. Mulishness or obstinacy has ruined many a man, and where there is little culture and much ignorance. we may look for conceit, prejudice and stupidity.

HOG. HOGGISH.

The dog will take on something of the spirit of his master, will even come to slightly resemble him by constant association. Hogarth was always painted with his dog, and it has been said that ultimately he came to resemble the animal, although it is more than probable that the latter, by remaining almost constantly in the presence of his master and endeavoring in a doggish way to understand his thoughts, words and expressions, had really come, in a limited manner, to resemble the great humorous artist. We cannot believe that the man was lost in the dog, but it is not entirely unreasonable to suppose that the dog had taken on something of the man.



DONKEY. ——?

The ancient physiognomists laid great stress upon the real or fancied resemblances existing between men and animals, but their speculations are of no real value. Modern writings on the subject are also mainly fanciful, and calculated to amuse rather than to instruct. We shall claim no more for this chapter, but shall be satisfied if the reader has been pleasantly entertained, the organ of mirthfulness developed, and the upward curving lines at the corner of the mouth improved. However, while admitting that Comparative Physiognomy is still in a rudimentary state, it cannot be doubted that there must be some foundation in truth for the common belief that animal resemblances may be traced among men and women, and that they have some value, little or great, as signs of character.

A COMPARISON.

As the face of a watch presents to the eye signs of the movements going on within, and ceases to tell the hour whenever those movements cease, so the "human face divine" is an index of internal emotions and loses all power to change its expression as soon as the vital powers are withdrawn. Behind the face of the watch is the machinery — which *is* the watch. Behind the human countenance are the complicated apparatuses of bones, muscles and nerves, which form the human machinery; and behind this human machinery there is what the watch has not — the soul, the mind—the controlling intelligence which precedes the living organism to which it gives rational activity.

"The active and plastic principle is the soul—the true man—of which the body is but the external expression and instrument."

*"O, that he were here to write me down an ass!"—*Much Ado About Nothing.*

How to Read Character.

A SYNOPSIS OF THE VARIOUS ORGANS OF THE BRAIN.

IT is only by a careful study of all the organs in combination that one may come to understand the various mental characteristics as shown by Phrenology. The accompanying diagrams give the exact location of the organs, and through the kindness of Messrs. Fowler & Wells we are enabled to give on the following pages a brief description of them, accompanied by an explanation of their influence on the character as determined by their size.

1.* Amativeness.

Reciprocal attachment and love of the sexes. **Very large**, experiences a power and activity of sexual love almost uncontrollable. **Large**, is an ardent admirer and tender lover of the other sex; feels strong sexual impulses, desire to marry, etc. **Full**, feels much love and tenderness for the opposite sex; yet, with activity great, has excitability rather than power. **Average**, loves the other sex, and enjoys their society well. **Moderate**, is rather deficient in sexual love, attentions to the opposite sex, etc. **Small**, feels little sexual or connubial love, or desire to marry. **Very small**, seldom or never experiences this feeling.

2. Philoprogenitiveness.

Parental attachment; love of one's offspring. **Very large**, is passionately fond of all children; a general favorite with them; idolizes his own children; is liable to overindulge them. **Large**, feels strong, tender parental love; is devotedly attached, and very kind to his own if not all children. **Full**, is tender, but not indulgent; fond of his own children, yet not partial to others. **Average**, loves his own children, yet not fondly; dislikes those of others. **Moderate**, loves his own children some, yet bears little from them. **Small**, feels little interest in even his own children. **Very small**, has no parental love; hates all children.

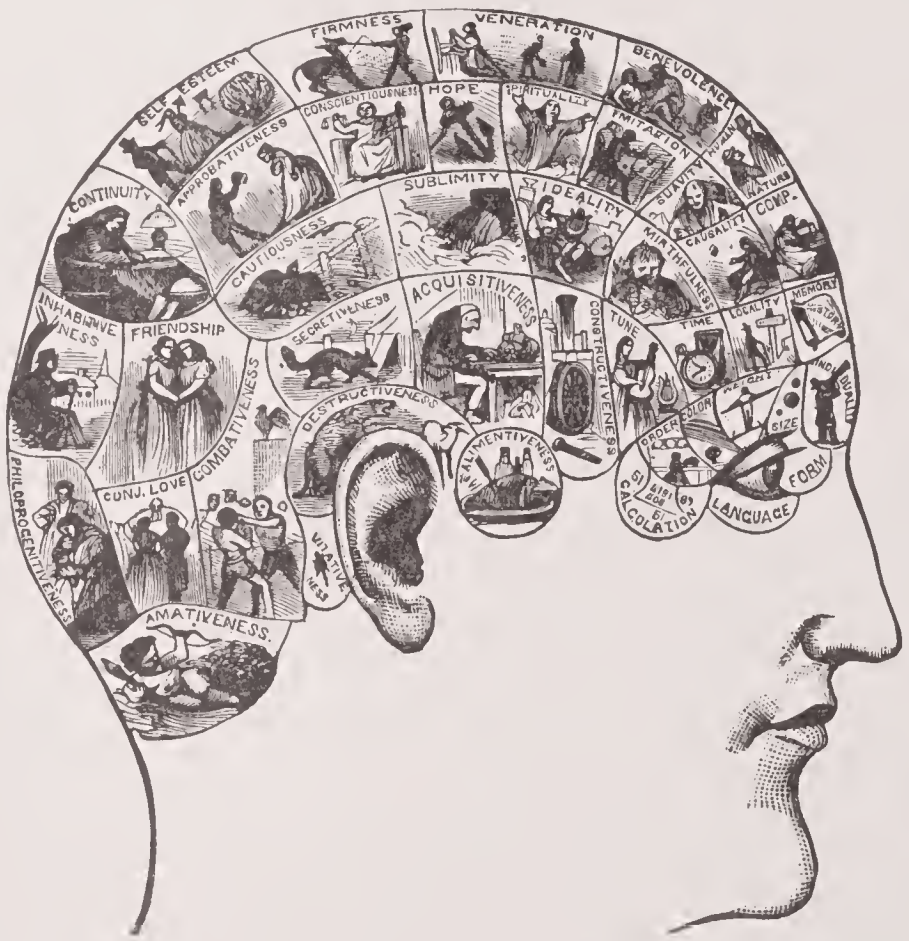


FIG. 4. THE PHRENOLOGICAL ORGANS SYMBOLICALLY ILLUSTRATED.

The above chart shows the location of the phrenological organs, and in the field of each organ its character is symbolically illustrated. Thus *Firmness* is indicated by the stability of the pyramid and the obstinacy of the mule, or the man who is contending with him; *Veneration*, by the attitude of prayer, and the courtesy of the boy toward old age; *Benevolence*, by the Good Samaritan; *Cautiousness*, by the frightened hen that fears detriment to her chicks; *Secretiveness*, by the fox; *Acquisitiveness*, by the miser, etc. These symbols are intended to make vivid the impression and thus help the memory.

3. Adhesiveness.

Friendship; social feeling; love of society. **Very large**, loves friends with indescribable tenderness and strength of feeling; will sacrifice almost everything upon the altar of friendship. **Large**, is eminently social; an ardent, sincere friend; enjoys friendly society extremely; forms strong if not hasty attachments. **Full**, is highly social, yet not remarkably warmhearted. **Average**, is quite friendly, yet will not sacrifice much for friends. **Moderate**, loves friends some, yet self more; quits friends often. **Small**, is unsocial, coldhearted; likes and is liked by few or none. **Very small**, is a stranger to friendly social feeling.

A. Conjugality.

Monogamy, union for life, first love, the pairing instinct. **Very large**, selects some one of the opposite sex as the sole object of love; concentrates the whole soul on the single one beloved, magnifying excellences and overlooking faults; longs to be always with that one; is exclusive, and requires a like exclusiveness; is true and faithful in wedlock, if married in spirit. **Large**, seeks one, and but one, sexual mate, and

* The numbers refer to Fig. 5.

feels perfectly satisfied in the society of that one. **Full**, can love cordially, yet is capable of changing the object. **Average**, is disposed to love but one for life, yet, with secretiveness and approbativeness large, and conscientiousness only full, is capable of coquetry. **Moderate**, is somewhat disposed to love only one, yet allows stronger faculties to interrupt that love. **Small**, has but little conjugal love and seeks the promiscuous society and affection of the opposite sex, rather than a single partner for life. **Very small**, manifests none of this faculty.

4. Inhabitiveness.

Love of home as such; attachment to the place where one has lived; unwillingness to change it; patriotism. **Very large**, regards home as the dearest, sweetest spot on earth; feels homesick when away; dislikes changing residences; is preeminently patriotic; thinks of his native place with intense interest. **Large**, soon becomes strongly attached to the place in which he lives; loves home and country dearly; leaves them reluctantly; is unhappy without a home of his own. **Full**, loves home well, yet does not grieve much on leaving it. **Average**, forms some, though not strong, local attachments. **Moderate**, has some, but not great, regard for home as such. **Small, or very small**, makes any place home.

5. Concentrativeness.

Unity and continuity of thought and feeling; power of enure and concentrated application to one thing. **Very large**, places his mind upon subjects slowly; cannot leave them unfinished, nor attend to more than one thing at once; is very tedious; has great application, yet lacks intensity and point. **Large**, is able and inclined to apply his mind to one, and but one, subject for the time being, till it is finished; changes his mental operations with difficulty; is often proix. **Full**, is disposed to attend to but one thing at once, yet can turn rapidly from thing to thing; is neither disconnected nor prolix. **Average**, possesses this power to some, though to no great, extent. **Moderate**, loves and indulges variety and change of thought, feeling, occupation, etc.; is not confused by them; rather lacks application; has intensity, but not unity, of the mental action. **Small**, craves novelty and variety; has little application; thinks and feels intensely, yet not long on anything; jumps rapidly from premise to conclusion; fails to connect and carry out his ideas. **Very small**, is satisfied only with constant succession.

E. Vitativeness.

Love of existence as such; dread of annihilation. **Very large**, however wretched, shrinks from and shudders at the thought of dying and being dead; feels that he cannot give up existence. **Large**, loves and clings tenaciously to existence for its own sake; craves immortality and dreads annihilation, even though miserable. **Full**, desires life, but not eagerly, from love of it and of pleasure. **Average**, is attached to life and fears death, yet not a great deal. **Moderate**, loves life, yet is not very anxious about living. **Small or very small**, heeds not life or death, existence or annihilation.

6. Combativeness.

Feeling of resistance, defence, opposition, boldness, willingness to encounter, courage, resentment, spirit. **Very large**, is powerful in opposition, prone to dispute, attack, etc.; contrary; has violent temper, governs it with difficulty. **Large**, is resolute and courageous, spirited and efficient as an opponent, quick and intrepid in resistance, loves debate, boldly meets, if he does not court, opposition. **Full**, seldom either courts or shrinks from opposition; when roused is quite energetic; may be quick-tempered, yet is not contentious. **Average**, is pacific, but when driven to it, defends his rights boldly. **Moderate**, avoids collision; is rather pacific and inefficient. **Small**, has feeble resistance, temper, force, etc.; is cowardly. **Very small**, withstands nothing; is chicken-hearted, an arrant coward.

7. Destructiveness.

Executiveness, indignation, force, severity, sternness; a destroying, pain-causing disposition. **Very large**, when provoked, is vindictive, cruel, disposed to hurt, take revenge, etc.; bitter and implacable as an enemy; very forcible. **Large**, when excited, feels deep-toned indignation; is forcible and disposed to subdue or destroy the cause of his displeasure. **Full**, can, but is loth to, cause or witness pain or death; has sufficient severity, yet requires considerable to call it out. **Average**, has not really deficient, yet none too much, indignation. **Moderate**, is mild, not severe or destructive enough; when angry, lacks power; can hardly cause or witness pain or death. **Small**, would hardly hurt one if he could, or could if he would; has so feeble anger that it is derided more than feared. **Very small**, is unable to cause, witness or endure pain or death.

8. Alimentiveness.

Appetite for sustenance; cause of hunger. **Very large**, sets too much by the indulgence of his palate; eats with the keenest appetite; perhaps "makes a god of his belly." **Large**, has an excellent appetite, a hearty relish for food, drink, etc.; enjoys them much; is a good liver; not dainty. **Full**, has a good appetite, yet can govern it; is not greedy. **Average**, enjoys food well, but not very well; hence is particular. **Moderate**, has not a good, nor very poor, but rather poor, appetite. **Small or very small**, is dainty, mincing, particular about food; eats with little relish.

9. Acquisitiveness.

Love of acquiring and possessing property as such; desire to save, lay up, etc.; innate feeling of mine and thine, of a right to possess and dispose of things. **Very large**, makes money his idol; grudges it; is tempted to get it dishonestly; penurious, sordid, covetous, etc. **Large**, has a strong desire to acquire property; is frugal, saving of money, close and particular in his dealings, devoted to money-making, trading, etc.; generally gets the value of his money. **Full**, values property, both for itself and what it procures, yet is not penurious; is industrious and saving, yet supplies his wants. **Average**, loves money, but not greatly; can make it, but spends freely. **Moderate**, finds it more difficult to keep than to make money; desires it more to supply wants than to lay up; is hardly saving enough. **Small**, will spend money injudiciously; lays up little; disregards the price of things. **Very small**, cannot be taught the value or use of money.

10. Secretiveness.

Desire and ability to secrete, conceal, etc. **Very large**, seldom appears what he is, or says what he means; often equivocates and deceives; is mysterious, dark, cunning, artful, given to double-dealing, eye-service, etc. **Large**, seldom discloses his plans, opinions, etc.; is hard to be found out; reserved; non-committal. **Full**, can keep to himself what he wishes to, yet is not cunning. **Average**, is not artful nor very frank; is generally open; can conceal. **Moderate**, is quite candid and open-hearted; loves truth; dislikes concealment, underhand measures, etc.; seldom employs them. **Small**, speaks out just what he thinks; acts as he feels; does not wish to learn or tell the secrets of others, yet freely tells his own; is too plain-spoken and candid. **Very small**, has a transparent heart.

11. Cautiousness.

Carefulness; provision against danger. **Very large**, hesitates too much; suffers greatly from groundless fears; is timid, easily frightened, etc. **Large**, is always watchful; on the look-out; careful, anxious, solicitous; provident against real and imaginary danger, etc. **Full**, has prudence and forethought, yet not too much. **Average**, has some caution, yet hardly enough for success. **Moderate**, is rather imprudent, hence unlucky; liable to misfortunes caused by carelessness; plans too imperfectly for action. **Small**, acts impromptu; disregards consequences; fears nothing; is imprudent, luckless, often in hot water. **Very small**, is destitute of fear and forethought.

12. Approbativeness.

Sense of honor; regard for character; ambition; love of popularity, fame, distinction, etc. **Very large**, regards his honor and character as the apple of his eye; is even morbidly sensitive to praise and censure; over-fond of show, fashion, praise, style, etc.; extremely polite, ceremonious, etc. **Large**, sets everything by character, honor, etc.; is keenly alive to the frowns and smiles of public opinion, praise, etc.; tries to show off to good advantage; is affable, ambitious, apt to praise himself. **Full**, desires and seeks popularity and feels censure, yet will neither deny nor trouble himself to secure or avoid either. **Average**, enjoys approbation, yet will not sacrifice much to obtain it. **Moderate**, feels reproach some, yet is little affected by popularity or unpopularity; may gather the flowers of applause that are strewed in his path, yet will not deviate from it to collect them. **Small**, cares little for popular frowns or favors; feels little shame; disregards and despises fashions, etiquette, etc.; is not polite. **Very small**, cares nothing for popular favor.

13. Self-Esteem.

Self-respect; high-toned, manly feeling; innate love of personal liberty, independence, etc.; pride of character. **Very large**, has unbounded self-confidence; endures no restraint; takes no advice; is rather haughty, imperious, etc. **Large**, is high-minded, independent, self-confident, dignified, his own master; aspires to be and do something worthy of himself; assumes responsibilities; does few little things. **Full**, has much self-respect; pride of character; independence. **Average**, respects himself, yet is not haughty. **Moderate**, has some self-respect and manly feeling, yet too little to give ease, dignity, weight of character, etc.; is too trifling. **Small**, lets himself down; says and does trifling things; associates with inferiors; is not looked up to; lacks independence. **Very small**, is servile, low-minded, destitute of self-respect.

14. Firmness.

Decision, stability, fixedness of character, etc. **Very large**, is wilful, and so tenacious and unchangeable of opinion, purpose, etc., that he seldom gives up anything. **Large**, may be fully relied on; is set in his own way; hard to be convinced or changed at all; holds on long and hard. **Full**, has perseverance enough for ordinary occasions, yet too little for great enterprises; is neither fickle nor stubborn. **Average**, has some decision, yet too little for general success. **Moderate**, gives over too soon; changes too often and too easily; thus fails to effect what greater firmness would do. **Small or very small**, lacks perseverance; is too changeable to be relied upon.

15. Conscientiousness.

Innate feeling of duty, accountability, justice, right, etc.; moral principle; love of truth. **Very large**, is scrupulously exact in matters of right; perfectly honest in motive; always condemning self and repenting; makes duty everything, expediency nothing. **Large**, is honest; faithful; upright at heart; moral in feeling; grateful; penitent; means well; consults duty before expediency; loves, and means to speak, the truth; cannot tolerate wrong. **Full**, strives to do right, yet sometimes yields to temptation; resists besetting sins, but may be overcome, and then feels remorse. **Average**, has right intentions, but their influence is limited. **Moderate**, has considerable regard for duty in feeling, but less in practice; justifies himself; is not very penitent, grateful or forgiving; often temporizes with principle; sometimes lets interest rule duty. **Small**, has few conscientious scruples; little regard for moral principle, justice, duty, etc. **Very small**, does not feel the claims of duty or justice.

16. Hope.

Anticipation; expectation of future happiness, success, etc. **Very large**, has unbounded hopes; builds castles in the air. **Large**, expects, attempts and promises a great deal; is generally sanguine, cheerful, etc.; rises above present troubles; though disappointed, hopes on still; views the brightest side of prospects. **Full**, is quite sanguine, yet realizes about what he expects. **Average**, has some, but reasonable, hopes; is seldom elated. **Moderate**, expects and attempts too little; succeeds beyond his hopes; is prone to despond; looks on the darker side. **Small**, is low-spirited; easily discouraged; fears the worst; sees many lions in his way; magnifies evils; lacks enterprise. **Very small**, expects nothing good; has no hope of the future.

17. Spirituality.

Belief in the supernatural; credulity. **Very large**, is very superstitious; regards most things with wonder. **Large**, believes and delights in the supernatural, in dreams, ghosts, etc.; thinks many natural things supernatural. **Full**, is open to conviction; rather credulous; believes in divine providences, forewarnings, the wonderful, etc. **Average**, believes some, but not much, in wonders, forewarnings, etc. **Moderate**, believes but little that cannot be accounted for yet is open to

conviction; is incredulous, but listens to evidence. **Small,** is convinced only with difficulty; believes nothing till he sees facts, or why and wherefore, not even revelation farther than a reason is rendered; is prone to reject new things without examination. **Very small,** believes little else than his senses.

18. Veneration.

The feeling of worship for a Supreme Being; respect for religion and things sacred, and for superiors. **Very large,** is eminent, if not pre-eminent, for piety, heart-felt devotion, religious fervor, seriousness, love of divine things, etc. **Large,** loves to adore and worship God, especially through his works; treats equals with respect and superiors with deference. **Full,** is capable of much religious fervor and devotion, yet is not habitually serious; generally treats his fellow-men civilly. **Average,** may feel religious worship, yet little respect for men. **Moderate,** disregards religious creeds, forms of worship, etc.; places religion in other things; is not serious nor respectful. **Small,** feels little religious worship, reverence, respect, etc. **Very small,** seldom if ever adores God.

19. Benevolence.

Desire to see and make sentient beings happy; kindness. **Very large,** does all the good in his power; gladly sacrifices self upon the altar of pure benevolence; scatters happiness wherever he goes; is one of the kindest-hearted of persons. **Large,** is kind, obliging; glad to serve others, even to his injury; feels lively sympathy for distress; does good to all. **Full,** has a fair share of sympathetic feeling, and some, though not great, willingness to sacrifice for others. **Average,** has kind fellow-feeling without much active benevolence. **Moderate,** has some benevolent feeling, yet too little to prompt to much self-denial; does good only when he can without cost. **Small,** feels little kindness or sympathy; is almost deaf to the cries of distress; hard-hearted, selfish, etc. **Very small,** is destitute of all humanity and sympathy.

20. Constructiveness.

Mechanical dexterity and ingenuity; desire and ability to use tools, build, invent, employ machinery, etc. **Very large,** is a mechanic of the first order; a true genius. **Large,** shows great natural dexterity in using tools, executing mechanical operations, working machinery, etc.; loves them. **Full,** has fair mechanical ingenuity, yet no great natural talent or desire to make things; with practice will do well; without it, little. **Average,** has some, yet not great, relish for, and tact in using tools. **Moderate,** with much practice, may use tools quite well, yet dislikes mechanical operations; owes more to art than nature. **Small,** hates, and is awkward and bungling in, using tools, etc. **Very small,** has no mechanical skill or desire.

21. Ideality.

Imagination; taste; fancy; love of perfection; poetry, polite literature, oratory, the beautiful in nature and art, etc. **Very large,** often gives rein to his erratic imagination; experiences revellings of fancy, ecstasy, rapture of feeling, enthusiasm. **Large,** has a lively imagination; great love of poetry, eloquence, fiction, good style, the beauties of nature and art. **Full,** has refinement of feeling, expression, etc., without sickly delicacy; some love of poetry, yet not a vivid imagination. **Average,** has some taste, though not enough to influence him much. **Moderate,** has some, but not much imagination; is rather plain in expression, manners, feeling, etc.; dislikes poetry, finery, etc. **Small,** or **very small,** lacks taste, niceness, refinement, delicacy of feeling, etc.

B. Sublimity.

Conception of grandeur; sublime emotions excited by contemplating the vast, magnificent or splendid in nature or art. **Very large,** is a passionate admirer of the wild and romantic; feels the sublimest emotions while contemplating the grand or awful in nature. **Large,** admires and enjoys scenery, a vast prospect, etc., exceedingly; hence, enjoys travelling **Full,** enjoys magnificent scenes well, yet not remarkably so. **Average,** sometimes, but not to a great degree, experiences this feeling. **Moderate,** has some, though not at all vivid, emotions of this kind. **Small** or **very small,** discovers little to awaken this feeling.

22. Imitation.

Disposition and ability to take pattern, imitate. **Very large,** can mimic, act out and copy almost anything; describe, relate anecdotes, etc., to the very life; has a theatrical taste and talent; seldom speaks without gesturing. **Large,** has a great propensity and ability to copy, take pattern from others, do what he sees done, etc.; needs but one showing; gesticulates much; describes and acts out well. **Full,** with effort, copies some, but not well; cannot mimic. **Average,** copies some, yet too little to deserve or excite notice. **Moderate,** cannot mimic at all can copy, draw, take pattern, etc., only with difficulty; describes, relates anecdotes, etc., poorly. **Small,** dislikes and fails to copy, draw, do after others, etc. **Very small,** has little ability to imitate or copy anything.

23. Mirthfulness.

Intuitive perception of the absurd and ridiculous; a joking, fun-making, ridiculous disposition and ability. **Very large,** is quick and apt at turning everything into ridicule, throws off constant sallies of wit; is too facetious, jocose, etc. **Large,** has a quick, keen perception of the ludicrous; makes a great amount of fun; too much for his own good; is quick at repartee; smiles often; laughs heartily at jokes. **Full,** has much mirthful feeling; makes and relishes jokes well. **Average,** perceives jokes, and relishes fun, but cannot make much. **Moderate,** has some witty ideas, yet lacks quickness in conceiving, and tact in expressing them; is generally quite sober. **Small,** makes little fun; is slow to perceive, and still slower to turn jokes; seldom laughs; thinks it wrong to do so. **Very small,** has few if any witty ideas or conceptions.

24. Individuality.

Observing and individualizing power and desire; curiosity to see and know; disposition to specify, personify. **Very large,** has an insatiable desire to see and know everything; extraordinary observing powers; is eager to witness every passing event. **Large,** has a great desire to know, investigate, examine, experience, etc.; is a great observer of men and things; quick of perception; sees what is transpiring, what should be done, etc.

Full, has fair observing powers, and desire to see things. **Average**, has some, yet no great, curiosity and desire to see things. **Moderate**, is rather deficient, yet not palpably so, in observing power and desire; not sufficiently specific. **Small**, is slow to see things; attends little to particulars. **Very small**, sees scarcely anything; regards things in the gross.

25. Form.

Cognizance and recollection of shape or configuration. **Very large**, never forgets the countenance, form, etc., of persons and things seen; easily learns to read and spell correctly; reads and sees things at a great distance; has excellent eyesight. **Large**, notices, and for a long time remembers, the faces, countenances, forms, looks, etc., of persons, beasts, things, etc., once seen; knows by sight many whom he may be unable to name. **Full**, recognizes persons, countenances, etc., well. **Average**, recollects forms, faces, etc., quite well, but not very well. **Moderate**, must see persons several times before he can recollect them; sometimes doubts whether he has seen certain persons. **Small or very small**, has a miserable memory of persons, looks, shapes, etc.; fails to recognize even those he sees often.

26. Size.

Cognizance and knowledge of relative magnitude, bulk, etc. **Very large**, detects disproportion, and judges of size, with wonderful accuracy, by intuition, and as well without as with instruments; cannot endure inaccuracy. **Large**, has an excellent eye for measuring proportion, size, height, angles, perpendiculars, etc.; quickly detects disproportions in them. **Full**, can measure ordinary and familiar distances well, yet shows no remarkable natural talent in it. **Average**, measures bulk with tolerable, though not great, accuracy. **Moderate**, is rather deficient in measuring by the eye; with practice, may do tolerably well in short, but fails in long, distances. **Small**, judges of relative size, etc., very inaccurately. **Very small**, can hardly distinguish mountains from molehills.

27. Weight.

Intuitive perception and application of the principles of specific gravity, projectile forces, momentum, balancing, resistance. **Very large**, has this power to a wonderful extent. **Large**, can walk on a high or narrow place; hold a steady hand, throw a stone or ball, and shoot, straight; ride a fractious horse, etc., very well. **Full**, keeps his centre of gravity well, but ventures little. **Average**, balances himself tolerably well in ordinary cases, yet has no great natural talent in this respect. **Moderate**, maintains his centre of gravity, etc., rather poorly. **Small or very small**, is unlike one with Weight large.

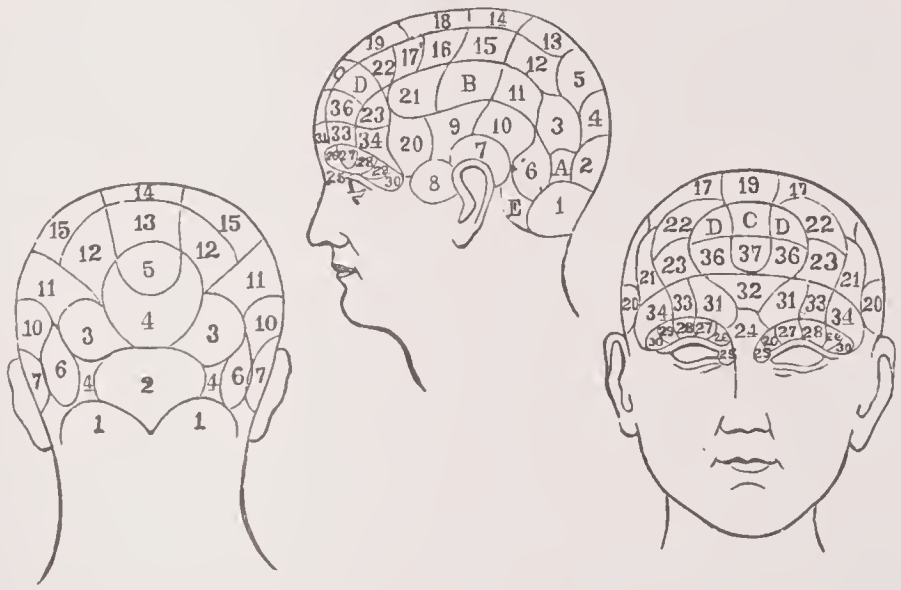


FIG. 5. THE PHRENOLOGICAL ORGANS, AS NUMBERED AND DESCRIBED.

28. Color.

Perception and recollection of colors, hues, tints, etc. **Very large**, resembles one with Color large, but excels him. **Large**, has taste and talent for comparing, arranging, mingling, applying and recollecting colors; is delighted with paintings. **Full**, with practice, compares and judges of colors well; without it does not excel. **Average**, can discern and recollect colors, yet seldom notices them. **Moderate**, aided by practice, can discern and compare colors, yet owes less to nature than art; seldom notices colors unless obliged to, and then soon forgets them. **Small**, seldom observes the color of one's hair, eyes, dress, etc.; cannot describe persons by what they wear, or compare colors apart; hardly distinguishes primary colors by candlelight. **Very small**, can tell white from black, but do little more.

29. Order.

System; physical arrangement; a place for things. **Very large**, is very precise and particular to have every little thing in its place; literally tormented by disorder; is fastidious. **Large**, has a place for things, and things in their places; can find, even in the dark, what he alone uses; is systematic; annoyed by disorder. **Full**, likes order; takes much pains to keep things arranged. **Average**, appreciates order, yet not enough to keep it. **Moderate**, likes but does not keep order; allows confusion. **Small or very small**, is nearly destitute of order.

30. Calculation.

Intuitive perception of the relations of numbers; ability to reckon figures in the head; numerical computation. **Very large**, has an intuitive faculty of reckoning even complicated sums of figures in his head; delights in it. **Large**, can add, subtract, divide, etc., in his head, with facility and correctness; become a rapid, correct accountant; delights and excels in arithmetic. **Full**, aided by rules and practice may excel in reckoning figures, and do well in his head, but not without them. **Average**, by practice and rules may reckon figures quite well. **Moderate**, does sums in his head rather slowly and inaccurately. **Small**, is dull and incorrect in adding, dividing, etc.; dislikes it. **Very small**, can hardly count.

31. Locality.

Cognizance and recollection of relative position, looks and geography of places, etc.; desire to travel, see the world, etc. **Very large**, never forgets the looks, location or geography of any place, or even thing, he has ever seen; is even passionately fond of travelling, scenery, geography, etc. **Large**, recollects distinctly the looks of places where he saw things, etc.; seldom loses himself, even in the dark; has a strong desire to

travel, see places, etc. Full, remembers places well, yet is liable to lose himself in a city or forest; ordinarily shows no deficiency; seldom loses himself. Average, has a fair, though not excellent, recollection of places. Moderate, recollects places rather poorly; sometimes gets lost. Small or very small, seldom observes where he goes, or finds his way back.

32. Eventuality.

Recollection of actions, phenomena, occurrences, what has taken place, circumstantial and historical facts. Very large, never forgets any occurrence, even though it is trifling; has a craving thirst for information and experiment; literally devours books, newspapers, etc.; commands an astonishing amount of information. Large, has a clear and retentive memory of historical facts, general news, what he has seen, heard, read, etc., even in detail. Full, recollects leading events, and interesting particulars, and has a good memory of occurrences, yet forgets less important details. Average, has neither a good nor bad memory of occurrences, etc. Moderate, recollects generals, not details; is rather forgetful. Small, has a treacherous, confused memory. Very small, forgets almost everything.

33. Time.

Cognizance and recollection of succession, the lapse of time, dates, how long ago things occurred, etc. Very large, remembers with wonderful accuracy the time of occurrences; is punctual; tells the time of day, etc, by intuition. Large, tells dates, appointments, ages, time of day, etc., well. Full, recollects about, but not precisely, when things occurred. Average, notices and remembers dates, times, etc., some, but not well. Moderate, has rather a poor idea of dates, the time when, etc. Small, can seldom tell when things took place; forgets dates. Very small, is liable to forget even his age.

34. Tune.

Tone; sense of melody and musical harmony; ability to learn tunes and to detect chord and discord by ear; propensity to sing. Very large, learns tunes by hearing them sung once or twice; is literally enchanted by good music; shows intuitive skill, and spends much time in making it; sings from the heart, and with melting pathos. Large, easily catches tunes; learns to sing and play on instruments by rote; delights in singing; has a correct musical ear. Full, can learn tunes by ear well, yet needs help from notes. Average, likes music; with practice, may perform tolerably well. Moderate, aided by notes and practice, may sing, yet it will be mechanically; lacks that soul and feeling that reaches the heart. Small, learns to sing or play tunes either by note or rote with great difficulty; sings mechanically, and without emotion or effect. Very small, can hardly discern one tune or note from another.

35. Language.

Power of expressing ideas, feelings, etc., by means of words; ability to talk. Very large, has, by nature, astonishing command of words, copiousness and eloquence of expression, and verbal memory; quotes with ease; is an incessant talker; has too many words. Large, is a free, easy, ready, fluent talker and speaker; uses good language; commits easily; seldom hesitates for words. Full, commands a fair share of words, yet uses familiar expressions; is neither fluent nor the reverse; when excited, expresses himself freely, yet not copiously. Average, can communicate his ideas tolerably well, yet finds some difficulty; uses common words; can write better than speak. Moderate, often hesitates for words; employs too few; may write well and be a critical linguist, but cannot be an easy, fluent speaker. Small, employs few words, and those commonplace; in speaking, hesitates much; is barren in expression; commits slowly. Very small, can hardly remember or use words.

36. Causality.

Cognizance of the relations of cause and effect; ability to apply them, or to adapt means to ends; power of reasoning, etc. Very large, is endowed with a deep, strong, original, comprehensive mind, powerful reasoning faculties, great vigor and energy of thought, first-rate judgment, and a gigantic intellect. Large, plans well; can think clearly and closely; is always inquiring into the why and the wherefore, the causes and explanation of things; always gives and requires the reason; has by nature excellent judgment, good ideas, a strong mind, etc. Full, adapts means to ends well; has an active desire to ascertain causes, yet not a deep, original, cause-discovering and applying mind. Average, has some, but not great, ability to plan and reason. Moderate, is rather slow of comprehension; deficient in adapting means to ends; has not good ideas or judgment. Small, has a weak, imbecile mind; cannot contrive or think. Very small, little idea of causation; is a natural fool.

37. Comparison.

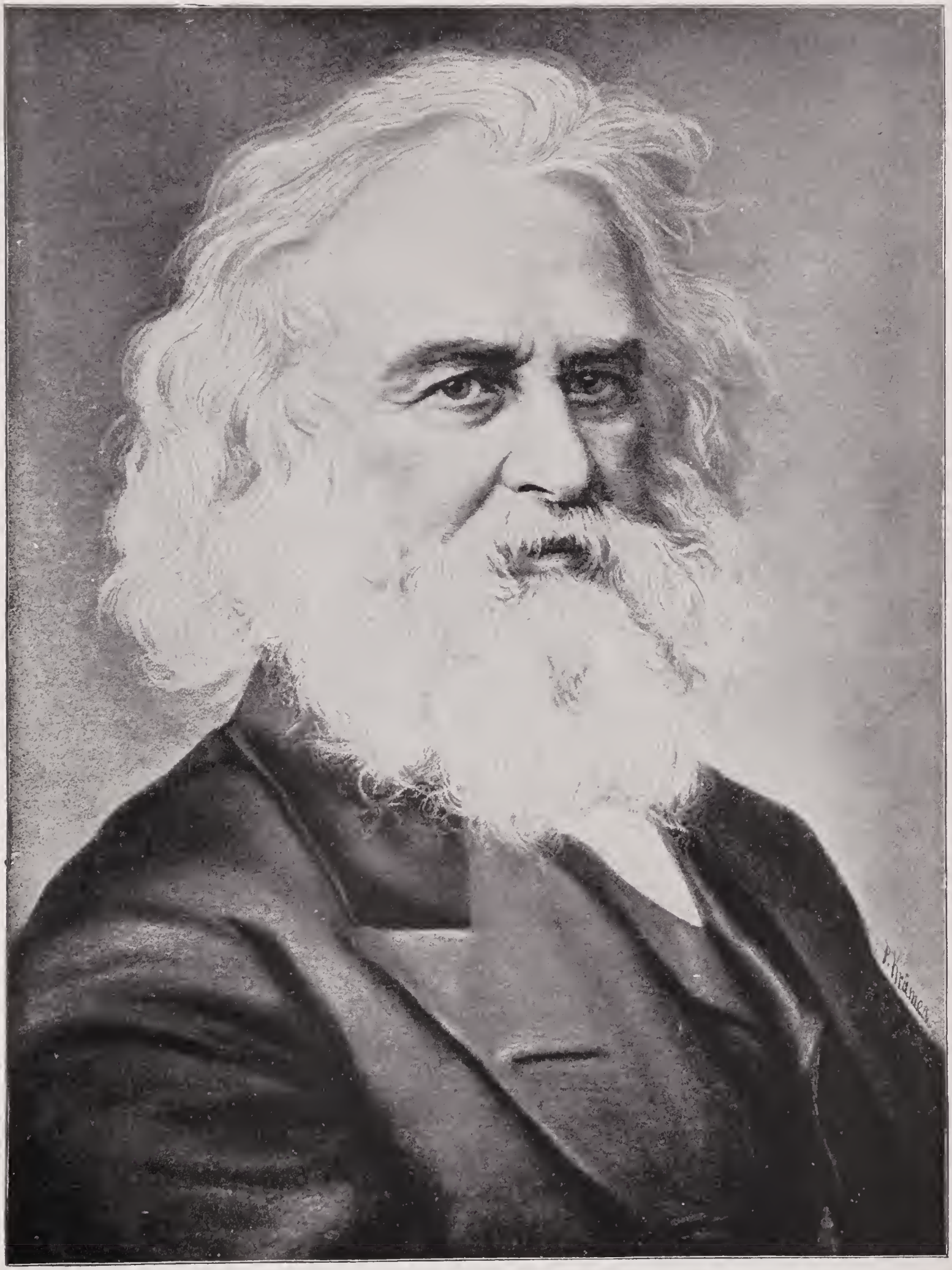
Perception of analogies, resemblances, differences; ability to compare, illustrate, criticise, classify, generalize, etc. Very large, is endowed with an extraordinary amount of critical acumen, analytical, comparing and illustrating power. Large, has a happy talent for comparing, illustrating, criticising, arguing from similar cases, discriminating between what is and is not analogous or in point, classifying phenomena, and thereby ascertaining their laws, etc. Full, illustrates, discriminates, etc., well, but not remarkably so. Average, perceives striking analogies; illustrates tolerably well. Moderate, may discern obvious similarities, yet overlooks others. Small or very small, is almost destitute of this power.

C. Human Nature.

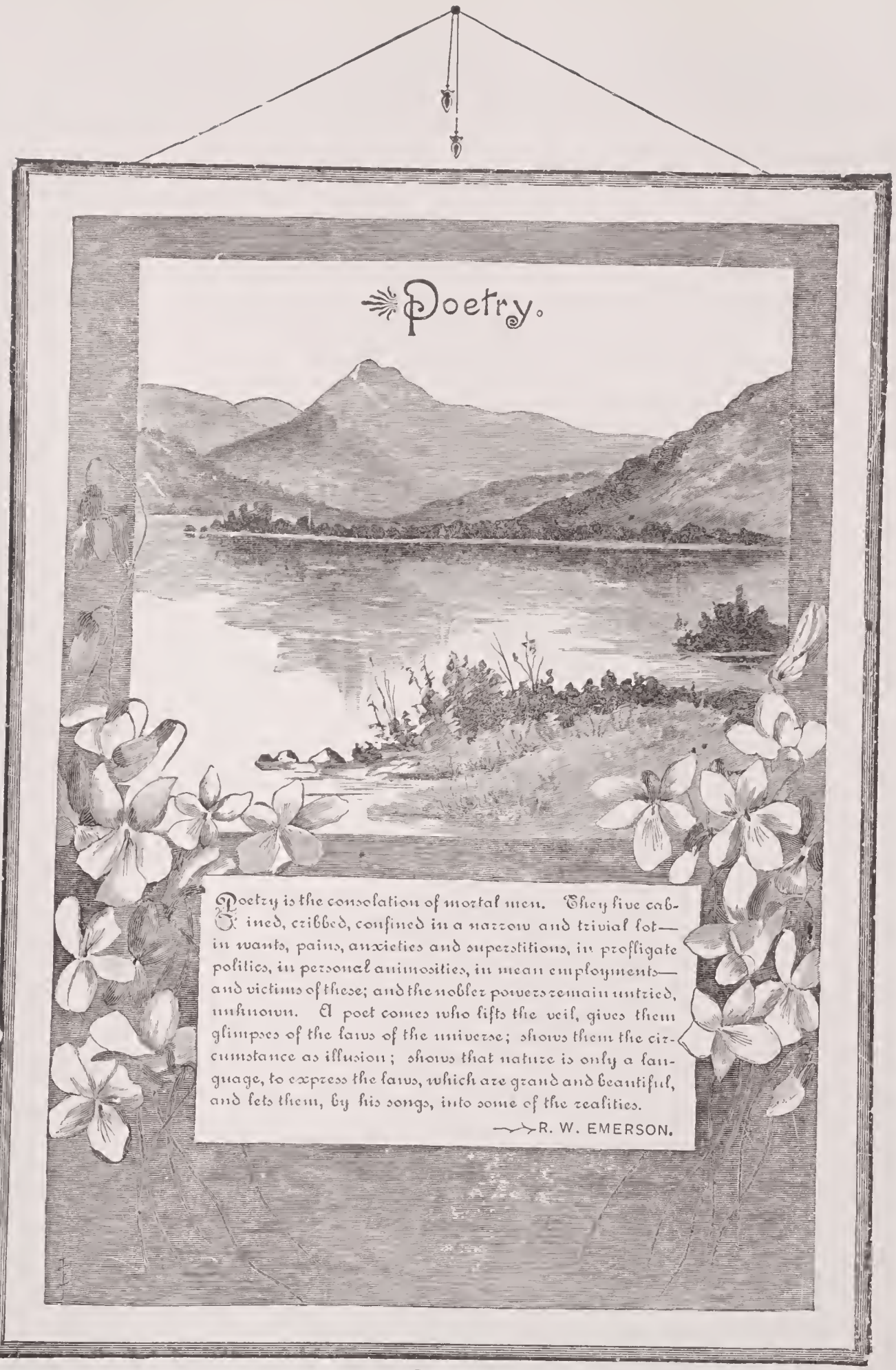
Discernment of character and perception of motive. Large or very large, perceives, as if by intuition, the character and motives of men from their physiognomy, conversation, etc.; is suspicious, and seldom deceived; naturally understands human nature. Moderate or small, seldom suspects others; is easily imposed upon, learns human nature slowly; does not know well how to take men.

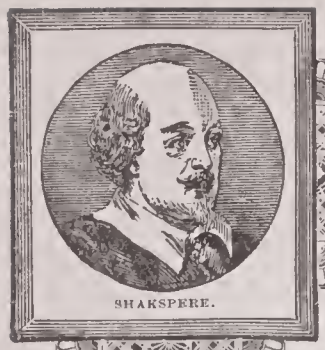
D. Suavity.

Ability to render oneself agreeable; pleasantness. Large or very large, readily wins confidence and affection, even of enemies; can say and do hard things without creating difficulty; obtain favors; get along well; so say and do things that they take. Average or full, neither excels nor is deficient in this respect. Moderate or small, is deficient in the power described; says pleasant things unpleasantly, and does not succeed in winning people's good graces.



HENRY W. LONGFELLOW


Poetry.
Poetry is the consolation of mortal men. They live cabined, cribbed, confined in a narrow and trivial lot—in wants, pains, anxieties and superstitions, in profligate politics, in personal animosities, in mean employments—and victims of these; and the nobler powers remain untried, unknown. A poet comes who lifts the veil, gives them glimpses of the laws of the universe; shows them the circumstance as illusion; shows that nature is only a language, to express the laws, which are grand and beautiful, and lets them, by his songs, into some of the realities.
—R. W. EMERSON.



SHAKSPERE.

MILTON.

FAMILIAR POEMS

AND

THOSE WHO WROTE THEM

LONGFELLOW.

BRYANT.

Thanatopsis.

WILLIAM CULLEN BRYANT.

TO him who, in the love of nature, holds
Communion with her visible forms, she speaks
A various language; for his gayer hours
She has a voice of gladness, and a smile
And eloquence of beauty, and she glides
Into his darker musings, with a mild
And gentle sympathy, that steals away
Their sharpness, ere he is aware.

When thoughts
Of the last bitter hour come like a blight
Over thy spirit, and sad images
Of the stern agony, and shroud, and pall,
And breathless darkness, and the narrow house,
Make thee to shudder and grow sick at heart;
Go forth into the open sky, and list
To nature's teaching, while from all around
Comes a still voice:

"Yet a few days, and thee
The all-beholding sun shall see no more,
In all his course; nor yet, in the cold ground,
Where thy pale form was laid with many tears,
Nor in the embrace of ocean, shall exist
Thy image. Earth, that nourishes thee, shall claim
Thy growth, to be resolved to earth again;
And, lost each human trace, surrendering up
Thine individual being, shalt thou go
To mix forever with the elements,
To be a brother to th' insensible rock
And to the sluggish clod, which the rude swain
Turns with his share and treads upon.

The oak
Shall send its roots abroad, and pierce thy mold.
Yet not to thy eternal resting-place
Shalt thou retire alone, nor couldst thou wish
Couch more magnificent. Thou shalt lie down
With patriarchs of the infant world, with kings,
The powerful of the earth, the wise, the good,
Fair forms, and hoary seers of ages past,
All in one mighty sepulchre.

The hills,
Rock-ribbed and ancient as the sun; the vales,
Stretching in pensive quietness between;
The venerable woods; rivers that move
In majesty, and the complaining brooks
That make the meadows green; and, poured round all,
Old ocean's gray and melancholy waste,
Are but the solemn decorations all
Of the great tomb of man. The golden sun,
The planets, all the infinite host of heaven,
Are shining on the sad abodes of death,
Through the still lapse of ages.

All that thread
The globe are but a handful to the tribes
That slumber in its bosom. Take the wings
Of morning, and the Barcan desert pierce,
Or lose thyself in the continuous woods
Where rolls the Oregon, and hears no sound
Save its own dashings — yet — the dead are there
And millions in those solitudes, since first
The flight of years began, have laid them down
In their last sleep: the dead reign there alone.

So shalt *thou* rest; and what if thou shalt fall
Unnoticed by the living, and no friend
Take note of thy departure? All that breathe
Will share thy destiny. The gay will laugh
When thou art gone; the solemn brood of care
Plod on; and each one, as before, will chase
His favorite phantom; yet all these shall leave
Their mirth and their enjoyments, and shall come
And make their bed with thee. As the long train
Of ages glide away, the sons of men,
The youth in life's green spring, and he who goes
In the full strength of years, matron and maid,
The bowed with age, the infant in the smiles
And beauty of its innocent age cut off —
Shall, one by one, be gathered to thy side,
By those who in their turn shall follow them.

So live, that when thy summons comes to join
The innumerable caravan that moves
To the pale realms of shade, where each shall take
His chamber in the silent halls of death,
Thou go not like the quarry-slave at night,
Scourged to his dungeon, but, sustained and soothed,
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams.

Hiawatha's Wooing.

HENRY WADSWORTH LONGFELLOW.

"AS unto the bow the cord is,
So unto the man is woman:
Though she bends him, she obeys him;
Though she draws him, yet she follows;
Useless each without the other."

Thus the youthful Hiawatha
Said within himself and pondered,
Much perplexed by various feelings,
Listless, longing, hoping, fearing,
Dreaming still of Minnehaha,
Of the lovely Laughing Water,
In the land of the Dacotahs.

"Wed a maiden of your people,"
Warning said the old Nokomis;
"Go not eastward, go not westward,
For a stranger, whom ye know not!
Like a fire upon the hearthstone
Is a neighbor's homely daughter;
Like the starlight or the moonlight
Is the handsomest of strangers!"

Thus dissuading spake Nokomis,
And my Hiawatha answered
Only this: "Dear old Nokomis,
Very pleasant is the firelight,
But I like the starlight better,
Better do I like the moonlight!"

Gravely then said old Nokomis:
"Bring not here an idle maiden,
Bring not here a useless woman,
Hands unskilful, feet unwilling;
Bring a wife with nimble fingers,
Heart and hand that move together,
Feet that run on willing errands!"

Smiling answered Hiawatha:
"In the land of the Dacotahs
Lives the Arrow-maker's daughter,
Minnehaha, Laughing Water,
Handsomest of all the women.
I will bring her to your wigwam,
She shall run upon your errands,
Be your starlight, moonlight, firelight,
Be the sunlight of my people!"

Still dissuading said Nokomis:
"Bring not to my lodge a stranger
From the land of the Dacotahs!
Very fierce are the Dacotahs,
Often is there war between us,
There are feuds yet unforgotten,
Wounds that ache and still may open!"

Laughing answered Hiawatha:
"For that reason, if no other,
Would I wed the fair Dacotah,
That our tribes might be united,
That old feuds might be forgotten,
And old wounds be healed forever!"

Thus departed Hiawatha
To the land of the Dacotahs,
To the land of handsome women;
Striding over moor and meadow
Through interminable forests,
Through uninterrupted silence.

With his moccasins of magic,
At each stride a mile he measured;
Yet the way seemed long before him,
And his heart outran his footsteps;
And he journeyed without resting,
Till he heard the cataract's laughter,
Heard the Falls of Minnehaha
Calling to him through the silence.
"Pleasant is the sound!" he murmured,
"Pleasant is the voice that calls me!"

On the outskirts of the forest,
'Twixt the shadow and the sunshine,
Herds of fallow deer were feeding,
But they saw not Hiawatha:
To his bow he whispered, "Fail not!"
To his arrow whispered, "Swerve not!"
Sent it singing on its errand,
To the red heart of the roebuck;
Threw the deer across his shoulder,
And sped forward without pausing.

At the doorway of his wigwam
Sat the ancient Arrow-maker,
In the land of the Dacotahs,
Making arrow-heads of jasper,
Arrow-heads of chalcedony.
At his side, in all her beauty,
Sat the lovely Minnehaha,
Sat his daughter, Laughing Water,
Plaiting mats of flags and rushes;
Of the past the old man's thoughts were,
And the maiden's of the future.

He was thinking, as he sat there,
Of the days when with such arrows
He had struck the deer and bison,
On the Muskoday, the meadow;
Shot the wild goose, flying southward,
On the wing, the clamorous Wawa;
Thinking of the great war-parties,
How they came to buy his arrows,
Could not fight without his arrows.
Ah, no more such noble warriors
Could be found on earth as they were!
Now the men were all like women,
Only used their tongues for weapons!

She was thinking of a hunter
From another tribe and country,
Young and tall and very handsome,
Who one morning, in the spring-time,
Came to buy her father's arrows,
Sat and rested in the wigwam,
Lingered long about the doorway,
Looking back as he departed.
She had heard her father praise him,
Praise his courage and his wisdom;
Would he come again for arrows
To the Falls of Minnehaha?
On the mat her hands lay idle,
And her eyes were very dreamy.

Through their thoughts they heard a footstep,
Heard a rustling in the branches,
And with glowing cheek and forehead,
With the deer upon his shoulders,
Suddenly from out the woodlands
Hiawatha stood before them.

Straight the ancient arrow-maker
Looked up gravely from his labor,
Laid aside the unfinished arrow,
Bade him enter at the doorway,
Saying, as he rose to meet him,
"Hiawatha, you are welcome!"

At the feet of Laughing Water
Hiawatha laid his burden,
Threw the red deer from his shoulders;
And the maiden looked up at him,
Looked up from her mat of rushes,
Said with gentle look and accent,
"You are welcome, Hiawatha!"

Very spacious was the wigwam,
Made of deer-skin dressed and whitened,
With the gods of the Dacotahs
Drawn and painted on its curtains,
And so tall the doorway, hardly
Hiawatha stooped to enter,
Hardly touched his eagle-feathers
As he entered at the doorway.

Then uprose the Laughing Water,
From the ground fair Minnehaha,
Laid aside her mat unfinished,
Brought forth food and set before them,
Water brought them from the brooklet,
Gave them food in earthen vessels,
Gave them drink in bowls of basswood,
Listened while the guest was speaking,
Listened while her father answered,
But not once her lips she opened,
Not a single word she uttered.

Yes, as in a dream she listened
To the words of Hiawatha,
As he talked of old Nokomis,
Who had nursed him in his childhood,
As he told of his companions,
Chibiabos, the musician,
And the very strong man, Kwasind,
And of happiness and plenty
In the land of the Ojibways,
In the pleasant land and peaceful.

"After many years of warfare,
Many years of strife and bloodshed,
There is peace between the Ojibways
And the tribe of the Dacotahs;"
Thus continued Hiawatha,
And then added, speaking slowly,
"That this peace may last forever,
And our hands be clasped more closely,
And our hearts be more united,
Give me as my wife this maiden,
Minnehaha, Laughing Water,
Loveliest of Dacotah women!"

And the ancient Arrow-maker
Paused a moment ere he answered,
Smoked a little while in silence,
Looked at Hiawatha proudly,
Fondly looked at Laughing Water,
And made answer very gravely:
"Yes, if Minnehaha wishes;
Let your heart speak, Minnehaha!"

And the lovely Laughing Water
Seemed more lovely, as she stood there,
Neither willing nor reluctant,
As she went to Hiawatha,
Softly took the seat beside him,
While she said, and blushed to say it,
"I will follow you, my husband!"

This was Hiawatha's wooing!
Thus it was he won the daughter
Of the ancient Arrow-maker,
In the land of the Dacotahs!

From the wigwam he departed,
Leading with him Laughing Water;
Hand in hand they went together,
Through the woodland and the meadow,
Left the old man standing lonely
At the doorway of his wigwam,
Heard the Falls of Minnehaha
Calling to them from the distance,
Crying to them from afar off,
"Fare thee well, O Minnehaha!"

And the ancient Arrow-maker
Turned again unto his labor,
Sat down by his sunny doorway,
Murmuring to himself, and saying:
"Thus it is our daughters leave us,
Those we love, and those who love us!
Just when they have learned to help us,
When we are old and lean upon them,
Comes a youth with flaunting feathers,
With his flute of reeds, a stranger,
Wanders piping through the village,
Beckons to the fairest maiden,
And she follows where he leads her,
Leaving all things for the stranger!"

Pleasant was the journey homeward
Through interminable forests,
Over meadow, over mountain,
Over river, hill and hollow.
Short it seemed to Hiawatha,
Though they journeyed very slowly,
Though his pace he checked and slackened
To the steps of Laughing Water.

Over wide and rushing rivers
In his arms he bore the maiden;
Light he thought her as a feather,
As the plume upon his head-gear;
Cleared the tangled pathway for her,
Bent aside the swaying branches,
Made at night a lodge of branches,
And a bed with boughs of hemlock,
And a fire before the doorway
With the dry cones of the pine-tree.

All the travelling winds went with them
O'er the meadow, through the forest;
All the stars of night looked at them,
Watched with sleepless eyes their slumber;
From his ambush in the oak-tree
Peered the squirrel, Adjidaumo,
Watched with eager eyes the lovers;
And the rabbit, the Wabasso,
Scampered from the path before them,
Peeping, peeping from his burrow,
Sat erect upon his haunches,
Watched with curious eyes the lovers.

Pleasant was the journey homeward!
All the birds sang loud and sweetly
Songs of happiness and heart's-ease
Sang the blue-bird, the Owaissa,
"Happy are you, Hiawatha,
Having such a wife to love you!"
Sang the robin, the Opechee,
"Happy are you, Laughing Water,
Having such a noble husband!"

From the sky the sun benignant
Looked upon them through the branches,
Saying to them, "O my children,
Love is sunshine, hate is shadow,
Life is checkered shade and sunshine,
Rule by love, O Hiawatha!"

From the sky the moon looked at them,
Filled the lodge with mystic splendors,
Whispered to them, "O my children,
Day is restless, night is quiet,
Man imperious, woman feeble;
Half is mine, although I follow;
Rule by patience, Laughing Water!"

Thus it was they journeyed homeward,
Thus it was that Hiawatha
To the lodge of old Nokomis
Brought the moonlight, starlight, firelight,
Brought the sunshine of his people,
Minnehaha, Laughing Water,
Handsomest of all the women
In the land of the Dacotahs,
In the land of handsome women.

The Barefoot Boy.

JOHN GREENLEAF WHITTIER.

BLESSINGS on thee, little man,
Barefoot boy, with cheeks of tan!
With thy turned-up pantaloons,
And thy merry whistled tunes;
With thy red lip, redder still,
Kissed by strawberries on the hill;
With the sunshine on thy face,
Through thy torn brim's jaunty grace,
From my heart I give thee joy—
I was once a barefoot boy!
Prince thou art—the grown-up man
Only is republican.
Let the million-dollared ride!
Barefoot, trudging at his side,
Thou hast more than he can buy
In the reach of ear and eye—
Outward sunshine, inward joy,
Blessings on thee, barefoot boy!

Oh, for boyhood's painless play,
Sleep that wakes in laughing day,
Health that mocks the doctor's rules,
Knowledge never learned of schools,
Of the wild bee's morning chase,
Of the wild flower's time and place,
Flight of fowl, and habitude
Of the tenants of the wood;
How the tortoise bears his shell,
How the woodchuck digs his cell,
And the ground mole sinks his well;
How the robin feeds her young,
How the oriole's nest is hung;
Where the whitest lilies blow,
Where the freshest berries grow,
Where the ground-nut trails its vine,
Where the wood-grape's clusters shine;
Of the black wasp's cunning way,
Mason of his walls of clay,
And the architectural plans
Of gray hornet artisans!—
For, eschewing books and tasks,
Nature answers all he asks;
Hand in hand with her he walks,
Face to face with her he talks,
Part and parcel of her joy—
Blessings on the barefoot boy!

Oh, for boyhood's time of June,
Crowding years in one brief moon,
When all things I heard or saw,
Me, their master, waited for.
I was rich in flowers and trees,
Humming-birds and honey-bees;
For my sport the squirrel played,
Plied the snouted mole his spade;

For my taste the blackberry cone
Purpled over hedge and stone;
Laughed the brook for my delight
Through the day and through the night,
Whispering at the garden wall,
Talked with me from fall to fall;
Mine the sand-rimmed pickerel pond,
Mine the walnut slopes beyond,
Mine on bending orchard trees,
Apples of Hesperides!
Still, as my horizon grew,
Larger grew my riches, too;
All the world I saw or knew
Seemed a complex Chinese toy,
Fashioned for a barefoot boy!

Oh, for festal dainties spread,
Like my bowl of milk and bread,—
Pewter spoon and bowl of wood,
On the door-stone, gray and rude!
O'er me, like a regal tent,
Cloudy-ribbed the sunset bent,
Purple-curtained, fringed with gold,
Looped in many a wind-swung fold,
While for music came the play
Of the pied frogs' orchestra;
And, to light the noisy choir,
Lit the fly his light of fire.
I was monarch;—pomp and joy
Waited on the barefoot boy!

Cheerily, then, my little man,
Live and laugh, as boyhood can!
Though the flinty slopes be hard,
Stubble-speared the new-mown sward,
Every morn shall lead thee through
Fresh baptisms of the dew;
Every evening from thy feet
Shall the cool wind kiss the heat;
All too soon these feet must hide
In the prison cells of pride,
Lose the freedom of the sod,
Like a colt's for work be shod,
Made to tread the mills of toil
Up and down in ceaseless moil:
Happy if their track be found
Never on forbidden ground;
Happy if they sink not in
Quick and treacherous sands of sin.
Ah! that thou couldst know thy joy,
Ere it passes, barefoot boy!

The Bells.

EDGAR ALLAN POE.

I.

HEAR the sledges with the bells—
Silver bells—
What a world of merriment their melody foretells!
How they tinkle, tinkle, tinkle,
In the icy air of night!
While the stars that oversprinkle
All the heavens seem to twinkle
With a crystalline delight—
Keeping time, time, time,
In a sort of Runic rhyme,
To the tintinnabulation that so musically wells
From the bells, bells, bells, bells,
Bells, bells, bells,
From the jingling and the tinkling of the bells.

II.

Hear the mellow wedding bells—
Golden bells!
What a world of happiness their harmony foretells!
Through the balmy air of night
How they ring out their delight!
From the molten-golden notes,
And all in tune,
What a liquid ditty floats
To the turtle-dove that listens, while she gloats
On the moon!
Oh, from out the sounding cells,
What a gush of euphony voluminously wells!
How it swells!
How it dwells
On the Future! how it tells
Of the rapture that impels
To the swinging and the ringing
Of the bells, bells, bells,
Of the bells, bells, bells, bells,
Bells, bells, bells—
To the rhyming and the chiming of the bells.

III.

Hear the loud alarum bells—
Brazen bells!
What a tale of terror, now, their turbulency tells!
In the startled ear of night
How they scream out their affright!
Too much horrified to speak,
They can only shriek, shriek,
Out of tune,
In the clamorous appealing to the mercy of the fire,
In a mad expostulation with the deaf and frantic fire,
Leaping higher, higher, higher,
With a desperate desire,
And a resolute endeavor,
Now—now to sit or never,
By the side of the pale-faced moon.
Oh, the bells, bells, bells,
What a tale their terror tells
Of despair!
How they clang, and clash, and roar!
What a horror they outpour
On the bosom of the palpitating air!
Yet the ear it fully knows
By the twanging
And the clanging,
How the danger ebbs and flows;
Yet the ear distinctly tells,
In the jangling,
And the wrangling,
How the danger sinks and swells,
By the sinking or the swelling in the anger of the bells—
Of the bells—
Of the bells, bells, bells, bells,
Bells, bells, bells—
In the clamor and the clangor of the bells!

IV.

Hear the tolling of the bells—
Iron bells!
What a world of solemn thought their monody compels!
In the silence of the night,
How we shiver with affright
At the melancholy menace of their tone!
For every sound that floats
From the rust within their throats
Is a groan.
And the people—ah, the people—
They that dwell up in the steeple,
All alone,
And who tolling, tolling, tolling,
In that muffled monotone,
Feel a glory in so rolling
On the human heart a stone—
They are neither man nor woman—
They are neither brute nor human—
They are ghouls;
And their king it is who tolls;
And he rolls, rolls, rolls,
Rolls,
A pæan from the bells!
And his merry bosom swells
With the pæan of the bells!
And he dances and he yells;
Keeping time, time, time,
In a sort of Runic rhyme,
To the pæan of the bells—
Of the bells:
Keeping time, time, time,
In a sort of Runic rhyme,
To the throbbing of the bells—
Of the bells, bells, bells—
To the sobbing of the bells;
Keeping time, time, time,
As he knells, knells, knells,
In a happy Runic rhyme,
To the tolling of the bells—
Of the bells, bells, bells,
To the tolling of the bells,
Of the bells, bells, bells, bells—
Bells, bells, bells—
To the moaning and the groaning of the bells.

Blow, Blow, Thou Winter Wind.

SHAKESPEARE.

From "As You Like It."—Act II, Sc. 7.

BLOW, blow, thou winter wind,
Thou art not so unkind
As man's ingratitude;
Thy tooth is not so keen
Because thou art not seen,
Although thy breath be rude.
Heigh-ho! sing heigh-ho! unto the green holly,
Most friendship is feigning, most loving mere folly.
Then heigh-ho the holly,
This life is most jolly.

Freeze, freeze, thou bitter sky,
Thou dost not bite so nigh
As benefits forgot;
Though thou the waters warp,
Thy sting is not so sharp
As friend remembered not.
Heigh-ho! sing heigh-ho! unto the green holly,
Most friendship is feigning, most loving mere folly:
Then heigh-ho the holly,
This life is most jolly.

Bugle Song.

ALFRED TENNYSON.

THE splendor falls on castle walls
And snowy summits old in story;
The long light shakes across the lakes,
And the wild cataract leaps in glory.
Blow, bugle, blow, set the wild echoes flying;
Blow, bugle; answer, echoes, dying, dying, dying!

O love, they die in yon rich sky,
They faint on hill or field or river;
Our echoes roll from soul to soul,
And grow forever and forever.
Blow, bugle, blow, set the wild echoes flying,
And answer echoes, answer, dying, dying, dying!

Oh, hark! oh, hear! how thin and clear,
And thinner, clearer, farther going,
Oh, sweet and far from cliff and scar,
The horns of Elfland faintly blowing!
Blow, let us hear the purple glens replying,
Blow, bugle; answer, echoes, dying dying, dying!

The Sea.

BARRY CORNWALL.

THE sea! the sea! the open sea,
The blue, the fresh, the ever free!
Without a mark, without a bound,
It runneth the earth's wide regions round,
It plays wth the clouds; it mocks the skies;
Or like a cradled creature lies.

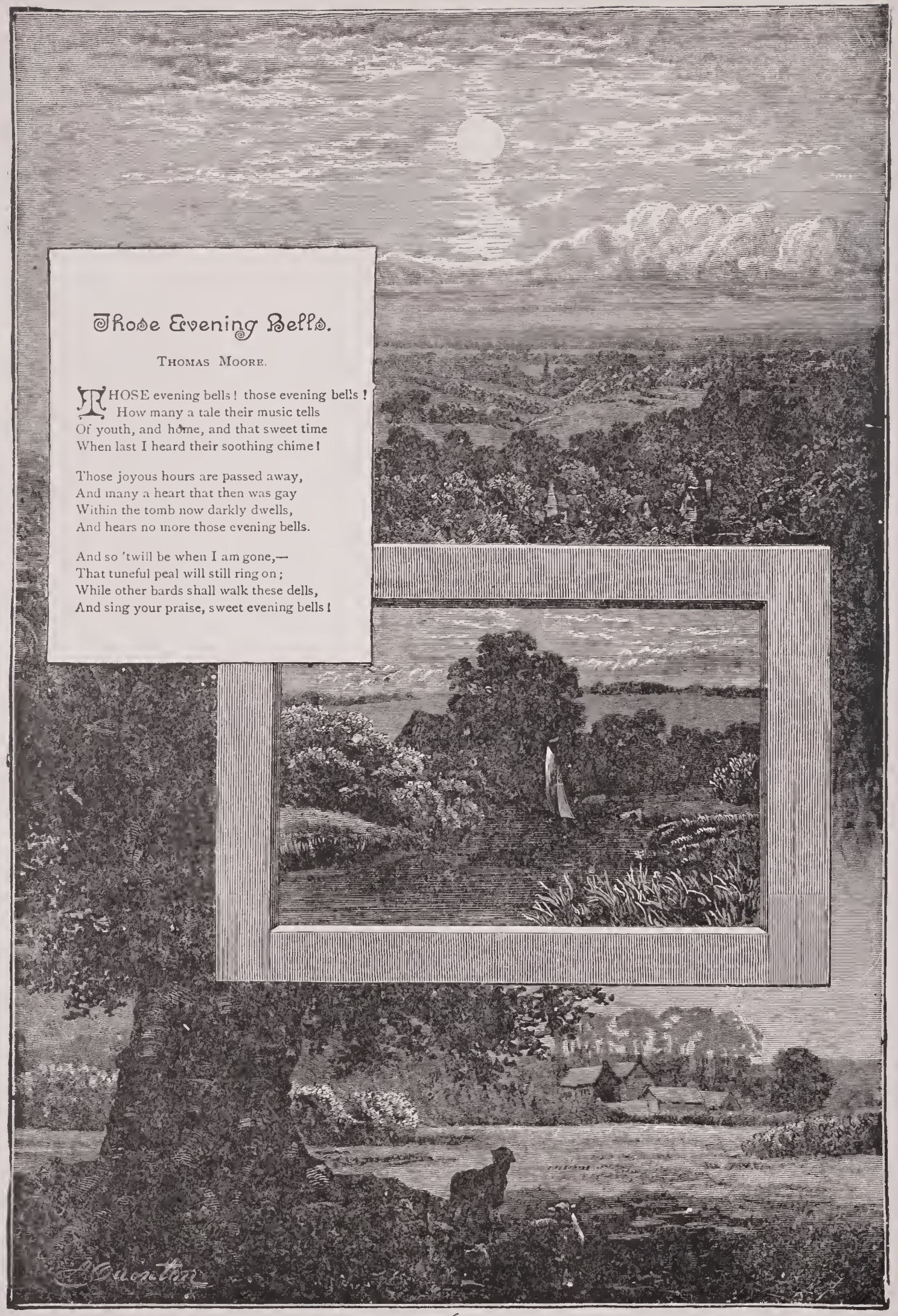
I'm on the sea! I'm on the sea!
I am where I would ever be;
With the blue above, and the blue below,
And silence wheresoe'er I go;
If a storm should come and awake the deep,
What matter? I shall ride and sleep.

I love (oh, *how* I love!) to ride
On the fierce, foaming, bursting tide,
When every mad wave drowns the moon,
Or whistles aloft his tempest tune,
And tells how goeth the world below,
And why the southwest blasts do blow.

I never was on the dull, tame shore
But I loved the great sea more and more,
And backward flew to her billowy breast,
Like a bird that seeketh its mother's nest;
And a mother she *was*, and *is* to me;
For I was born on the open sea.

The waves were white and red the morn,
In the noisy hour when I was born;
And the whale it whistled and the porpoise roll'd,
And the dolphins bared their backs of gold;
And never was heard such an outcry wild
As welcomed to life the ocean child.

I've lived since then, in calm and strife,
Full fifty summers a sailor's life,
With wealth to spend, and a power to range,
But never have sought nor sigh'd for change:
And Death, whenever he come to me,
Shall come on the wild, unbounded sea.



Those Evening Bells.

THOMAS MOORE.

THOSE evening bells! those evening bells!
How many a tale their music tells
Of youth, and home, and that sweet time
When last I heard their soothing chime!

Those joyous hours are passed away,
And many a heart that then was gay
Within the tomb now darkly dwells,
And hears no more those evening bells.

And so 'twill be when I am gone,—
That tuneful peal will still ring on;
While other bards shall walk these dells,
And sing your praise, sweet evening bells!

The Village Preacher.

OLIVER GOLDSMITH.

An Extract from "The Deserted Village."

SWEET was the sound, when oft, at evening's close,
Up yonder hill the village murmur rose;
There, as I passed with careless steps and slow,
The mingling notes came softened from below;
The swain responsive as the milk-maid sung,
The sober herd that lowed to meet their young;
The noisy geese that gabbled o'er the pool,
The playful children just let loose from school;
The watch-dog's voice that bayed the whispering wind,
And the loud laugh that spoke the vacant mind,—
These all in sweet confusion sought the shade,
And filled each pause the nightingale had made.

* * * * *

Near yonder copse, where once the garden smiled,
And still where many a garden flower grows wild,
There, where a few torn shrubs the place disclose,
The village preacher's modest mansion rose.
A man he was to all the country dear,
And passing rich, with forty pounds a year;
Remote from towns he ran his godly race,
Nor e'er had changed, or wished to change his place.
Unskilful he to fawn, or seek for power,
By doctrines fashioned to the varying hour;
Far other aims his heart had learned to prize,
More bent to raise the wretched than to rise.
His house was known to all the vagrant train,
He chid their wanderings, but relieved their pain;
The long-remembered beggar was his guest,
Whose beard, descending, swept his aged breast;
The ruined spendthrift, now no longer proud,
Claimed kindred there, and had his claims allowed;
The broken soldier, kindly bade to stay,
Sat by his fire, and talked the night away;
Wept o'er his wounds, or, tales of sorrow done,
Shouldered his crutch, and showed how fields were won.
Pleased with his guests, the good man learned to glow,
And quite forgot their vices in their woe;
Careless their merits or their faults to scan,
His pity gave ere charity began.

Thus to relieve the wretched was his pride,
And e'en his failings leaned to virtue's side,
But in his duty prompt at every call,
He watched and wept, he prayed and felt for all:
And as a bird each fond endearment tries,
To tempt its new-fledged offspring to the skies,
He tried each art, reproved each dull delay,
Allured to brighter worlds, and led the way.

Beside the bed where parting life was laid,
And sorrow, guilt and pain by turns dismayed,
The reverend champion stood. At his control
Despair and anguish fled the struggling soul:
Comfort came down, the trembling wretch to raise,
And his last faltering accents whispered praise.

At church, with meek and unaffected grace,
His looks adorned the venerable place:
Truth from his lips prevailed with double sway,
And fools, who came to scoff, remained to pray.
The service past, around the pious man,
With steady zeal, each honest rustic ran;
E'en children followed, with endearing wile,
And plucked his gown, to share the good man's smile.
His ready smile a parent's warmth expressed,
Their welfare pleased him, and their cares distressed;
To them his heart, his love, his griefs were given,
But all his serious thoughts had rest in heaven:
As some tall cliff, that lifts its awful form,
Swells from the vale, and midway leaves the storm;
Though round its breast the rolling clouds are spread,
Eternal sunshine settles on its head.

The Ivy Green.

CHARLES DICKENS.

OH! a dainty plant is the ivy green,
That creepeth o'er ruins old!
Of right choice food are his meals, I ween,
In his cell so lone and cold.
The wall must be crumbled, the stones decayed,
To pleasure his dainty whim;
And the mouldering dust that years have made
Is a merry meal for him.
Creeping where no life is seen,
A rare old plant is the ivy green.

Fast he stealeth on, though he wears no wings,
And a staunch old heart has he;
How closely he twineth, how tight he clings,
To his friend, the huge oak tree!
And slyly he traileth along the ground,
And his leaves he gently waves,
As he joyously hugs and crawleth round
The rich mould of dead men's graves.
Creeping where grim death has been,
A rare old plant is the ivy green.

Whole ages have fled, and their works decayed,
And nations have scattered been;
But the stout old ivy shall never fade
From its hale and hearty green.
The brave old plant in its lonely days
Shall fatten upon the past:
For the stateliest building man can raise
Is the ivy's food at last.

From Home to Home.

From "Harper's Weekly."

WHEN swallows were building in early spring
And the roses were red in June;
When the great white lilies were fair and sweet,
In the heat of the August noon;
When the winds were blowing the yellow wheat,
And the song of the harvest nigh,
And the beautiful world lay calm and sweet,
In the joy of a cloudless sky—

Then the swallows were full of glad content
In the hope of their northern nest;
Were sure that the land they were tarrying in
Of all other lands was the best.
And if they had heard in those blissful days
The voice they must heed say "Go,"
They had left their nests with a keen regret,
And their flight had been sad and slow.

But when summer was gone and flowers were dead,
And the brown leaves fell with a sigh,
And they watched the sun setting every day,
Further on in the northern sky,
Then the voice was sweet when it bid them "Go,"
They were eager for southward flight,
And they beat their wings to a new-born hope
When they went at the morning light.

If the way was long, yet the way was glad,
And they brighter and brighter grew,
And they dipped their wings in the glowing heat,
And they still to the southward flew,
Till they found the land of the summer sun,
The land where the nightingale sings,
And joyfully rested 'mid rose and song
Their beautiful weary wings.

Like swallows we wander from home to home—
We are birds of passage at best—
In many a spot we have dwelt awhile,
We have built us many a nest.
But the heart of the Father will touch our hearts,
He will speak to us soft and low,
We shall follow the Voice to the better land,
And its bliss and its beauty know.

Battle of the Angels.

JOHN MILTON.
From "Paradise Lost." Book VI.

MICHAEL bid sound the archangel trumpet;
Through the vast of heaven
It sounded, and the faithful armies rung
Hosanna to the Highest: nor stood at gaze
The adverse legions, nor less hideous joined
The horrid shock. Now storming fury rose,
And clamor, such as heard in heaven till now
Was never; arms on armor clashing brayed
Horrible discord, and the madding wheels
Of brazen chariots raged; dire was the noise
Of conflict; overhead the dismal hiss
Of fiery darts in flaming volleys flew,
And flying vaulted either host with fire.
So under fiery cope together rushed
Both battles main, with ruinous assault
And inextinguishable rage. All heaven
Resounded; and had earth been then, all earth
Had to her centre shook.

* * * * * *

Deeds of eternal fame
Were done, but infinite: for wide was spread
That war, and various: sometimes on firm ground
A standing fight, then, soaring on main wing,
Tormented all the air; all air seemed then
Conflicting fire.

* * * * * *

Forthwith (behold the excellence, the power
Which God hath in his mighty angels placed)
Their arms away they threw, and to the hills

(For earth hath this variety from heaven
Of pleasure situate in hill and dale),
Light as the lightning glimpse they ran, they flew
From their foundations loosening to and fro,
They plucked the seated hills, with all their load,
Rocks, waters, woods, and by their shaggy tops
Uplifting bore them in their hands; amaze,
Be sure, and terror, seized the rebel host,
When coming towards them so dread they saw
The bottom of the mountains upward turned,
* * * * and on their heads
Main promontories flung, which in the air
Came shadowing, and oppressed whole legions armed;
Their armor helped their harm, crushed in and bruised
Into their substance pent, which wrought them pain
Implacable, and many a dolorous groan;
Long struggling underneath, ere they could wind
Out of such prison, though spirits of purest light,
Purest at first, now gross by sinning grown.
The rest, in imitation, to like arms
Betook them, and the neighboring hills uptore:
So hills amid the air encountered hills,
Hurled to and fro with jaculation dire,
That underground they fought in dismal shade;
Infernal noise! war seemed a civil game
To this uproar; horrid confusion heaped
Upon confusion rose.

Farewell to His Wife.

LORD BYRON.

FARE thee well, and if forever,
Still forever, fare thee well;
E'en though unforgiving, never
'Gainst thee shall my heart rebel.

Would that breast were bared before thee
Where thy head so oft hath lain,
While that placid sleep came o'er thee
Which thou ne'er canst know again:

Would that breast, by thee glanced over,
Every inmost thought could show!
Then thou wouldst at last discover
'Twas not well to spurn it so.

Though the world for this commend thee—
Though it smile upon the blow,
E'en its praises must offend thee,
Founded on another's woe.

Though my many faults defaced me,
Could no other arm be found
Than the one which once embraced me
To inflict a cureless wound?

Yet, oh, yet thyself deceive not:
Love may sink by slow decay;
But by sudden wrench, believe not
Hearts can thus be torn away:

Still thine own its life retaineth—
Still must mine, though bleeding, beat,
And th' undying thought which paineth
Is—that we no more may meet.

These are words of deeper sorrow
Than the wail above the dead;
Both shall live, but every morrow
Wakes us from a widowed bed.

And when thou wouldst solace gather
When our child's first accents flow,
Wilt thou teach her to say "Father!"
Though his care she must forego?

When her little hands shall press thee,
When her lip to thine is pressed,
Think of him whose love shall bless thee,
Think of him thy love had blessed.

Should her lineaments resemble
Those thou nevermore mayst see,
Then thy heart will softly tremble
With a pulse yet true to me.

All my faults perchance thou knowest,
All my madness none can know;
All my hopes where'er thou goest,
Whither, yet with thee they go.

Every feeling hath been shaken;
Pride, which not a world could bow,
Bows to thee—by thee forsaken,
E'en my soul forsakes me now

But 'tis done; all words are idle—
Words from me are vainer still;
But the thoughts we cannot bridle
Force their way without the will.

Fare thee well! thus disunited,
Torn from every nearer tie,
Seared in heart, and lone, and blighted,
More than this I scarce can die.

The Hour of Death.

Mrs. Felicia Hemans.

LEAVES have their time to fall,
And flowers to wither at the north wind's breath,
And stars to set—but all,
Thou hast all seasons for thine own, O Death!

Day is for mortal care,
Eve for glad meetings round the joyous hearth,
Night for the dreams of sleep, the voice of prayer—
But all for thee, thou mightiest of the earth.

The banquet hath its hour,
Its feverish hour of mirth, and song, and wine;
There comes a day for grief's o'erwhelming power,
A time for softer tears—but all are thine.

Youth and the opening rose
May look like things too glorious for decay,
And smile at thee—but thou art not of those
That wait the ripened bloom to seize their prey.

Leaves have their time to fall,
And flowers to wither at the north wind's breath,
And stars to set—but all,
Thou hast all seasons for thine own, O Death!

We know when moons shall wane,
When summer-birds from far shall cross the sea,
When autumn's hue shall tinge the golden grain—
But who shall teach us when to look for thee?

Is it when Spring's first gale
Comes forth to whisper where the violets lie?
Is it when roses in our paths grow pale?—
They have *one* season—*all* are ours to die!

Thou art where billows foam,
Thou art where music melts upon the air;
Thou art around us in our peaceful home,
And the world calls us forth—and thou art there.

Thou art where friend meets friend,
Beneath the shadow of the elm to rest—
Thou art where foe meets foe, and trumpets rend
The skies, and swords beat down the princely crest.

Leaves have their time to fall,
And flowers to wither at the north wind's breath,
And stars to set—but all,
Thou hast all seasons for thine own, O Death!

A Woman's Question.

Elizabeth Barrett Browning.

DO you know you have asked for the costliest thing
Ever made by the Hand above—
A woman's heart and a woman's life,
And a woman's wonderful love?

Do you know you have asked for this priceless thing
As a child might ask for a toy?
Demanding what others have died to win,
With the reckless dash of a boy?

You have written my lesson of duty out,
Man-like you have questioned me—
Now stand at the bar of my woman's soul,
Until I shall question thee.

You require your mutton shall always be hot,
Your socks and your shirts shall be whole;
I require your heart to be true as God's stars,
And pure as heaven your soul.

You require a cook for your mutton and beef;
I require a far better thing:
A seamstress you're wanting for stockings and shirts—
I look for a man and a king

A king for a beautiful realm called home,
And a man that the maker, God,
Shall look upon as He did the first,
And say, "It is very good."

I am fair and young, but the rose will fade
From my soft, young cheek one day—
Will you love me then, 'mid the falling leaves,
As you did 'mid the bloom of May?

Is your heart an ocean so strong and deep
I may launch my all on its tide?
A loving woman finds heaven or hell
On the day she is made a bride.

I require all things that are grand and true,
All things that a man should be;
If you give this all, I would stake my life
To be all you demand of me.

If you cannot do this—a laundress and cook
You can hire, with little to pay;
But a woman's heart and a woman's life
Are not to be won that way.

Horseback Ride.

SARA JANE LIPPINCOTT (Grace Greenwood).

WHEN troubled in spirit, when weary of life,
When I faint 'neath its burdens, and shrink from its strife,
When its fruit, turned to ashes, are mocking my taste,
And its fairest scene seems but a desolate waste,
Then come ye not near me, my sad heart to cheer
With friendship's soft accents or sympathy's tear;
No pity I ask, and no counsel I need,
But bring me, oh, bring me, my gallant young steed!
With his high arched neck, and his nostril spread wide,
His eye full of fire, and his step full of pride!
As I spring to his back, as I seize the strong rein,
The strength to my spirit returneth again;
The bonds are all broken that fettered my mind,
And my cares borne away on the wings of the wind;
My pride lifts its head, for a season bowed down,
And the queen in my nature now puts on her crown!
Now we're off—like the winds to the plains whence they came,
And the rapture of motion is thrilling my frame!
On, on speeds my courser, scarce printing the sod,
Scarce crushing a daisy to mark where he trod!
On, on like a deer, when the hound's early bay
Awakes the wild echoes, away and away!
Still faster, still farther, he leaps at my cheer,
Till the rush of the startled air whirs in my ear!

Now 'long a clear rivulet lieth his track,
See his glancing hoofs tossing the white pebbles back;
Now a glen dark as midnight—what matter?—we'll down,
Though shadows are round us, and rocks o'er us frown;
The thick branches shake as we're hurrying through,
And deck us with spangles of silvery dew.
What a wild thought of triumph that this girlish hand
Such a steed in the might of his strength may command!
What a glorious creature! Ah! glance at him now,
As I check him awhile on this green hillock's brow;
How he tosses his mane, with a shrill, joyous neigh,
And paws the firm earth in his proud, stately play!
Hurrah! off again, dashing on as in ire,
Till a long, flinty pathway is flashing with fire!
Ho! a ditch! Shall we pause? No; the bold leap we dare,
Like a swift-winged arrow we rush through the air!
Oh, not all the pleasures that poets may praise,
Not the 'wildering waltz in the ball-room's blaze,
Nor the chivalrous joust, nor the daring race,
Nor the swift regatta, nor merry chase,
Nor the sail, high heaving waters o'er,
Nor the rural dance on the moonlight shore,
Can the wild and thrilling joy exceed
Of a fearless leap on a fiery steed!

Angel Watchers.

ROSA VERTNER JEFFREY.

ANGEL faces watch my pillow, angel voices haunt my sleep,
And upon the winds of midnight shining pinions round me sweep;
Floating downward on the starlight two bright infant forms I see—
They are mine, my own bright darlings, come from heaven to visit me.

Earthly children smile upon me, but these little ones above
Were the first to stir the fountains of a mother's deathless love,
And as now they watch my slumber, while their soft eyes on me shine,
God forgive a mortal yearning still to call His angels mine.

Earthly children fondly call me, but no mortal voice can seem
Sweet as those that whisper "Mother!" 'mid the glories of my dream;
Years will pass, and earthly prattlers cease perchance to lisp my name,
But my angel babies' accents will be evermore the same.

And the bright band now around me from their home perchance will rove,
In their strength no more depending on my constant care and love;
But my first-born still shall wander from the sky, in dreams to rest
Their soft cheeks and shining tresses on an earthly mother's breast.

Time may steal away the freshness, or some whelming grief destroy
All the hope that erst had blossomed, in my summer-time of joy;
Earthly children may forsake me, earthly friends perhaps betray,
Every tie that now unites me to this life may pass away:

But, unchanged, those angel watchers, from their blessed, immortal home,
Pure and fair, to cheer the sadness of my darkened dreams shall come,
And I cannot feel forsaken, for, though reft of earthly love,
Angel children call me "Mother!" and my soul will look above.

A Farewell.

CHARLES KINGSLEY.

MY fairest child, I have no song to give you,
No lark could pipe to skies so dull and gray,
Yet, ere we part, one lesson I can leave you
For every day.

Be good, sweet maid, and let who will be clever;
Do noble things, not dream them all day long;
nd so make life, death, and that vast forever,
One grand, sweet song.

What the Birds Say.

SAMUEL TAYLOR COLERIDGE.

DO you ask what the birds say? The sparrow, the dove,
The linnet and thrush say, "I love, and I love!"
In the winter they're silent, the wind is so strong;
What it says I don't know, but it sings a loud song.

But green leaves, and blossoms, and sunny warm weather,
And singing and loving—all come back together;
But the lark is so brimful of gladness and love,
The green fields below him, the blue sky above,
That he sings, and he sings, and forever sings he,
"I love my Love, and my Love loves me."

COLERIDGE.

A Georgia Volunteer.

MARY A. TOWNSEND.

FAR up the lonely mountain side my wandering footsteps led;
The moss lay thick beneath my feet, the pine sighed overhead.
The trace of a dismantled fort lay in the forest nave,
And in the shadow near my path I saw a soldier's grave.

The bramble wrestled with the weed upon the lowly mound,
The simple headboard, rudely writ, had rotted to the ground;
I raised it with a reverent hand, from dust its words to clear,
But time had blotted all but these—"A Georgia Volunteer."

I saw the toad and scaly snake from tangled covert start,
And hide themselves among the weeds above the dead man's heart;
But undisturbed, in sleep profound, unheeding there he lay;
His coffin but the mountain soil, his shroud Confederate gray.

I heard the Shenandoah roll along the vale below,
I saw the Alleghenies rise towards the realms of snow.
The "Valley Campaign" rose to mind—its leader's name—and then
I knew the sleeper had been one of Stonewall Jackson's men.

Yet whence he came, what lip shall say—whose tongue will ever tell—
What desolate hearths and hearts have been because he fell?
What sad-eyed maiden braids her hair, her hair which he held dear?
One lock of which, perchance, lies with the Georgia Volunteer!

What mother, with long watching eyes and white lips cold and dumb,
Waits with appalling patience for her darling boy to come?
Her boy! whose mountain grave swells up but one of many a scar
Cut on the face of our fair land by gory-handed war.

What fights he fought, what wounds he wore, are all unknown to fame;
Remember, on his lonely grave there is not e'en a name!
That he fought well and bravely, too, and held his country dear,
We know, else he had never been a Georgia Volunteer.

He sleeps—what need to question now if he were wrong or right?
He knows, ere this, whose cause was just in God the Father's sight.
He wields no warlike weapons now, returns no foeman's thrust—
Who but a coward would revile an honored soldier's dust?

Roll, Shenandoah, proudly roll, adown thy rocky glen;
Above thee lies the grave of one of Stonewall Jackson's men.
Beneath the cedar and the pine, in solitude austere,
Unknown, unnamed, forgotten, lies a Georgia Volunteer.

The Picket Guard.

ETHEL LYNN BEERS.

"ALL quiet along the Potomac," they say,
"Except now and then a stray picket
Is shot, as he walks on his beat to and fro,
By a rifleman off in the thicket.
'Tis nothing—a private or two now and then,
Will not count in the news of the battle;
Not an officer lost—only one of the men,
Moaning out, all alone, the death rattle."

All quiet along the Potomac to-night,
Where the soldiers lie peacefully dreaming;
Their tents in the rays of the clear autumn moon
Or the light of the watchfires are gleaming.
A tremulous sigh, as the gentle night-wind
Through the forest-leaves softly is creeping,
While stars up above, with their glittering eyes,
Keep guard—for the army is sleeping.

There's only the sound of the lone sentry's tread,
As he tramps from the rock to the fountain,
And thinks of the two in the low trundle-bed
Far away in the cot on the mountain.
His musket falls slack—his face, dark and grim,
Grows gentle with memories tender,
As he mutters a prayer for the children asleep—
For their mother—may Heaven defend her!

The moon seems to shine just as brightly as then,
That night, when the love yet unspoken
Leaped up to his lips—when low-murmured vows
Were pledged to be ever unbroken.
Then, drawing his sleeve roughly over his eyes,
He dashes off tears that are welling,
And gathers his gun closer up to its place
As if to keep down the heart-swelling.

He passes the fountain, the blasted pine-tree—
The footstep is lagging and weary;
Yet onward he goes, through the broad belt of light
Toward the shades of the forest so dreary.
Hark! was it night-wind that rustled the leaves?
Was it moonlight so wondrously flashing?
It looked like a rifle—"Ah! Mary, good-by!"
And the life-blood is ebbing and plashing.

All quiet along the Potomac to-night,
No sound save the rush of the river;
While soft falls the dew on the face of the dead—
The picket's off duty forever.

Soldier's Dream.

THOMAS CAMPBELL.

OUR bugles sang truce—for the night-cloud had lowered;
And the sentinel stars set their watch in the sky;
And thousands had sunk on the ground overpowered,
The weary to sleep, the wounded to die.

When reposing that night on my pallet of straw,
By the wolf-scaring faggot that guarded the slain,
At the dead of the night a sweet vision I saw,
And thrice ere the morning I dreamt it again.

Methought from the battle-field's dreadful array,
Far, far I had roamed on a desolate track:
'Twas autumn—and sunshine arose on the way,
To the home of my fathers, that welcomed me back.

I flew to the pleasant field traversed so oft
In life's morning march when my bosom was young;
I heard my own mountain goats bleating aloft,
And knew the sweet strain the corn-reapers sung.

Then pledged we the wine-cup, and fondly I swore
From my home and my weeping friends never to part;
My little ones kissed me a thousand times o'er,
And my wife sobbed aloud in her fulness of heart.

"Stay, stay with us—rest, thou art weary and worn;"
And fain was their war-broken soldier to stay;
But sorrow returned with the dawning of morn,
And the voice in my dreaming melted away.

Bill and Joe.

OLIVER WENDELL HOLMES.

COME, dear old comrade, you and I
Will steal an hour from days gone by—
The shining days when life was new,
And all was bright as morning dew,
The lusty days of long ago,
When you were Bill and I was Joe.

Your name may flaunt a titled trail,
Proud as a cockerel's rainbow tail;
And mine as brief appendix wear
As Tam O'Shanter's luckless mare;
To-day, old friend, remember still
That I am Joe and you are Bill.

You've won the great world's envied prize,
And grand you look in people's eyes,
With HON. and LL.D.,
In big brave letters, fair to see—
Your fist, old fellow! off they go!—
How are you, Bill? How are you, Joe?

You've worn the judge's ermine robe;
You've taught your name to half the globe;
You've sung mankind a deathless strain;
You've made the dead past live again;
The world may call you what it will,
But you and I are Joe and Bill.

The chaffing young folks stare and say,
"See those old buffers, bent and gray;
They talk like fellows in their teens!
Mad, poor old boys! That's what it means"—
And shake their heads; they little know
The throbbing hearts of Bill and Joe—

How Bill forgets his hour of pride,
While Joe sits smiling at his side;
How Joe, in spite of time's disguise,
Finds the old schoolmate in his eyes—
Those calm, stern eyes that melt and fill
As Joe looks fondly up at Bill.

Ah, pensive scholar! what is fame?
A fitful tongue of leaping flame;
A giddy whirlwind's fickle gust,
That lifts a pinch of mortal dust:
A few swift years, and who can show
Which dust was Bill, and which was Joe?

The weary idol takes his stand,
Holds out his bruised and aching hand,
While gaping thousands come and go—
How vain it seems, this empty show!—
Till all at once his pulses thrill:
'Tis poor old Joe's "God bless you, Bill!"

And shall we breathe in happier spheres
The names that pleased our mortal ears—
In some sweet lull of harp and song,
For earth-born spirits none too long—
Just whispering of the world below,
Where this was Bill, and that was Joe?

Extract from Lucile.

OWEN MEREDITH.

WE may live without poetry, music and art;
We may live without conscience and live without heart;
We may live without friends; we may live without books;
But civilized man cannot live without cooks.

We may live without books,—what is knowledge but grieving?
We may live without hope,—what is hope but deceiving?
We may live without love,—what is passion but pining?
But where is the man that can live without dining?

AVENUE OF PALMS, HAVANA

Pictures of Memory.

ALICE CARY.

AMONG the beautiful pictures
That hang on Memory's wall,
Is one of a dim old forest,
That seemeth best of all.
Not for its gnarled oaks olden,
Dark with the mistletoe;
Not for the violets golden
That sprinkle the vale below;
Not for the milk-white lilies
That lean from the fragrant hedge,
Coquetting all day with the sunbeams,
And stealing their golden edge;
Not for the vines on the upland
Where the bright red berries rest,
Nor the pinks, nor the pale, sweet cowslip
It seemeth to me the best.

I once had a little brother
With eyes that were dark and deep—
In the lap of that dim old forest,
He lieth in peace asleep.

Light as the down of the thistle,
Free as the winds that blow,
We roved there, the beautiful summers
The summers of long ago;
But his feet on the hills grew weary,
And one of the autumn eves,
I made for my little brother
A bed of the yellow leaves.

Sweetly his pale arms folded
My neck in a meek embrace
As the light of immortal beauty
Silently covered his face;
And when the arrows of sunset
Lodged in the tree-tops bright,
He fell, in his saint-like beauty,
Asleep by the gates of light.

Therefore, of all the pictures
That hang on Memory's wall,
The one of the dim old forest
Seemeth the best of all.

Go to Thy Rest.

LYDIA HUNTLEY SIGOURNEY.

GO to thy rest, fair child!
Go to thy dreamless bed,
While yet so gentle, undefiled,
With blessings on thy head.

Fresh roses in thy hand,
Buds on thy pillow laid,
Haste from this dark and fearful land,
Where flowers so quickly fade.

Shall love with weak embrace
Thy upward wing detain?

No! cherub angel, seek thy place
Amid the cherub train.

Ere sin hath seared the breast,
Or sorrow waked the tear,
Rise to thy throne of changeless rest,
In yon celestial sphere!

Because thy smile was fair,
Thy lip and eye so bright,
Because thy loving cradle-care
Was such a dear delight.

God Our Refuge.

CLARA LAUER BALDWIN.

WHEN the last hope of life
Has been crushed in the dust,
And the last of our loved ones are gone—
When we feel that there's none
Left, who love us and trust,
And we stand in the wide world alone—

When the friends of the past
Have become all estranged
And forget "*'tis divine to forgive*"—

When cold words are said,
And cold looks exchanged—
And there's naught left to hope for or live,—

Then 'tis joy to the soul
To know that there's One
Whose mercy and love reaches all—
Who in tenderest love
Clings till life's journey's done,
And pities us still when we fall.

We Parted in Silence.

Mrs. Julia Crawford.

WE parted in silence, we parted by night,
On the banks of that lonely river;
Where the fragrant limes their boughs unite
We met—and we parted forever!
The night-bird sung, and the stars above
Told many a touching story
Of friends long passed to the kingdom of love,
Where the soul wears its mantle of glory.

II.

We parted in silence—our cheeks were wet
With the tears that were past controlling;
We vowed we would never, no, never forget,
And those vows, at the time, were consoling;
But those lips that echoed the sounds of mine
Are as cold as that lonely river;
And that eye, that beautiful spirit's shrine,
Has shrouded its fires forever.

III.

And now, on the midnight sky I look,
And my heart grows full of weeping;
Each star is to me a sealed book,
Some tale of that loved one keeping.
We parted in silence, we parted in tears,
On the banks of that lonely river;
But the odor and bloom of those bygone years
Shall hang o'er its waters forever.

The Song of the Camp.

BAYARD TAYLOR.

"GIVE us a song!" the soldiers cried,
The outer trenches guarding,
When the heated guns of the camps allied
Grew weary of bombarding.

The dark Redan, in silent scoff,
Lay grim and threatening under;
And the tawny mound of the Malakoff
No longer belched its thunder.

There was a pause. A guardsman said,
"We storm the forts to-morrow;
Sing while we may, another day
Will bring enough of sorrow."

They lay along the battery's side,
Below the smoking cannon:
Brave hearts from Severn and from Clyde,
And from the banks of Shannon.

They sang of love, and not of fame;
Forgot was Britain's glory:
Each heart recalled a different name,
But all sang "Annie Laurie."

Voice after voice caught up the song,
Until its tender passion
Rose like an anthem, rich and strong,
Their battle-eve confession.

Dear girl, her name he dared not speak,
But as the song grew louder,
Something upon the soldier's cheek
Washed off the stains of powder.

Beyond the darkening ocean burned
The bloody sunset's embers,
While the Crimean valleys learned
How English love remembers.

And once again a fire of hell
Rained on the Russian quarters,
With scream of shot, and burst of shell,
And bellowing of the mortars!

And Irish Nora's eyes are dim
For a singer dumb and gory;
And English Mary mourns for him
Who sang of "Annie Laurie."

Sleep, soldiers! still in honored rest
Your truth and valor wearing:
The bravest are the tenderest,—
The loving are the daring.

Our Own.

MARGARET E. SANGSTER.

IF I had known in the morning
How wearily all the day
The words unkind
Would trouble my mind
I said when you went away,
I had been more careful, darling,
Nor given you needless pain;
But we vex "our own"
With look and tone
We might never take back again.

For though in the quiet evening
You may give me the kiss of peace,
Yet it might be
That never for me
The pain of the heart should cease.
How many go forth in the morning
That never come home at night!
And hearts have broken
For harsh words spoken,
That sorrow can ne'er set right.

We have careful thoughts for the stranger,
And smiles for the sometime guest,
But oft for "our own"
The bitter tone,
Though we *love* "our own" the best.
Ah, lips with the curve impatient!
Ah, brow with that look of scorn!
'Twere a cruel fate,
Were the night too late
To undo the work of morn.

There Is No Death.

J. L. MCCREERY.

THERE is no death! The stars go down
To rise upon some fairer shore:
And bright in Heaven's jewelled crown
They shine forevermore.

There is no death! The dust we tread
Shall change beneath the summer showers
To golden grain or mellow fruit,
Or rainbow-tinted flowers.

There is no death! The forest leaves
Convert to life the viewless air;
The rocks disorganize to feed
The hungry moss they bear.

There is no death! The leaves may fall,
And flowers may fade and pass away;
They only wait through wintry hours
The coming of the May.

There is no death! An angel form
Walks o'er the earth with silent tread,
He bears our best loved things away;
And then we call them "dead."

He leaves our hearts all desolate,
He plucks our fairest, sweetest flowers;
Transplanted into bliss, they now
Adorn immortal bowers.

The bird-like voice, whose joyous tones
Made glad these scenes of sin and strife,
Sings now an everlasting song
Around the tree of life.

Where'er he sees a smile too bright,
Or heart too pure for taint and vice,
He bears it to that world of light,
To dwell in Paradise.

Born unto that undying life,
They leave us but to come again;
With joy we welcome them the same—
Except their sin and pain.

And ever near us, though unseen,
The dear immortal spirits tread;
For all the boundless universe
Is life—*there are no dead.*

Makin' an Editor Outen o' Him.

WILL M. CARLETON.

"GOOD mornin', sir, Mr. Printer; how is your body to-day?
I'm glad you're to home, for you fellers is al'ays a runnin' away.
Your paper last week wa'n't so spicy nor sharp as the one week before;
But I s'pose when the campaign is opened, you'll be whoopin' it up to 'em more.
That feller that's printin' *The Smasher* is goin' for you perty smart;
And our folks said this mornin' at breakfast, they thought he was gettin' the start.
But I hushed 'em right up in a minute, and said a good word for you;
I told 'em I b'lieved you was tryin' to do just as well as you knew;
And I told 'em that some one was sayin', and whoever 'twas it is so,
That you can't expect much of no one man, nor blame him for what he don't know.
But, layin' aside *pleasure* for business, I've brought you my little boy Jim;
And I thought I would see if you couldn't make an editor outen o' him.

"My family stock is increasin', while other folks seem to run short.
I've got a right smart of a family—it's one of the old-fashioned sort:
There's Ichabod, Isaac and Israel, a workin' away on the farm,
They do 'bout as much as one good boy, and make things go off like a charm.
There's Moses and Aaron are sly ones, and slip like a couple of eels;
But they're tol'able steady in one thing—they al'ays git round to their meals.
There's Peter, is busy inventin' (though *what* he invents I can't see),
And Joseph is studyin' medicine—and both of 'em boardin' with me.
There's Abram and Albert is married, each workin' my farm for himself,
And Sam smashed his nose at a shootin', and so he is laid on the shelf.
The rest of the boys are all growin' 'cept this little runt, which is Jim,
And I thought that perhaps I'd be makin' an editor outen o' him.

"He ain't no great shakes for to labor, though I've labored with him a good deal,
And give him some strappin' good arguments I know he couldn't help but to feel;
But he's built out of second-growth timber, and nothin' about him is big,
Exceptin' his appetite only, and there he's as good as a pig.
I keep him carryin' luncheons, and fillin' and bringin' the jugs,
And take him among the pertatoes, and set him to pickin' the bugs;
And then there's things to be doin' a helpin' the women in-doors;
There's churnin' and washin' of dishes, and other descriptions of chores;
But he don't take to nothin' but victuals, and he'll never be much, I'm afraid,
So I thought it would be a good notion to larn him the editor's trade.
His body's too small for a farmer, his judgment is rather too slim,
But I thought we perhaps could be makin' an editor outen o' him.

"It ain't much to get up a paper, it wouldn't take him long for to learn;
He could feed the machine, I'm thinkin', with a good strappin' fellow to turn.
And things that was once hard in doin' is easy enough now to do;
Just keep your eye on your machinery, and crack your arrangements right through.
I used for to wonder at readin', and where it was got up, and how;
But 'tis most of it made by machinery—I can see it all plain enough now.
And poetry, too, is constructed by machines of different designs,
Each one with a gauge and a chopper, to see to the length of the lines;
And I hear a New York clairvoyant is runnin' one sleeker than grease,
And a-*rentin'* her heaven-born productions at a couple of dollars apiece;
An' since the whole trade has growed easy, 'twould be easy enough, I've a whim,
If you was agreed, to be makin' an editor outen o' Jim."

The editor sat in his sanctum and looked the old man in the eye,
Then glanced at the grinning young hopeful, and mournfully made his reply:
"Is your son a small unbound edition of Moses and Solomon both?
Can he compass his spirit with meekness, and strangle a natural oath?
Can he leave all his wrongs to the future, and carry his heart in his cheek?
Can he do an hour's work in a minute, and live on a sixpence a week?
Can he courteously talk to an equal, and browbeat an impudent dunce?
Can he keep things in apple-pie order, and do half-a-dozen at once?

"Can he press all the springs of knowledge with quick and reliable touch,
And be sure that he knows how much *to* know, and knows how to not know too much?
Does he know how to spur up his virtue, and put a check-rein on his pride?
Can he carry a gentleman's manners within a rhinoceros' hide?
Can he know all, and do all, and be all, with cheerfulness, courage and vim?
If so, we perhaps can be 'makin' an editor outen o' him.'"

The farmer stood curiously listening, while wonder his visage o'erspread,
And he said: "Jim, I guess we'll be goin'; he's probably out of his head."

The Lightning-Rod Dispenser.

WILL M. CARLETON.

WHICH this railway smash reminds me, in an underhanded way,
Of a lightning-rod dispenser that came down on me one day;
Oiled to order in his motions—sanctimonious in his mien—
Hands as white as any baby's an' a face unnat'ral clean;
Not a wrinkle had his raiment, teeth and linen glittered white,
And his new-constructed neck-tie was an interestin' sight!
Which I almost wish a razor had made red that white-skinned throat,
And that new-constructed neck-tie had composed a hangman's knot,
Ere he brought his sleek-trimmed carcass for my women folks to see,
And his buzz-saw tongue a-runnin' for to gouge a gash in me.
Still I couldn't help but like him—as I fear I al'ays must,
The gold o' my own doctrine in a fellow heap o' dust;
For I saw that my opinions, when I fired them round by round,
Brought back an answerin' volley of a mighty similar sound.
I touched him on religion, and the joys my heart had known;
And I found that he had very similar notions of his own!
I told him of the doubtings that made sad my boyhood years;
Why, he'd laid awake till morning with that same old breed of fears!

I pointed up the pathway that I hoped to heaven to go:
He was on that very ladder, only just a round below!
Our politics was different, and at first he galled and winced;
But I arg'ed him so able, he was very soon convinced.
And 'twas gettin' tow'rd the middle of a hungry summer day—
There was dinner on the table, and I asked him, would he stay?
And he sat him down among us—everlastin' trim and neat—
And he asked a short crisp blessin' almost good enough to eat!
Then he fired up on the mercies of our Everlastin' Friend,

Till he gi'n the Lord Almighty a good, first-class recommend:
And for full an hour we listened to that sugar-coated scamp—
Talkin' like a blessèd angel—eatin' like a blasted tramp!

My wife—she liked the stranger, smiling on him warm and sweet;
(It al'ays flatters women when their guests are on the eat!)
And he hinted that some ladies never lose their youthful charms,
And caressed her yearlin' baby, and received it in his arms.
My sons and daughters liked him—for he had progressive views,
And he chewed the cud o' fancy, and gi'n down the latest news:
And *I* couldn't help but like him—as I fear I al'ays must,
The gold of my own doctrines in a fellow-heap o' dust.

He was chiselin' desolation through a piece of apple-pie,
When he paused and gazed upon us, with a tear in his off eye,
And said, "Oh, happy family!—your joys they make me sad!
They all the time remind me of the dear ones once *I* had!
A babe as sweet as this one; a wife *almost* as fair;
A little girl with ringlets, like that one over there.
But had I not neglected the means within my way,
Then they might still be living, and loving me to-day.

"One night there came a tempest; the thunder peals were dire;
The clouds that marched above us were shooting bolts of fire;
In my own house I lying, was thinking, to my shame,
How little I had guarded against those bolts of flame,
When crash!—through roof and ceiling the deadly lightning cleft,
And killed my wife and children, and only I was left!

"Since then afar I've wandered, and naught for life have cared,
Save to save others' loved ones whose lives have yet been spared;
Since then it is my mission, where'er by sorrow tossed,
To sell to worthy people good lightning-rods at cost.
With sure and strong protection I'll clothe your buildings o'er;
'Twill cost you—twenty dollars (*perhaps* a *trifle* more;
Whatever else it comes to, at lowest price I'll put;
You simply *sign a contract* to pay so much per foot)."

I—signed it! while my family, all approvin', stood about;
The villain dropped a tear on't—but he didn't blot it out!
That self-same day, with wagons, came some rascals great and small;
They hopped up on my buildin's just as if they owned 'em all;
They hewed 'em and they hacked 'em—agin' my loud desires—
They trimmed 'em off with gewgaws, and they bound 'em down with wires;
They hacked 'em and they hewed 'em and they hewed and hacked 'em still,
And every precious minute kep' a runnin' up the bill.

To find my soft-spoke neighbor, did I rave and rush and run;
He was suppin' with a neighbor, just a few miles further on.
"Do you think," I loudly shouted, "that I need a mile o' wire
For to save each separate hay-cock out o' heaven's consumin' fire?
Did you think, to keep my buildin's out o' some uncertain harm,
I was goin' to deed you over all the balance of my farm!"

He silenced me with silence in a very little while,
And then trotted out the contract with a reassuring smile;
And for half an hour explained it, with exasperatin' skill,
While his myrmurdums kep' probably a runnin' up my bill.
He held me to that contract with a firmness queer to see;
'Twas the very first occasion he had disagreed with me!
And for that 'ere thunder story, ere the rascal finally went,
I paid two hundred dollars, if I paid a single cent.

And if any lightnin'-rodist wants a dinner dialogue
With the restaurant department of an enterprisin' dog,
Let him set his mouth a-runnin' just inside my outside gate,
And I'll bet two hundred dollars that he won't have long to wait.

Hannah Jane.

PETROLEUM V. NASBY.

SHE isn't half so handsome as when, twenty years agone,
At her old home in Piketon, Parson Avery made us one;
The great house crowded full of guests of every degree,
The girls all envying Hannah Jane, the boys all envying me.

Her fingers then were taper, and her skin as white as milk,
Her brown hair—what a mess it was! and soft and fine as silk;
No wind-moved willow by a brook had ever such a grace,
The form of Aphrodite, with a pure Madonna face.

She had but meagre schooling; her little notes to me
Were full of crooked pot-hooks, and the worst orthography:
Her "dear" she spelled with double *e*, and "kiss" with but one *s*;
But when one's crazed with passion, what's a letter more or less?

She blundered in her writing, and she blundered when she spoke,
And every rule of syntax, that old Murray made, she broke;
But she was beautiful and fresh, and I—well, I was young;
Her form and face o'erbalanced all the blunders of her tongue.

I was but little better. True, I'd longer been at school;
My tongue and pen were run, perhaps, a little more by rule;
But that was all. The neighbors round, who both of us well knew,
Said—which I believe—she was the better of the two.

All's changed: the light of seventeen's no longer in her eyes;
Her wavy hair is gone—that loss the coiffeur's art supplies;
Her form is thin and angular; she slightly forward bends;
Her fingers, once so shapely, now are stumpy at the ends.

She knows but very little, and in little are we one;
The beauty rare, that more than hid that great defect, is gone.
My *parvenu* relations now deride my homely wife,
And pity me that I am tied to such a clod for life.

I know there is a difference; at reception and levee,
The brightest, wittiest and most famed of women smile on me;
And everywhere I hold my place among the greatest men;
And sometimes sigh, with Whittier's Judge, "Alas! it might have been."

When they all crowd around me, stately dames and brilliant belles,
And yield to me the homage that all great success compels,
Discussing art and state-craft, and literature as well,
From Homer down to Thackeray, and Swedenborg on "Hell,"

I can't forget that from these streams my wife has never quaffed,
Has never with Ophelia wept, nor with Jack Falstaff laughed;
Of authors, actors, artists—why, she hardly knows the names;
She slept while I was speaking on the *Alabama* claims.

I can't forget—just at this point another form appears—
The wife I wedded as she was before my prosperous years;
I travel o'er the dreary road we travelled side by side,
And wonder what my share would be, if Justice should divide.

She had four hundred dollars left her from the old estate;
On that we married, and, thus poorly armored, faced our fate.
I wrestled with my books; her task was harder far than mine—
'Twas how to make two hundred dollars do the work of nine.

At last I was admitted; then I had my legal lore,
An office with a stove and desk, of books perhaps a score;
She had her beauty and her youth, and some housewifely skill,
And love for me and faith in me, and back of that a will.

I had no friends behind me—no influence to aid;
I worked and fought for every little inch of ground I made.
And how she fought beside me! never woman lived on less;
In two long years she never spent a single cent for dress.

Ah! how she cried for joy when my first legal fight was won,
When our eclipse passed partly by, and we stood in the sun!
The fee was fifty dollars—'t was the work of half a year—
First captive, lean and scraggy, of my legal bow and spear.

I well remember when my coat (the only one I had)
Was seedy grown and threadbare, and, in fact, most shocking bad;
The tailor's stern remark when I a modest order made:
"Cash is the basis, sir, on which we tailors do our trade."

Her winter cloak was in his shop by noon that very day;
She wrought on hickory shirts at night that tailor's skill to pay;
I got a coat, and wore it; but alas! poor Hannah Jane
Ne'er went to church or lecture till warm weather came again.

Our second season she refused a cloak of any sort,
That I might have a decent suit in which t' appear in court;
She made her last year's bonnet do, that I might have a hat:
Talk of the old-time, flame-enveloped martyrs after that!

No negro ever worked so hard; a servant's pay to save,
She made herself most willingly a household drudge and slave.
What wonder that she never read a magazine or book,
Combining as she did in one nurse, housemaid, seamstress, cook.

What wonder that the beauty fled, that I once so adored!
Her beautiful complexion my fierce kitchen fire devoured;
Her plump, soft, rounded arm was once too fair to be concealed;
Hard work for me that softness into sinewy strength congealed.

I was her altar, and her love the sacrificial flame:
Ah! with what pure devotion she to that altar came,
And, tearful, flung thereon—alas! I did not know it then—
All that she was, and more than that, all that she might have been!

John Anderson, My Jo.

ROBERT BURNS.

JOHN ANDERSON, my jo, John,
When we were first acquent,
Your locks were like the raven,
Your bonnie brow was brent;
But now your brow is beld, John,
Your locks are like the snaw;
But blessings on your frosty pow,
John Anderson, my jo.

John Anderson, my jo, John,
We clamb the hill thegither;
And mony a canty day, John,
We've had wi' ane anither.
Now we maun totter down, John,
But hand in hand we'll go;
And sleep thegither at the foot,
John Anderson, my jo.

Home, Sweet Home.

JOHN HOWARD PAYNE.

As published by Mr. Payne, in New York, in 1831.

'MID pleasures and palaces though we may roam,
Be it ever so humble, there's no place like home.
A charm from the skies seems to hallow us there,
Which seek through the world, is ne'er met with elsewhere.
Home! home! sweet, sweet home!
There's no place like home! there's no place like home!

An exile from home, splendor dazzles in vain;
Oh, give me my lowly thatched cottage again.
The birds singing gaily that come to my call—
Give me them, with the peace of mind dearer than all.
Home! home! sweet, sweet home!
There's no place like home! there's no place like home

How sweet 'tis to sit 'neath a fond father's smile,
And the cares of a mother to soothe and beguile!
Let others delight 'mid new pleasures to roam,
But give, oh! give me the pleasures of home.
Home! home! sweet, sweet home!
There's no place like home! there's no place like home.

To thee I'll return, overburdened with care;
The heart's dearest solace will smile on me there.
No more from that cottage again will I roam;
Be it ever so humble, there's no place like home.
Home! home! sweet, sweet home!
There's no place like home! there's no place like home!

The Bivouac of the Dead.

THEODORE O'HARA.

The Legislature of Kentucky caused the dead of that State who fell at Buena Vista to be brought home and interred at Frankfort, under a splendid monument. Theodore O'Hara, a gifted Irish-Kentuckian soldier and scholar, was selected the orator and poet of the occasion, whence this beautiful eulogy, which has the same application to-day.

THE muffled drum's sad roll has beat
The soldier's last tattoo;
No more on life's parade shall meet
That brave and fallen few.
On fame's eternal camping-ground
Their silent tents are spread,
And glory guards, with solemn round,
The bivouac of the dead.

No rumor of the foe's advance
Now swells upon the wind;
No troubled thought at midnight haunts
Of loved ones left behind;
No vision of the morrow's strife
The warrior's dream alarms;
No braying horn nor screaming fife
At dawn shall call to arms.

Their shivered swords are red with rust,
Their plumed heads are bowed;
Their haughty banner, trailed in dust,
Is now their martial shroud.
And plenteous funeral tears have washed
The red stains from each brow,
And the proud forms, by battle gashed,
Are free from anguish now.

The neighing troop, the flashing blade,
The bugle's stirring blast,
The charge, the dreadful cannonade,
The din and shout are past;
Nor war's wild note nor glory's peal
Shall thrill with fierce delight
Those breasts that never more may feel
The rapture of the fight.

Like the fierce northern hurricane
That sweeps his great plateau,
Flushed with the triumph yet to gain
Came down the serried foe.
Who heard the thunder of the fray
Break o'er the field beneath
Knew well the watchword of that day
Was "Victory or death."

Long had the doubtful conflict raged
O'er all that stricken plain—
For never fiercer fight had waged
The vengeful blood of Spain—
And still the storm of battle blew,
Still swelled the gory tide;
Not long, our stout old chieftain knew,
Such odds his strength could bide.

'Twas in that hour his stern command
Called to a martyr's grave
The flower of his beloved land,
The nation's flag to save.
By rivers of their fathers' gore
His first-born laurels grew,
And well he deemed the sons would pour
Their lives for glory, too.

Full many a mother's breath had swept
O'er Angostura's plain—
And long the pitying sky has wept
Above the moldering slain.
The raven's scream, or eagle's flight,
Or shepherd's pensive lay,
Alone awakes each sullen height
That frowned o'er that dread fray.

Sons of the Dark and Bloody Ground,
Ye must not slumber there,
Where stranger steps and tongues resound
Along the heedless air;
Your own proud land's heroic soil
Shall be your fitter grave—
She claims from war his richest spoil—
The ashes of her brave.

So, 'neath their parent turf they rest,
Far from the gory field,
Borne to a Spartan mother's breast,
On many a bloody shield;
The sunshine of their native sky
Smiles sadly on them here,
And kindest eyes and hearts watch by
The heroes' sepulchre.

Rest on, embalmed and sainted dead,
Dear as the blood ye gave;
No impious footstep here shall tread
The herbage of your grave;
Nor shall your glory be forgot
While fame her record keeps
Or honor points the hallowed spot
Where valor proudly sleeps.

Yon marble minstrel's voiceless stone
In deathless song shall tell,
When many a vanished age hath flown,
The story how ye fell;
Nor wreck, nor change, nor winter's blight,
Nor Time's remorseless doom,
Shall dim one ray of glory's light
That gilds your deathless tomb.

The Stars and the Flowers.

OLIVER WENDELL HOLMES.

WHEN Eve had led her lord away,
And Cain had killed his brother,
The stars and flowers, the poets say
Agreed with one another

To cheat the cunning tempter's art,
And teach the race its duty,
By keeping on its wicked heart
Their eyes of light and beauty,

A million sleepless lids, they say,
Will be at least a warning;
And so the flowers would watch by day,
The stars from eve to morning.

They try to shut their saddening eyes,
And in the vain endeavor
We see them twinkling in the skies,
And so they wink forever.

On hill and prairie, field and lawn,
Their dewy eyes upturning,
The flowers still watch from reddening dawn
Till western skies are burning.

Alas! each hour of daylight tells
A tale of shame so crushing,
That some turn white as sea-bleached shells,
And some are always blushing.

But when the patient stars look down
On all their light discovers,
The traitor's smile, the murderer's frown,
The lips of lying lovers,

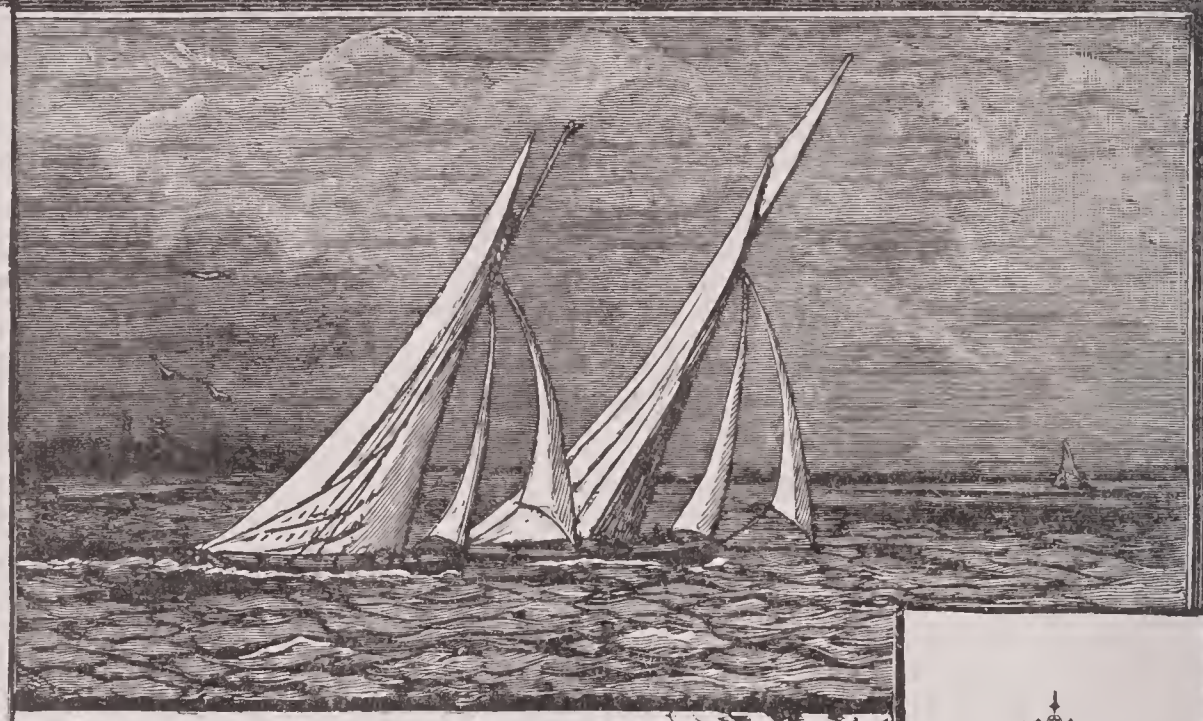
Boat Song.

THOMAS MOORE.

FAINTLY as tolls the evening chime,
Our voices keep tune, and our oars keep time.
Soon as the woods on the shore look dim,
We'll sing at St. Ann's our parting hymn;
Row, brothers, row! the stream runs fast,
The rapids are near and the daylight's past!

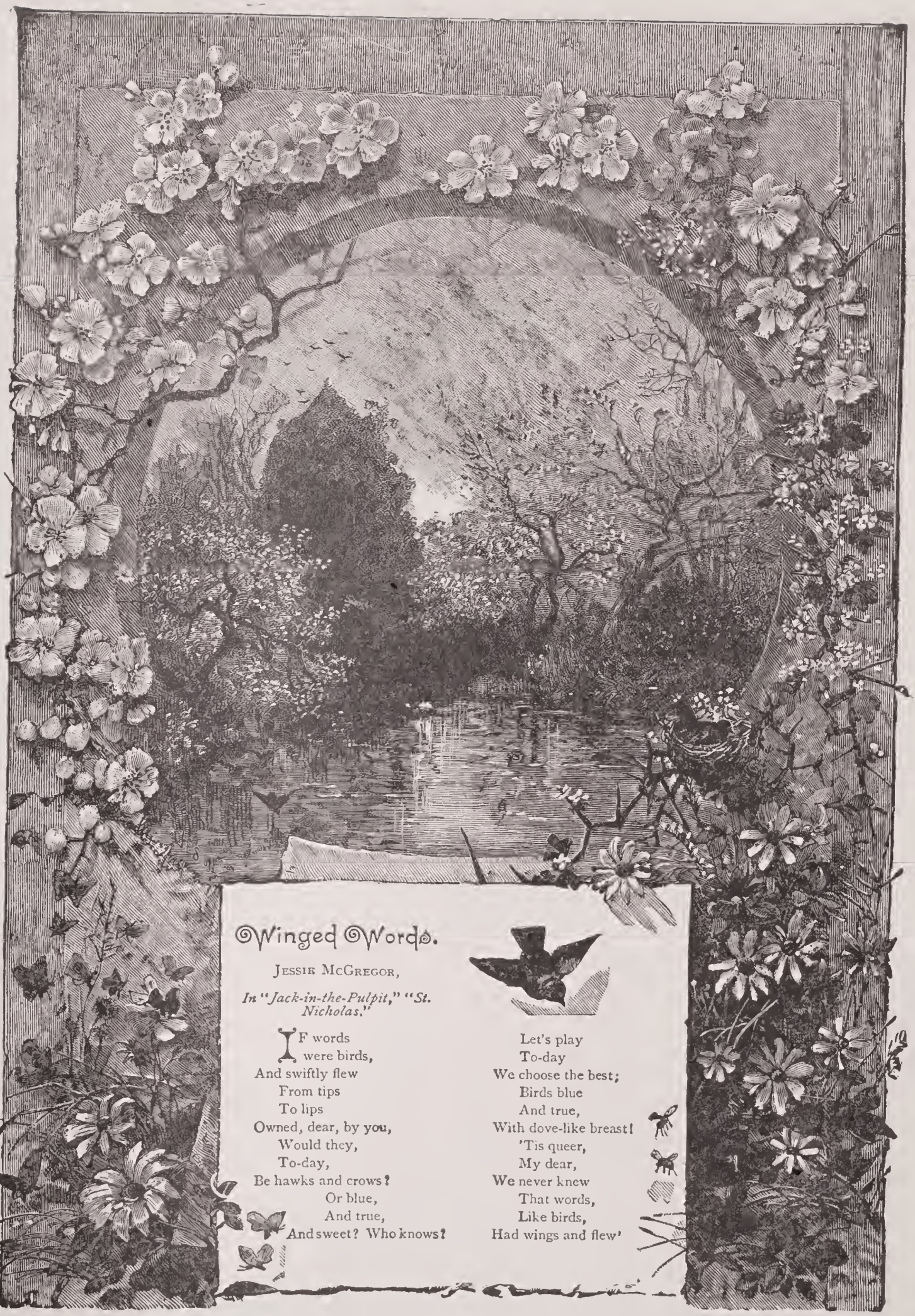
II.

Why should we yet our sail unfurl?
There is not a breath the blue wave to curl.
But when the wind blows off the shore,
Oh! sweetly we'll rest our weary oar.
Blow, breezes, blow! the stream runs fast,
The rapids are near, and the daylight's past!



III.

Utawa's tide! this trembling moon
Shall see us afloat o'er thy surges soon.
Saint of this green isle, hear our prayers—
Oh! grant us cool heavens and favoring airs!
Blow, breezes, blow! the stream runs fast,
The rapids are near, and the daylight's past!



Winged Words.

JESSIE MCGREGOR,

In "Jack-in-the-Pulpit," "St. Nicholas."

IF words
were birds,
And swiftly flew
From tips
To lips
Owned, dear, by you,
Would they,
To-day,
Be hawks and crows?
Or blue,
And true,
And sweet? Who knows?

Let's play
To-day
We choose the best;
Birds blue
And true,
With dove-like breast!
'Tis queer,
My dear,
We never knew
That words,
Like birds,
Had wings and flew!

The Death of the Flowers.

WILLIAM CULLEN BRYANT.

THE melancholy days are come, the saddest of the year,
Of wailing winds, and naked woods, and meadows brown and sear.
Heaped in the hollows of the grove, the autumn leaves lie dead;
They rustle to the eddying gust, and to the rabbit's tread.
The robin and the wren are flown, and from the shrubs the jay,
And from the wood-top calls the crow through all the gloomy day.

Where are the flowers, the fair young flowers, that lately sprang and stood,
In brighter light and softer airs, a beauteous sisterhood?
Alas! they all are in their graves; the gentle race of flowers
Are lying in their lowly beds with the fair and good of ours.
The rain is falling where they lie; but the cold November rain
Calls not from out the gloomy earth the lovely ones again.

* * * * * * * *

And then I think of one who in her youthful beauty died,
The fair meek blossom that grew up and faded by my side.
In the cold moist earth we laid her, when the forests cast the leaf,
And we wept that one so lovely should have a life so brief;
Yet not unmeet it was that one, like that young friend of ours,
So gentle and so beautiful, should perish with the flowers.

BEER PRODUCTION.

Number of Am. Barrels in Various Countries, 1903.

Number of barrels of malt liquor sold in U. S. in the revenue year ending June 30, 1903.

46,650,730

(31 gallons to the barrel.)

	BARRELS
Washington,	360,725
Montana,	204,869
Tennessee,	188,126
Oregon,	178,189
Virginia,	163,065
Georgia,	146,868
Delaware,	120,208
Utah,	48,009
Idaho,	16,904
Wyoming,	14,428
Kansas,	13,683
South Carolina,	5,087

Germany, 60,709,415

United States, 46,650,730.

Austria, 17,555,959

France, 8,946,677

Great Britain, 50,575,234

Russia, 4,976,056

Belgium, 11,715,877

Sweden, 2,662,712

Denmark, 2,017,926

Switzerland, 1,483,673

Netherlands, 1,244,014

Norway, 632,950

Wisconsin, 3,853,451 (barrels)

Michigan, 1,177,417

Indiana, 1,079,587

California, 940,111

Minnesota, 926,371

Maryland, 856,507

Kentucky, 571,736

New Hampshire, 366,830

Iowa, 313,954

Massachusetts, 1,765,061 (barrels)

New Jersey 2,617,394 (barrels)

Ohio, 3,684,840 (barrels)

Pennsylvania, 6,018,911 (barrels)

New York State, 10,566,835 (barrels)

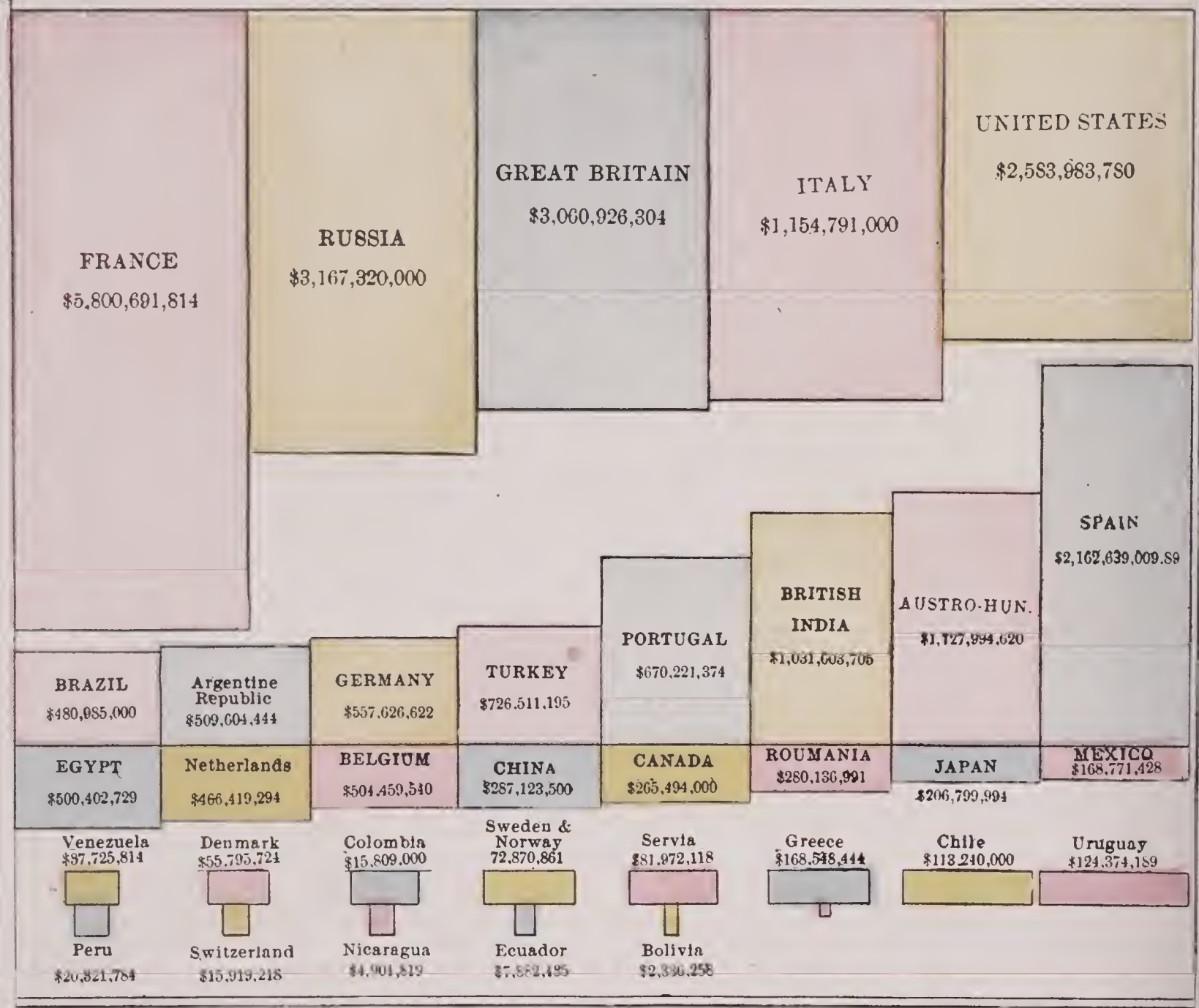
Missouri, 3,110,204 (barrels)

Illinois, 4,488,673 (barrels)

Arizona,	924
Nevada,	27,804
New Mexico,	4,691
Dakotas,	35,817
Dist. Columbia,	229,310
West Virginia,	241,407
Nebraska,	265,063
Colorado,	301,977
Rhode Island,	381,652
Louisiana,	283,979
Texas,	403,794
Conn.,	522,916

PUBLIC DEBTS OF VARIOUS COUNTRIES. 1903.

AMOUNTS ARE IN DOLLARS (U. S.)



STATE DEBTS, UNITED STATES.

Oregon	$ 1,238	South Dakota	$ 588,300	Maine	$ 2,453,000	Georgia	$ 7,631,500
Vermont	333,965	New Mexico	1,152,100	Mississippi	2,887,026	Missouri	5,680,839
West Virginia	None.	Delaware	769,750	Connecticut	1,720,827	Alabama	9,357,600
Idaho	546,300	New Jersey	None.	Pennsylvania	7,815,299	Louisiana	10,877,800
Iowa	10,938	Florida	1,032,500	Texas	717,200	Tennessee	16,625,666
Nebraska	None.	Kansas	582,000	Michigan	416,800	District of Columbia	14,284,650
Washington	1,345,000	Illinois	18,500	South Carolina	6,846,082	Virginia	24,363,795
Wyoming	300,000	Kentucky	1,171,394	Ohio	451,665	Utah	900,000
Rhode Island	3,278,000	Wisconsin	2,251,000	Massachusetts	13,674,173	Montana	860,000
Nevada	265,210	Minnesota	2,009,000	North Carolina	6,287,350	**TERRITORIES**	
Colorado	2,300,900	New York	10,075,669	Maryland	2,662,344	Hawaii	$ 4,888,881
North Dakota	1,600,393	California	2,281,500	Indiana	3,887,615	Philippines	
Arizona	2,787,347	New Hampshire	1,781,323	Arkansas	1,271,000	Porto Rico	

MILITARY and NAVAL STRENGTH of VARIOUS COUNTRIES.

Based on the numerical strength of the respective armies on a war footing; where more than one number is given, besides the number of war vessels, the first represents the standing army.

NORWAY and SWEDEN.
63,920
War footing
577,233
Navy
114 Ships

FRANCE
489,241
War footing 3,500,000
344 War vessels.

UNITED STATES
Standing Army
65,971
Men capable of bearing arms (mostly untrained) estimated at ten millions.
Number of men in Civil War, 2,778,304

NAVY
Real effective Navy,
151 vessels,
Exclusive of Auxiliary Navy.

GERMANY
Peace footing 576,400,
War footing 4,000,000.
Effective
War vessels, 110

SERVIA
21,200
War footing
535,122

Denmark
8,945
60,134
62 vessels.

Egypt
17,600
W. f. 95,000

Brazil
28,160
64 vess.

Peru
4,000

Greece
20,040
W. f. 82,125
64 vess.

Argentine Rep.
16,687
Nat. Gds. 480,000
55 War vessels.

AUSTRIA-HUNGARY
358,211
War footing 872,178
133 War vessels.

RUSSIA
1,000,000
War footing 3,500,000
383 War vessels.

ROUMANIA
116,000
Navy 28

TURKEY
Standing Army
700,600
War f. 1,500,000
72 War vessels.

Portugal
30,000
171,324
42 vess.

Chile
17,385
33 vess.

Switzerland
152,262
523,570

Bulgaria
Army
40,101

Netherlands
26,977
140,000
20 War vessels.

ITALY
264,516
W f. 3,323,441
346
War vessels.

BRITISH EMPIRE.

CANADA
Militia
36,204

INDIA
European army,
74,288
Native army,
140,640

GREAT BRITAIN
Army (inclusive of India)
522,037
War footing 1,275,400
356 War vessels.
(In commission, 164)

AUSTRALIA, NEW ZEALAND, and TASMANIA,
Militia 29,960

SPAIN
Peace footing 108,000
War footing 700,000
36 Fighting vessels.

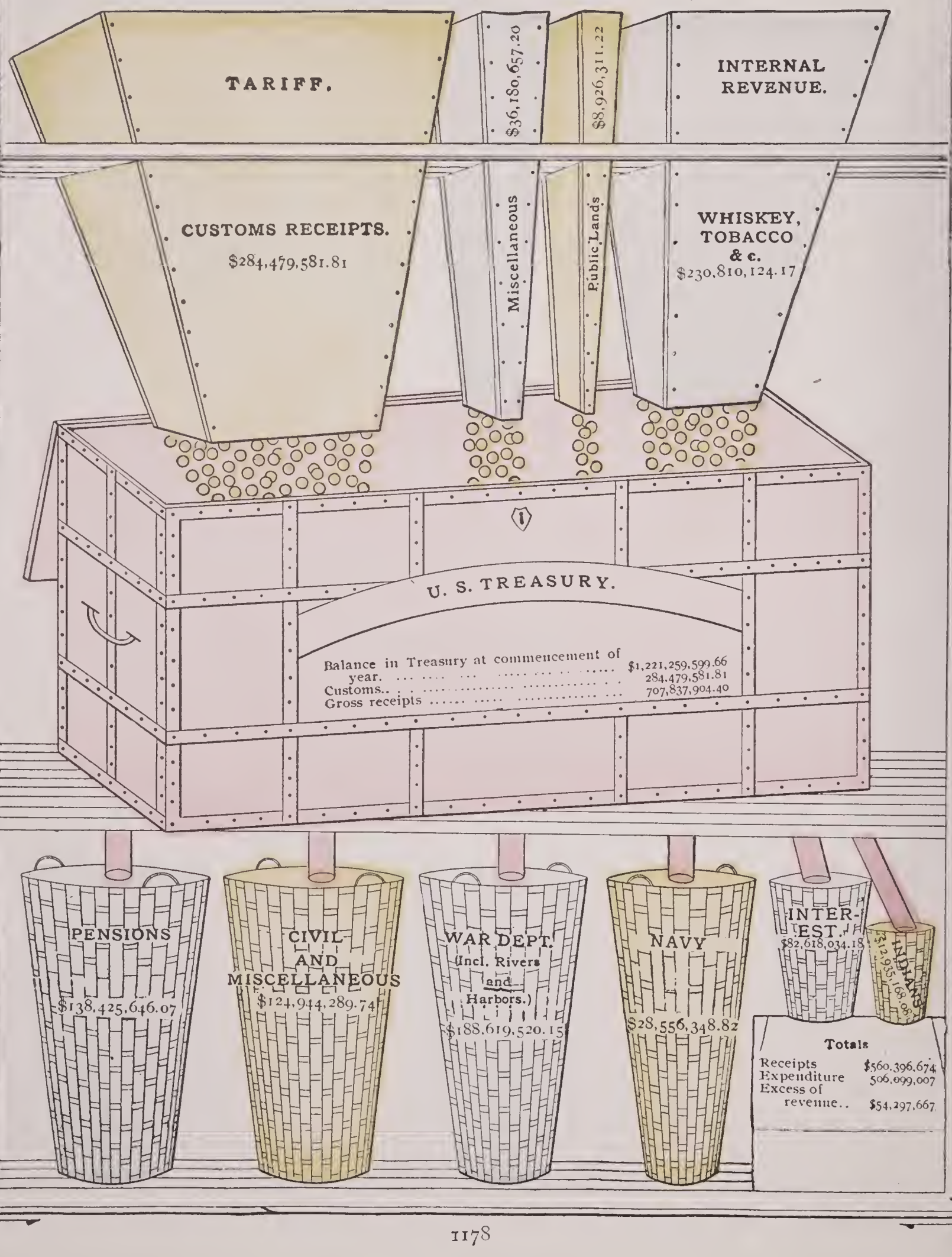
JAPAN
Standing army, 158,214.
War footing 632,000
74 Fighting vessels.

BELGIUM
47,745
W. f. 143,628
21 War vess.

CHINA
300,000
War footing 1,000,000
9 Ironclads, Cruisers, and Destroyers,
18 effective fighting vessels.

Receipts and Expenditures United States Government.

For the fiscal year 1903



A LIGHTNING CALCULATOR.

For the Use of the Farmer, Mechanic and Business Man.

READY RECKONER.

For Computing the Price of Cattle, Hogs, Cotton, or Any Commodity Sold by the Hundred or Part of the Hundred.

If the desired amount or quantity is not in the table, add two numbers together.

LBS.	$ Cts. 2	$ Cts. 2¼	$ Cts. 2½	$ Cts. 2¾	$ Cts. 3	$ Cts. 3¼	$ Cts. 3½	$ Cts. 3¾	$ Cts. 4	$ Cts. 4¼	$ Cts. 4½	$ Cts. 4¾	$ Cts. 5	$ Cts. 5¼	$ Cts. 5½	$ Cts. 5¾
1	.02	.02	.02	.03	.03	.03	.03	.04	.04	.04	.04	.05	.05	.05	.05	.06
2	.04	.04	.05	.05	.06	.06	.07	.07	08	.08	.09	.09	.10	.10	.11	.11
3	.06	.07	.07	.08	.09	.10	.10	.11	.12	.13	.13	.14	.15	.16	.16	.17
4	.08	.09	.10	.11	.12	.13	.14	.15	.16	.17	.18	.19	.20	.21	.22	.23
5	.10	.11	.12	.14	.15	.16	.17	.19	.20	.21	.22	.24	.25	.26	.27	.29
6	.12	.13	.15	.16	.18	.19	.21	.22	.24	.25	.27	.28	.30	.31	.33	.34
7	.14	.16	.17	.19	.21	.23	.24	.26	.28	.30	.31	.33	.35	.37	.38	.40
8	.16	.18	.20	.22	.24	.26	.28	.30	.32	.34	.36	.38	.40	.42	.44	.46
9	.18	.20	.22	.25	.27	.29	.31	.34	.36	.38	.40	.43	.45	.47	.49	.52
10	.20	.22	.25	.27	.30	.32	.35	.37	.40	.42	.45	.47	.50	.52	.55	.57
20	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	1 00	1 05	1 10	1.15
30	.60	.67	.75	.82	.90	.97	1.05	1.12	1.20	1.27	1.35	1.42	1.50	1.57	1 65	1.72
40	.80	.90	1 00	1.10	1.20	1 30	1.40	1 50	1 60	1.70	1.80	1.90	2 00	2 10	2 20	2 30
50	1.00	1.12	1 25	1.37	1.50	1 62	1.75	1.87	2 00	2.12	2.25	2.37	2.50	2 62	2.75	2.87
60	1 20	1.35	1 50	1 65	1.80	1 95	2 10	2.25	2 40	2.55	2.70	2.85	3.00	3 15	3.30	3.45
70	1.40	1.57	1 75	1 92	2.10	2 27	2.45	2.62	2 80	2.97	3.15	3.32	3.50	3.67	3.85	4.02
80	1 60	1 80	2 00	2.20	2.40	2 60	2.80	3.00	3 20	3.40	3.60	3.80	4.00	4 20	4.40	4.60
90	1 80	2 02	2 25	2 47	2.70	2 92	3.15	3.37	3 60	3.82	4.05	4.27	4.50	4.72	4.95	5.17
100	2 00	2 25	2 50	2 75	3.00	3 25	3 50	3 75	4.00	4 25	4.50	4.75	5.00	5 25	5.50	5.75
200	4.00	4.50	5 00	5 50	6.00	6 50	7 00	7.50	8 00	8.50	9.00	9 50	10 00	10.50	11.00	11.50
300	6 00	6.75	7.50	8.25	9 00	9.75	11.50	11.25	12 00	12.75	13.50	14.25	15.00	15.75	16 50	17.25
400	8.00	9 00	10 00	11 00	12.00	13 00	14 00	15 00	16 00	17.00	18.00	19.00	20.00	21 00	22.00	23.00
500	10 00	11 25	12.50	13.75	15.00	16 25	17 50	18 75	20 00	21.25	22.50	23.75	25 00	26.25	27.50	28.75
600	12 00	13 50	15 00	16 50	18.00	19.50	21 00	22.50	24.00	25.50	27 00	28.50	30.00	31.50	33.00	34.50
700	14.00	15 75	17 50	19 25	21.00	22.75	24 50	26 25	28 00	29 75	31.50	33.25	35 00	36.75	38.50	40.25
800	16.00	18 00	20 00	22 00	24 00	26 00	28 00	30 00	32.00	34.00	36 00	38.00	40.00	42 00	44.00	46.00
900	18.00	20 25	22.50	24.75	27.00	29 25	31 50	33 75	36 00	38 25	40.50	42.75	45.00	47 25	49.50	51.75
1,000	20 00	22 50	25.00	27.50	30.00	32.50	35 00	37.50	40.00	42.50	45 00	47.50	50.00	52.50	55.00	57.50
1,100	22.00	24.75	27 50	30.25	33.00	35.75	38.50	41.25	44 00	46 75	49 50	52.25	55.00	57.75	60.50	63.25
1,200	24.00	27.00	30 00	33.00	36.00	39.00	42.00	45 00	48.00	51.00	54.00	57.00	60 00	63.00	66.00	69.00
1,300	26.00	29 25	32.50	35.75	39 00	42.25	45.50	48.75	52.00	55 25	58.50	61.75	65.00	68.25	71.50	74.75
1,400	28 00	31.50	35 00	38.50	42.00	45.50	49 00	52.50	56 00	59.50	63.00	66 50	70 00	73.50	77.00	80.50
1,500	30.00	33.75	37.50	41.25	45.00	48.75	52.50	56 25	60.00	63.75	67.50	71.25	75 00	78.75	82.50	86.25
1,600	32.00	36.00	40.00	44 00	48.00	52.00	56.00	60.00	64.00	68.00	72.00	76.00	80 00	84.00	88.00	92.00
1,700	34.00	38.25	42.50	46.75	51 00	55.25	59.50	63 75	68.00	72.25	76 50	80.75	85.00	89 25	93.50	97.75
1,800	36.00	40.50	45.00	49 50	54.00	58.50	63.00	67.50	72.00	76.50	81.00	85.50	90.00	94.50	99.00	103.50
1,900	38.00	42.75	47.50	52.25	57.00	61.75	66.50	71.25	76 00	80.75	85 50	90.25	95.00	99.75	104.50	109.25
2,000	40.00	45.00	50.00	55.00	60.00	65 00	70.00	75.00	80.00	85.00	90.00	95.00	100 00	105 00	110.00	115.00
3,000	60.00	67.50	75 00	82.50	90.00	97 50	105.00	112 50	120.00	127.50	135.00	142.50	150 00	157.50	165.00	172.50
4,000	80.00	90.00	100.00	110.00	120.00	130 00	140.00	150.00	160.00	170.00	180.00	190.00	200 00	210.00	220.00	230.00
5,000	100.00	112.50	125.00	137.50	150.00	162.50	175.00	187.00	200.00	212.50	225.00	237.50	250 00	262.50	275.00	287.50

LBS.	6	6¼	6½	6¾	7	7¼	7½	7¾	8	8¼	8½	8¾	9	9¼	9½	9¾
1	.06	.06	.06	.07	.07	.07	.07	.08	.08	.08	.08	.09	.09	.09	.09	.10
2	.12	.12	.13	.13	.14	.14	.15	.15	.16	.16	.17	.17	.18	.18	.19	.19
3	.18	.19	.19	.20	.21	.22	.22	.23	.24	.25	.25	.26	.27	.28	.28	.29
4	.24	.25	.26	.27	.28	.29	.30	.31	.32	.33	.34	.35	.36	.37	.38	.39
5	.30	.31	.32	.34	.35	.36	.37	.39	.40	.41	.42	.44	.45	.46	.47	.49
6	.36	.37	.39	.40	.42	.43	.45	.46	.48	.49	.51	.52	.54	.55	.57	.58
7	.42	.44	.45	.47	.49	.51	.52	.54	.56	.58	.59	.61	.63	.65	.66	.68
8	.48	.50	.52	.54	.56	.58	.60	.62	.64	.66	.68	.70	.72	.74	.76	.78
9	.54	.56	.58	.61	.62	.65	.67	.70	.72	.74	.76	.79	.81	.83	.85	.88

READY RECKONER.--Continued.

LBS.	$ Cts. 6	$ Cts. 6¼	$ Cts. 6½	$ Cts. 6¾	$ Cts. 7	$ Cts. 7¼	$ Cts. 7½	$ Cts. 7¾	$ Cts. 8	$ Cts. 8¼	$ Cts. 8½	$ Cts. 8¾	$ Cts. 9	$ Cts. 9¼	$ Cts. 9½	$ Cts. 9¾
10	.60	.62	.65	.67	.70	.72	.75	.77	.80	.82	.85	.87	.90	.92	.95	.97
20	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1 65	1.70	1.75	1.80	1.85	1.90	1.95
30	1.80	1.87	1.95	2 02	2.10	2.17	2.25	2.32	2.40	2.47	2.55	2.62	2.70	2.77	2.85	2.92
40	2.40	2.50	2.60	2.70	2.80	2.90	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90
50	3.00	3.12	3.25	3.37	3.50	3.62	3.75	3.87	4.00	4.12	4.25	4.37	4.50	4 62	4.75	4.87
60	3.60	3.75	3.90	4.05	4.20	4.35	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85
70	4.20	4.37	4.55	4.72	4.90	5.07	5.25	5.42	5.60	5.77	5.95	6.12	6.30	6.47	6.65	6.82
80	4.80	5.00	5.20	5 40	5.60	5.80	6.00	6.20	6.40	6.60	6 80	7.00	7.20	7.40	7.60	7.80
90	5.40	5.62	5 85	6.07	6.30	6.52	6.75	6.97	7.20	7.42	7.65	7.87	8.10	8.32	8 55	8.77
100	6 00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9 00	9.25	9.50	9.75
200	12.00	12.50	13.00	13.50	14.00	14.50	15.00	15.50	16.00	16.50	17.00	17.50	18.00	18.50	19.00	19.50
300	18.00	18.75	19.50	20.25	21.00	21.75	22.50	23.25	24 00	24.75	25.50	26.25	27.00	27.75	28.50	29.25
400	24.00	25.00	26.00	27.00	28.00	29.00	30.00	31.00	32.00	33.00	34.00	35.00	36 00	37.00	38.00	39.00
500	30.00	31.25	32.50	33.75	35.00	36.25	37.50	38.75	40.00	41.25	42.50	43.75	45 00	46.25	47.50	48.75
600	36.00	37.50	39.00	40.50	42.00	43.50	45 00	46.50	48.00	49.50	51.00	52.50	54 00	55.50	57.00	58.50
700	42.00	43.75	45.50	47.25	49.00	50.75	52.50	54.25	56 00	57.75	59.50	61.25	63.00	64.75	66.50	68.25
800	48.00	50.00	52.00	54.00	56 00	58.00	60.00	62.00	64.00	66.00	68.00	70.00	72.00	74.00	76.00	78.00
900	54.00	56.25	58.50	60.75	63.00	65.25	67.50	67.75	72.00	74.25	76.50	78.75	81 00	83.25	85.50	87.75
1,000	60.00	62.50	65.00	67.50	70.00	72.50	75.00	77.50	80 00	82.50	85 00	87.50	90 00	92.50	95.00	97.50
1,100	66.00	68.75	71.50	74.25	77.00	79.75	82 50	85.25	88.00	90 75	93.50	96.25	99 00	101.75	104.50	107.25
1,200	72 00	75.00	78.00	81.00	84.00	87.00	90.00	93.00	96.00	99.00	102.00	105.00	108 00	111.00	114.00	117.00
1,300	78.00	81.25	84.50	87.75	91.00	94.25	97.50	100.75	104.00	107.25	110.50	113.75	117.00	120.25	123.50	126.75
1,400	84.00	87.50	91.00	94.50	98.00	101.50	105.00	108.50	112.00	115.50	119.00	122.50	126 00	129.50	133.00	136.50
1,500	90.00	93.75	97.50	101.25	105.00	108.75	112.50	116.25	120 00	123.75	127.50	131.25	135.00	138.75	142.50	146.25
1,600	96.00	100.00	104.00	108.00	112.00	116.00	120.00	124.00	128.00	132.00	136.00	140.00	144.00	148.00	152 00	156.00
1,700	102.00	106.25	110.50	114.75	119.00	123.25	127.50	131.75	136.00	140.25	144.50	148.75	153.00	157.25	161 50	165.75
1,800	108.00	112.50	117 00	121.50	126.00	130.50	135.00	139.50	144.00	148.50	153.00	157.50	162.00	166.50	171 00	175.50
1,900	114.00	118.75	123.50	128.25	133.00	137.75	142.50	147.25	152 00	156.75	161.50	166.25	171.00	175 75	180.50	185.25
2,000	120.00	125.00	130.00	135.00	140.00	145.00	150.00	155.00	160.00	165.00	170.00	175.00	180.00	185.00	190.00	195.00
3,000	180.00	187.50	195.00	202.50	210.00	217.50	225.00	232.50	240.00	247.50	255.00	262.50	270.00	277 50	285.00	292.50
4,000	240.00	250.00	260.00	270.00	280.00	290.00	300.00	310 00	320.00	330.00	340.00	350.00	360.00	370 00	380 00	390.00
5,000	300.00	312.50	325 00	337.50	350.00	362 50	375.00	387.50	400.00	412.50	425.00	437.50	450.00	462.50	475 00	487.50

LBS.	10	10¼	10½	10¾	11	11¼	11½	11¾	12	12¼	12½	12¾	13	13¼	13½	13¾
1	.10	.10	.10	.11	.11	.11	.11	.12	.12	.12	.12	.13	.13	.13	.13	.14
2	.20	.20	.21	.21	.22	.22	.23	.23	.24	.24	.25	.25	.26	.26	.27	.27
3	.30	.31	.31	.32	.33	.34	.34	.35	.36	.37	.37	.38	.39	.40	.40	.41
4	.40	.41	.42	.43	.44	.45	.46	.47	.48	.49	.50	.51	.52	.53	.54	.55
5	.50	.51	.52	.54	.55	.56	.57	.59	.60	.61	.62	.64	.65	.66	.67	.69
6	.60	.61	.63	.64	.66	.67	.69	.70	.72	.73	.75	.76	.78	.79	.81	.82
7	.70	.72	.73	.75	.77	.79	.80	.82	.84	.86	.87	.89	.91	.93	.94	.96
8	.80	.82	.84	.86	.88	.90	.92	.94	.96	.98	1.00	1.02	1.04	1.06	1.08	1.10
9	.90	.92	.94	.97	.99	1.01	1.03	1.06	1.08	1.10	1.12	1.15	1.17	1.19	1.21	1.24
10	1.00	1 02	1.05	1 07	1 10	1.12	1.15	1.17	1.20	1.22	1.25	1.27	1.30	1.32	1 35	1.37
20	2.00	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2 40	2.45	2 50	2.55	2 60	2.65	2.70	2.75
30	3.00	3.07	3.15	3.22	3.30	3.37	3.45	3.52	3 60	3.67	3.75	3 82	3 90	3.97	4 05	4.12
40	4 00	4 10	4 20	4.30	4.40	4.50	4 60	4.70	4.80	4 90	5 00	5.10	5.20	5.30	5 40	5.50
50	5.00	5.12	5.25	5.37	5.50	5.62	5.75	5.87	6 00	6.12	6.25	6 37	6 50	6.62	6 75	6.87
60	6 00	6.15	6.30	6.45	6 60	6.75	6.90	7 05	7.20	7.35	7.50	7.65	7.80	7.95	8.10	8.25
70	7.00	7.17	7.35	7 52	7.70	7.87	8.05	8.22	8.40	8 57	8.75	8.92	9 10	9.27	9.45	9.62
80	8.00	8.20	8.40	8 60	8.80	9.00	9.20	9 40	9.60	9.80	10.00	10.20	10.40	10.60	10 80	11.00
90	9 00	9.22	9 45	9.67	9 90	10 12	10.35	10 57	10.80	11.02	11.25	11.47	11.70	11.92	12.25	12.37
100	10.00	10.25	10.50	10.75	11.00	11.25	11.50	11 75	12 00	12.25	12.50	12.75	13.00	13.25	13.50	13.75
200	20.00	20.50	21.00	21.50	22.00	22.50	23.00	23.50	24.00	24.50	25 00	25.50	26.00	26.50	27.00	27.50
300	30.00	30.75	31.50	32.25	33.00	33.75	34.50	35.25	36 00	36 75	37.50	38.25	39.00	39 75	40.50	41.25
400	40.00	41.00	42.00	43.00	44.00	45.00	46.00	47.00	48.00	49 00	50.00	51 00	52 00	53.00	54 00	55.00
500	50.00	51.25	52.50	53.75	55.00	56.25	57.50	58.75	60.00	61.25	62.50	63.75	65 00	66.25	67.50	68.75
600	60 00	61.50	63.00	64 50	66.00	67.50	69 00	70 50	72 00	73.50	75.00	76.50	78 00	79 50	81.00	82.50
700	70.00	71.75	73.50	75.25	77.00	78.75	80.50	82.25	84.00	85.75	87.50	89.25	91.00	92.72	94 50	96.25
800	80.00	82.00	84 00	86.00	88.00	90.00	92.00	94.00	96 00	98.00	100.00	102.00	104 00	106 00	108.00	110.00
900	90.00	92.25	94.50	96.75	99.00	101.25	103.50	105 75	108 00	110 25	112.50	114.75	117.00	119 25	121 50	123.75
1,000	100.00	102.50	105.00	107.50	110.00	102.50	115.00	117.50	120.00	122 50	125 00	127.50	130.00	132 50	135.00	137.50
1,100	110.00	112.75	115 50	118 25	121.00	123.75	126.50	129 25	132.00	134.75	137.50	140.25	143.00	145 75	148.50	151.25
1,200	120 00	123.00	126.00	129 00	132.00	135.00	138.00	141.00	144 00	147.00	150 00	153.00	156 00	159 00	162 00	165.00
1,300	130.00	133.25	136.50	139.75	143.00	146.25	149.50	152.75	156.00	159.25	162.50	165.75	169.00	172.25	175.50	178.75
1,400	140.00	143 50	147.00	150.50	154.00	157.50	161.00	164.50	168 00	171.50	175 00	178.50	182.00	185 50	189.00	192.50
1,500	150.00	153.75	157.50	161.25	165.00	168.75	172.50	176.25	180.00	183.75	187.50	191.25	195.00	198 75	202.50	206.25
1,600	160.00	164.00	168.00	172.00	176.00	180.00	184.00	188.00	192.00	196.00	200.00	204.00	208.00	212 00	216.00	220.00
1,700	170.00	174.25	178.50	182.75	187.00	191.25	195.50	199.75	204 00	208.25	212 50	216.75	221.00	225.25	229.50	233.75
1,800	180.00	184 50	189 00	193.50	198.00	202.50	207.00	211.50	216 00	220.50	225 00	229 50	234.00	238.50	243.00	247.50
1,900	190.00	194 75	199.50	204 25	209.00	213.75	218.50	223.25	228.00	232.75	237 50	242.25	247.00	251 75	256.50	261.25
2,000	200.00	205.00	210.00	215 00	220.00	225.00	230.00	235.00	240.00	245 00	250.00	255 00	260 00	265 00	270.00	275.00
3,000	300.00	307.50	315.00	322 50	330.00	337.50	345.00	352.50	360.00	367.50	375.00	382.50	390 00	397.50	405.00	412.50
4,000	400.00	410 00	420.00	430 00	440.00	450.00	460.00	470.00	480 00	490.00	500.00	510 00	520.00	530.00	540.00	550.00
5,000	500.00	512.50	525.00	537.50	550.00	562.50	575.00	587.50	600.00	612.50	625.00	637.50	650.00	662.50	675.00	687.50

AN INSTANTANEOUS METHOD OF COMPUTING INTEREST.

To compute interest at three per cent, divide the figures in the six per cent table by two. To compute interest at eight per cent, double the figures in the four per cent table; at ten per cent, double the figures in the five per cent table; at nine per cent, make the computation at three per cent and multiply the result by three.

TABLES OF INTEREST.

AT FOUR PER CENT.

	DAYS.																											MONTHS.											Year.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	1	2	3	4	5	6	7	8	9	10	11	1
Am't.	INTEREST.																																							
$1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	3	3	3	4
$2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	3	4	4	5	6	6	7	8
$3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	3	4	5	6	7	8	9	10	11	12
$4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	4	5	6	8	9	10	12	14	14	16
$5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	6	8	10	11	13	15	16	18	20
$6	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	4	5	8	10	12	14	16	18	20	22	24
$7	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	4	7	9	11	14	16	18	21	23	25	28
$8	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	8	10	13	16	18	21	24	27	29	32
$9	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	6	9	12	15	18	21	24	27	30	33	36
$10	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	6	10	13	16	20	23	26	30	33	37	40
$100	1	2	3	4	6	7	8	9	10	11	12	13	15	15	16	18	19	20	21	22	23	24	25	26	28	29	30	31	32	33	67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00
$1,000	11	22	33	44	56	66	78	89	1.00	1.11	1.22	1.33	1.44	1.56	1.67	1.78	1.89	2.00	2.11	2.22	2.33	2.44	2.56	2.67	2.78	2.89	3.00	3.11	3.22	3.33	6.67	10.00	13.33	16.67	20.00	23.33	26.67	30.00	33.33	36.67	40.00

AT FIVE PER CENT.

	DAYS.																											MONTHS.											Year
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	1	2	3	4	5	6	7	8	9	10	11	1
Am't.	INTEREST.																																							
$1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	3	3	4	4	4	5
$2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	3	4	5	6	6	7	8	9	10
$3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	4	5	6	7	9	10	11	12	14	15
$4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	6	8	10	11	13	15	16	18	20
$5	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	4	6	8	10	12	14	16	19	21	23	25
$6	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	5	7	10	12	15	17	20	22	25	27	30
$7	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	6	9	11	14	17	20	23	26	29	32	35
$8	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	6	10	13	16	20	23	27	30	33	37	40
$9	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	7	11	15	19	22	26	30	34	37	41	45
$10	0	0	0	0	0	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	8	12	16	21	25	29	33	37	42	46	50
$100	1	3	4	5	7	8	9	11	12	14	15	16	18	19	21	22	23	25	26	28	29	30	32	33	34	36	37	39	40	41	83	1.25	1.67	2.09	2.50	2.91	3.33	3.75	4.17	4.59	5.00
$1,000	14	28	41	55	70	83	97	1.11	1.25	1.39	1.53	1.66	1.86	1.94	2.08	2.22	2.36	2.50	2.64	2.78	2.91	3.05	3.20	3.33	3.47	3.61	3.75	3.89	4.03	4.16	6.33	12.50	16.67	20.83	25.00	29.16	33.33	37.50	41.67	45.83	50.00

AT SIX PER CENT.

	DAYS.																											MONTHS.											Year.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	1	2	3	4	5	6	7	8	9	10	11	1
Am't.	INTEREST.																																							
$1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6
$2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	4	5	6	7	8	9	10	11	12
$3	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	5	6	8	9	11	12	14	15	17	18
$4	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	4	6	8	10	12	14	16	18	20	22	24
$5	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	5	8	10	13	15	18	20	23	25	28	30
$6	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	6	9	12	15	18	21	24	27	30	33	36
$7	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	7	11	14	18	21	25	28	32	35	39	42
$8	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	8	12	16	20	24	28	32	36	40	44	48
$9	0	0	0	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	5	9	14	18	23	27	32	36	41	45	50	54
$10	0	0	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	5	5	5	5	10	15	20	25	30	35	40	45	50	55	60
$100	2	3	5	7	8	10	12	13	15	17	18	20	22	23	25	27	28	30	32	33	35	37	38	40	42	43	45	47	48	50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00
$1,000	17	33	50	67	83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50	2.67	2.83	3.00	3.17	3.33	3.50	3.67	3.83	4.00	4.17	4.33	4.50	4.67	4.83	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00	60.00

AT SEVEN PER CENT.

	DAYS.																											MONTHS.											Year.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	1	2	3	4	5	6	7	8	9	10	11	1
Am't.	INTEREST.																																							
$1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	2	3	4	4	5	5	6	7	7
$2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	4	5	6	7	8	9	11	12	13	14
$3	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	4	5	7	9	11	12	14	16	18	19	21
$4	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	5	7	9	12	14	16	19	21	23	26	28
$5	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	6	9	12	15	18	20	23	26	29	32	35
$6	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	7	11	14	18	21	25	28	32	35	39	42
$7	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	8	12	16	20	25	29	33	37	41	45	49
$8	0	0	0	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	5	5	9	14	19	23	28	33	37	42	47	51	56
$9	0	0	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4	4	5	5	5	5	5	11	16	21	26	32	37	42	47	53	58	63
$10	0	0	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5	5	6	6	12	18	23	29	35	41	47	53	58	64	70
$100	2	4	6	8	10	12	14	16	18	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	54	56	58	1.17	1.75	2.33	2.92	3.50	4.08	4.67	5.25	5.83	6.42	7.00
$1,000	19	39	58	78	97	1.17	1.36	1.56	1.75	1.94	2.14	2.33	2.53	2.72	2.92	3.11	3.31	3.50	3.69	3.89	4.08	4.28	4.47	4.67	4.86	5.06	5.25	5.44	5.64	5.83	11.67	17.50	23.33	29.17	35.00	40.83	46.67	52.50	58.33	64.17	70.00

COTTON PICKER'S CALCULATOR.

Lbs.	Rate per Hundred Pounds.															
	30 cts	35 cts	40 cts	45 cts	50 cts	55 cts	60 cts	65 cts	70 cts	75 cts	80 cts	85 cts	90 cts	95 cts	1.00	1.25	1.50
1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3
3	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	4	4
4	1	1	2	2	2	2	2	3	3	3	3	3	4	4	4	5	6
5	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	6	7
6	2	2	2	3	3	3	4	4	4	4	5	5	5	6	6	7	9
7	2	2	3	3	3	4	4	5	5	5	6	6	6	7	7	9	10
8	2	3	3	4	4	4	5	5	6	6	6	7	7	8	8	10	12
9	3	3	4	4	4	5	5	6	6	7	7	8	8	9	9	11	13
10	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	12	15
15	4	5	6	7	7	8	9	10	10	11	12	13	13	14	15	19	22
20	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	25	30
25	7	9	10	11	12	14	15	16	17	19	20	21	22	24	25	31	37
30	9	10	12	13	15	16	18	19	21	22	24	25	27	28	30	37	45
35	10	12	14	16	17	19	21	23	24	26	28	30	31	33	35	44	52
40	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	50	60
45	13	16	18	20	22	25	27	29	31	34	36	38	40	43	45	56	67
50	15	17	20	22	25	27	30	32	35	37	40	42	45	47	50	62	75
55	16	19	22	25	27	30	33	36	38	41	44	47	49	52	55	69	82
60	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	75	90
65	19	23	26	29	32	36	39	42	45	49	52	55	58	62	65	81	97
70	21	24	28	31	35	38	42	45	49	52	56	59	60	66	70	87	1 05
75	22	26	30	34	37	41	45	49	52	56	60	64	67	71	75	94	1 12
80	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	1 00	1 20
85	25	30	34	38	42	47	51	55	59	64	68	72	76	81	85	1 06	1 27
90	27	31	36	40	45	49	54	58	63	67	72	76	81	85	90	1 12	1 35
95	28	33	38	43	47	52	57	62	66	71	76	81	85	90	95	1 19	1 42

SHORT INSURANCE RATES.

Policy for 1 year.	Policy for 2 years.	Policy for 3 years.	Policy for 4 years.	Policy for 5 years.	Charge this proportion of whole Premium.
1 mo.	2 mo.	3 mo.	4 mo.	5 mo.	20 per cent.
2 "	4 "	6 "	8 "	10 "	30 "
3 "	6 "	9 "	12 "	15 "	40 "
4 "	8 "	12 "	16 "	20 "	50 "
5 "	10 "	15 "	20 "	25 "	60 "
6 "	12 "	18 "	24 "	30 "	70 "
7 "	14 "	21 "	28 "	35 "	75 "
8 "	16 "	24 "	32 "	40 "	80 "
9 "	18 "	27 "	36 "	45 "	85 "
10 "	20 "	30 "	40 "	50 "	90 "
11 "	22 "	33 "	44 "	55 "	95 "

HOW INTEREST ACCUMULATES.

If one dollar be invested and the interest added to the principal, annually, at the rates named, we shall have the following result as the accumulation of one hundred years:

One Dollar 100 years, at 1 per cent	$2.75
" " 2 "	7.25
" " 2½ "	11.75
" " 3 "	19.25
" " 3½ "	31.25
" " 4 "	50.50
" " 4½ "	81.50
" " 5 "	131.50
" " 6 "	340.00
" " 7 "	868.00
" " 8 "	2,203.00
" " 9 "	5,543.00
" " 10 "	13,809.00
" " 12 "	34.675.00
" " 15 "	1,174,405.00
" " 18 "	15,145,007.00
" " 24 "	2,551,799,404.00

COMPOUND INTEREST TABLES.

YEARS.	*3 per cent.*	*4 per cent.*	*5 per cent.*	*6 per cent.*	*7 per cent.*
1	1.03000	1.04000	1.05000	1.06000	1.070000
2	1.06090	1.08160	1.10250	1.12360	1.144900
3	1.09273	1.12486	1.15762	1.19102	1.225043
4	1.12551	1.16986	121551	1.26248	1.310796
5	1.15927	1.21665	1.27628	1.33823	1.402552
6	1.19405	1.26532	1.34010	1.41852	1.500730
7	1.22987	1.31593	1.40710	1.50363	1.605781
8	1.26677	1.36857	1.47745	1.59385	1.718186
9	1.30477	1.42331	1.55133	1.69848	1.838459
10	1.34392	1.48024	1.62889	1.79085	1.967151
11	138423	1.53945	1.71034	1.89830	2.104852
12	1.42576	1.00103	1.79586	2.01220	2.252192
13	1.46853	1.66507	1.88565	2.13293	2.409845
14	1.51259	173168	1.97993	2.26090	2.578534
15	1.55797	1.80094	2.07893	2.39656	2.759031
16	1.60471	187298	2.18287	2.54035	2.952164
17	1.65285	1.94790	2.29262	2.69277	3.158815
18	1.70343	2.02582	2.40602	2.85134	3.379931
19	1.75351	2.10685	2.52695	2.02560	3.616526
20	1.80611	2.19112	2.65330	3.20713	3.869684

EXAMPLE.—At 5 per cent compouud iuterest what will $1,000 amount to in seven years? The table shows that $1 in seven years at 5 per cent compound interest amounts to $1.40710, which amount multiplied by 1,000 equals $1,407.10.

Time in which Money Doubles.

Per Cent.	*Simple Int.*	*Comp. Int.*	*Per Cent.*	*Simple Int.*	*Comp. Int.*
2	50 years.	35 years.	5	20 years.	14 yrs. 75 da.
2½	40 years.	28 yrs. 26 da.	6	16 yrs. 8 mos.	11 yrs. 327 da.
3	33 yrs. 4 mos.	23 yrs. 164 da.	7	14 yrs. 104 da.	10 yrs. 89 da.
3½	28 yrs. 208 da.	20 yrs. 54 da.	8	12½ years.	9 yrs. 2 days.
4	25 years.	17 yrs. 246 da.	9	11 yrs. 40 da.	8 yrs. 16 days.
4½	22 yrs. 81 da.	15 yrs. 273 da.	10	10 years.	7 yrs. 100 da.

Daily Savings at Compound Interest.

DAILY SAVINGS.	YEARLY.	TEN YEARS.	FIFTY YBARS
2¾ cents	$ 10	$ 130	$ 2,900
5½ "	20	260	5,800
8¼ "	30	390	8,700
11 "	40	520	11,600
13¾ "	50	650	14,500
27½ "	100	1,300	29,000
55 "	200	2,600	58,000
$1.10	400	5,200	116,000
1.37	500	6,500	145,000
2.74	1,000	13,000	290,000

SHORT INTEREST RULE.

To find the interest on a given sum for any number of days, at any rate of interest, multiply the principal by the number of days and divide as follows:

At 5 per cent, by 72	At 10 per cent, by 36
At 6 per cent, by 60	At 12 per cent, by 30
At 7 per cent, by 52	At 15 per cent, by 24
At 8 per cent, by 45	At 20 per cent, by 18
At 9 per ceut, by 40	

A QUICK METHOD OF COMPUTING WAGES,

On a Basis of Ten Hours' Labor per Day.

HOURS.	$1.00	$1.50	$2.00	$2.50	$3.00	$3.50	$4.00	$4.50	$5.00	$5.50	$6.00	$6.50	$7.00	$7.50	$8.00	$9.00	$10	$11	$12
½	.01	.01¼	.01⅔	.02	.02½	.03	.03⅓	.03¾	.04⅛	.04½	.05	.05½	.06	.06¼	.06⅔	.07½	.08⅓	.09	.10
1	.01⅔	.02¼	.03⅓	.04⅛	.05	.06	.06⅔	.07½	.08⅓	.09⅛	.10	.11	.11⅔	.12½	.13⅓	.15	.16⅔	.18½	.20
2	.03⅓	.05	.06⅔	.08⅓	.10	.11⅔	.13⅓	.15	.16⅔	.18⅓	.20	.21⅔	.23⅓	.25	.26⅔	.30	.33⅓	.36⅔	.40
3	.05	.07½	.10	.12½	.15	.17½	.20	.22½	.25	.27½	.30	.32½	.35	.37½	.40	.45	.50	.55	.60
4	.06⅔	.10	.13⅓	.16⅔	.20	.23⅓	.26⅔	.30	.33⅓	.36⅔	.40	.43⅓	.46⅔	.50	.53⅓	.60	.66⅔	.73⅓	.80
5	.08⅓	.12½	.16⅔	.21	.25	.29⅛	.33⅓	.37½	.41⅔	.46	.50	.54⅛	.58⅓	62½	.66⅔	.75	.83⅓	.91⅔	1.00
6	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.90	1.00	1.10	1.20
7	.11⅔	.17½	.23⅓	.29⅛	.35	.41	.46⅔	.52½	.58⅓	.64⅛	.70	.76	.81⅔	.87½	.93⅓	1.05	1.16⅔	1.28⅓	1.40
8	.13⅓	.20	.26⅔	.33⅓	.40	.46⅔	.53⅓	.60	.66⅔	.73⅓	.80	.86⅔	.93⅓	1.00	1.06⅔	1.20	1.33⅓	1.46⅔	1.60
9	.15	.22½	.30	.37½	.45	.52½	.60	.67½	.75	.82½	.90	.97½	1.05	1.12½	1.20	1.35	1.50	1.65	1.80
DAYS.																			
1	.16⅔	.25	.33⅓	.41⅔	.50	.58⅓	.66⅔	.75	.83⅓	.91⅔	1.00	1.08⅓	1.16⅔	1.25	1.33⅓	1.50	1.66⅔	1 83⅓	2.00
2	.33⅓	.50	.66⅔	.83⅓	1.00	1.16⅔	1.33⅓	1.50	1.66⅔	1.83⅓	2.00	2.16⅔	2.33⅓	2.50	2.66⅔	3.00	3.33⅓	3.66⅔	4.00
3	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.50	5.00	5.50	6.00
4	.66⅔	1.00	1.33⅓	1.66⅔	2.00	2.33⅓	2.66⅔	3.00	3.33⅓	3.66⅔	4.00	4.33⅓	4.66⅔	5.00	5.33⅓	6.00	6.66⅔	7.33⅓	8.00
5	.83⅓	1.25	1.66⅔	2.08⅓	2.50	2.91⅔	3.33⅓	3.75	4.16⅔	4.58⅓	5.00	5.41⅔	5.83⅓	6.25	6.66⅔	7.50	8.33⅓	9.16⅔	10.00
6	1.00	1.50	2.00	2.50	3 00	3.50	4 00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	9.00	10.00	11.90	12.00

To find wages at **$13, $14, $15, $16,** or more, per week, find the amount at **$6.50, $7, $7.50, $8,** etc. and multiply by **2.**

EXPENSE OF BOARD PER DAY.

DAYS.	50c.	75c.	$1.00	$1.25	$1.50	$1.75	$2.00	$2.25	$2.50	$3.00	$3.50	$4.00	$4.50	$5.00	$6.00	$7.00	$8.00	$9.00	$10
1	.07	.11	.14	.18	.21	.25	.29	.32	.36	.43	.50	.57	.64	.71	.86	1.00	1.14	1.29	1.43
2	.14	.21	.29	.36	.43	.50	.57	.64	.71	.86	1.00	1.14	1.29	1.43	1.71	2.00	2.29	2.57	2.86
3	.21	.32	.43	.54	.64	.75	.86	.96	1.07	1.29	1.50	1.71	1.93	2.14	2.57	3.00	3.43	3.86	4.29
4	.29	.43	.57	.71	.86	1.00	1.14	1.29	1.43	1.71	2.00	2.29	2.57	2.86	3.43	4.00	4.57	5.14	5.71
5	.36	.54	.71	.89	1.07	1.25	1.43	1.61	1.79	2.14	2.50	2.86	3.21	3.57	4.29	5.00	5.71	6.43	7.14
6	.43	.64	.82	1.07	1.29	1.50	1.71	1.93	2.14	2.57	3.00	3.43	3.86	4.29	5.14	6.00	6.86	7.71	8.57
7	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	3.00	3.50	4.00	4.50	5.00	6.00	7.00	8.00	9.00	10.00

For rates not given in this table the result may be obtained by addition or multiplication.

LUMBER MEASURE.

LENGTH IN FEET.

	4 ft.	5 ft.	6 ft.	7 ft.	8 ft.	9 ft.	10 ft.	11 ft.	12 ft.	13 ft.	14 ft.	15 ft.	16 ft.	17 ft.	18 ft.	19 ft.	20 ft.	21 ft.	22 ft.
	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
3 inches wide...	1..50	1..03	1..06	1..09	2..00	2..03	2..06	2..09	3..00	3..03	3..06	3..09	4..00	4..03	4..06	4..09	5..00	5..03	5..06
4 inches wide...	1..04	1..08	2..00	2..04	2..08	3..00	3..04	3..08	4..00	4..04	4..08	5..00	5..04	5..07	6..00	6..04	6..08	7..00	7..05
5 inches wide...	1..08	2..01	2..06	2..11	3..04	3..09	4..02	4..07	5..00	5..05	5..10	6..03	6..08	7..01	7..03	7..11	8..04	8..09	9..02
6 inches wide...	2..00	2..06	3..00	3..06	4..00	4..06	5..00	5..06	6..00	6..06	7..00	7..06	8..00	8..06	9..00	9..06	10..00	10..06	11..00
7 inches wide...	2..04	2..11	3..06	4..01	4..08	5..03	5..10	6..05	7..00	7..07	8..02	8..09	9..04	9..11	10..06	11..01	11..08	12..03	12..10
8 inches wide...	2..08	3..04	4..06	4..08	5..04	6..00	6..08	7..04	8..00	8..08	9..04	10..00	10..08	11..04	12..00	12..08	13..04	14..00	14..08
9 inches wide...	3..00	3..09	4..00	5..03	6..00	6..09	7..06	8..03	9..00	9..09	10..06	11..03	12..00	12..09	13..06	14..03	15..00	15..09	16..06
10 inches wide...	3..04	4..02	5..06	5..10	6..08	7..06	8..04	9..02	10..00	10..10	11..08	12..06	13..04	14..02	15..00	15..10	16..08	17..06	18..04
11 inches wide...	3..08	4..07	5..00	6..05	7..04	8..03	9..02	10..01	11..00	11..11	12..10	13..09	14..08	15..07	16..06	17..05	18..04	19..03	20..00
12 inches wide...	4..00	5..00	6..00	7..00	8..00	9..00	10..00	11..00	12..00	13..00	14..00	15..00	16..00	17..00	18..00	19..00	20..00	21..00	22..00
13 inches wide...	4..04	5..05	6..00	7..07	8..08	9..09	10..10	11..11	13..00	14..01	15..02	16..03	17..04	18..05	19..06	20..07	21..08	22..09	23..10
14 inches wide...	4..08	5..10	7..06	8..02	9..04	10..06	11..08	12..10	14..00	15..02	16..04	17..06	18..08	19..10	21..00	22..02	23..04	24..06	25..08
15 inches wide...	5..00	6..03	7..00	8..09	10..00	11..03	12..06	13..09	15..00	16..03	17..06	18..09	20..00	21..03	22..06	23..09	25..00	26..03	27..06
16 inches wide...	5..04	6..08	8..00	9..04	10..08	12..00	13..04	14..08	16..00	17..04	18..08	20..00	21..04	22..08	24..00	25..04	26..08	28..00	29..04
17 inches wide...	5..08	7..01	8..06	9..11	11..04	12..09	14..02	15..07	17..00	18..05	19..10	21..03	22..08	24..01	25..06	26..11	28..04	29..09	31..02
18 inches wide...	6..00	7..06	9..00	10..06	12..00	13..06	15..00	16..06	18..00	19..06	21..00	22..06	24..00	25..06	27..00	28..06	30..00	31..06	33..00
19 inches wide...	6..04	7..11	9..06	11..01	12..08	14..03	15..10	17..05	19..00	20..07	22..02	23..09	25..04	26..11	28..06	30..01	31..08	33..03	34..10
20 inches wide...	6..08	8..04	10..00	11..08	13..04	15..00	16..08	18..04	20..00	21..08	23..04	25..00	26..08	28..04	30..00	31..08	33..04	35..00	36..08
21 inches wide...	7..00	8..09	10..06	12..03	14..00	15..09	17..06	19..03	21..00	22..09	24..06	26..03	28..00	29..09	31..06	33..03	35..00	36..09	38..06
22 inches wide...	7..04	9..02	11..00	12..10	14..08	16..06	18..04	20..02	22..00	23..10	25..08	27..06	29..04	31..02	33..00	34..10	36..08	38..06	40..04
23 inches wide...	7..08	9..07	11..06	13..05	15..04	17..03	19..02	21..01	23..00	24..11	26..10	28..09	30..08	32..07	34..06	36..05	38..04	40..03	43..02
24 inches wide...	8..00	0..00	12..00	14..00	16..00	18..00	20..00	22..00	24..00	26..00	28..00	30..00	32..00	34..00	36..00	38..00	40..00	42..00	44..00
25 inches wide...	8..04	0..05	12..06	14..07	16..08	18..09	20..10	22..11	25..00	27..01	29 ..02	31..03	33..04	35..05	37..06	39..07	41..08	43..09	45..10
26 inches wide...	8..08	0..10	13..00	15..02	17..04	19..06	21..08	23..10	26..00	28..02	30..04	32..06	34..08	36..10	39..00	41..02	43..04	45..06	47..08
27 inches wide...	9..00	1..03	13..06	15..09	18..00	20..03	22..06	24..09	27..00	29..03	31..06	33..09	36..00	38..03	40..06	42..09	45..00	47..03	49..06
28 inches wide...	9..04	1..08	14..00	16..04	18..08	21..00	23..04	25..08	28..00	30..04	32..08	35..00	37..04	39..08	42..00	44..04	46..08	49..00	51..04
29 inches wide...	9..08	2..01	14..06	16..11	19..04	21..09	24..02	26..07	29..00	31..05	33..10	36..03	38..08	41..01	43..06	45..11	48..04	50..09	53..02
30 inches wide...	10..00	2..06	15..00	17..06	20..00	22..06	25..00	27..06	30..00	32..06	35..00	37..06	40..00	42..06	45..00	47..06	50..00	52..06	55..00

EXPLANATION. — To ascertain the number of feet multiply the number of feet in length by the number of inches in width, and divide the product by **12**; the result will be the number in feet and inches. Thus, multiply **9** inches wide by **26** feet long, and the result will be **234.** Divide this by **12** and we have the product **19** feet and **6** inches.

THE METRIC SYSTEM.

The Metric System is a system of weights and measures depending upon the *metre*. The system includes measures of length of which the *metre* is the unit; and measures of weights of which the *gram* is the unit; measures of surface of which the *are* is the unit; and measures of capacity of which the *litre* is the unit. Ascending in value, the measure is multiplied by ten and bears a Greek prefix, indicating its value; *i. e.*, *decametre* which is ten metres; *hectometre* which is a hundred metres; *kilometre* which is a thousand metres; and *myriametre* which is ten thousand metres. Similarly descending in value the terms bear a Latin prefix, indicating their relation to the unit; *i. e.*, *decimetre* which is $\frac{1}{10}$ of a metre; *centimetre* which is $\frac{1}{100}$ of a metre; and *millimetre* which is $\frac{1}{1000}$ of a metre. The Metric System, which originated in France in 1790, has been legalized by the United States and Great Britain and is in actual use in every civilized nation except Russia and Montenegro.

Measures of Length (Unit, Metre).

EQUAL TO	*Inches.*	*Feet.*	*Yards.*	*Fathoms.*	*Miles.*
Millimetre	0.03937	0.003281	0.0010936	0.0005468	0.0000006
Centimetre	0.39371	0.032809	0.0109363	0.0054682	0.0000062
Decimetre	3.93708	0.328098	0.1093633	0.0546816	0.0000621
METRE	39.37079	3.280988	1.0936331	0.5468165	0.0006214
Decametre	393.70790	32.809892	10.9363306	5.4681653	0.0062138
Hectometre	3,937.07900	328.089917	109.3633056	54.6816528	0.0621381
Kilometre	39,370.79000	3,280.899167	1,093.6330556	546.8165278	0.6213824
Myriametre	393,707.90000	32,808.991667	10,936.3305556	5,468.1652778	6.2138242

Cubic Measures, or Measures of Capacity (Unit, Litre).

EQUAL TO	*Cubic Inches.*	*Cubic Feet.*	*Pints.*	*Gallons.*	*Bushels.*
Millilitre, or cubic centimetre	0.06103	0.000035	0.00176	0.0002201	0.0000275
Centilitre, 10 cubic centimetres	0.61027	0.000353	0.01761	0.0022010	0.0002751
Decilitre, 100 cubic centimetres	6.10271	0.003532	0.17608	0.0220097	0.0027512
LITRE, or cubic Decimetre	61.02705	0.035317	1.76077	0.2200967	0.0275121
Decalitre, or Centistere	610.27052	0.353166	17.60773	2.2009668	0.2751208
Hectolitre, or Decistere	6,102.70515	3.531658	176.07734	22.0096677	2.7512085
Kilolitre, or Stere, or cubic metre	61,027.05152	35.316581	1,760.77341	220.0966767	27.5120846
Myrialitre, or Decastere	610,270.51519	353.165807	17,607.73414	2,200.9667675	275.1208459

Measures of Weight (Unit, Gramme).

EQUAL TO	*Grains.*	*Troy Oz.*	*Avoirdupois Lbs.*	*Cwt. of 112 Lbs.**	*Tons.**
Milligramme	0.01543	0.000032	0.0000022	0.0000000	0.0000000
Centigramme	0.15432	0.000322	0.0000220	0.0000002	0.0000000
Decigramme	1.54323	0.003215	0.0002205	0.0000020	0.0000001
GRAMME	15.43235	0.032151	0.0022046	0.0000197	0.0000010
Decagramme	154.32349	0.321507	0.0220462	0.0001968	0.0000098
Hectogramme	1,543.23488	3.215073	0.2204621	0.0019684	0.0000984
Kilogramme	15,432.34880	32.150727	2.2046213	0.0196841	0.0009842
Myriagramme	154,323.48800	321.507267	22.0462129	0.1968412	0.0098421

Square Measures, or Measures of Surface (Unit, Are).

EQUAL TO	*Sq. Feet.*	*Sq. Yards.*	*Sq. Perches.*	*Sq. Roods.*	*Sq. Acres.*
Centiare, or square metre	10.794209	1.196033	0.0395383	0.0009885	0.0002471
ARE, or 100 square metres	1,076.429934	119.603326	3.9538290	0.0988457	0.0247111
Hectare, or 10,000 square metres	107,642.993419	11,960.332602	395.3828959	9.8845724	2.4711434

CONVERSION OF METRIC WEIGHTS AND MEASURES INTO ENGLISH.

METRES INTO YARDS.		KILOMETRES INTO MILES AND YARDS.			LITRES INTO GALLONS AND QUARTS.			HECTOLITRES INTO QUARTS AND BUSHELS.			KILOGRAMMES INTO CWTS., QRS., LBS., OZ.					HECTARES INTO ACRES, ROODS, P'CH'S.			
1	1.094	1	0	1,094	1	0	0.880	1	0	2.751	1	0	0	2	3¼	1	2	1	35
2	2.187	2	1	427	2	0	1.761	2	0	5.502	2	0	0	4	6½	2	4	3	31
3	3.281	3	1	1,521	3	0	2.641	3	1	0.254	3	0	0	6	9¾	3	7	1	26
4	4.374	4	2	855	4	0	3.521	4	1	3.005	4	0	0	8	13	4	9	3	22
5	5.468	5	3	188	5		0.402	5	1	5.756	5	0	0	11	0¼	5	12	1	17
6	6.562	6	3	1,282	6	1	1.282	6	2	0.507	6	0	0	13	3½	6	14	3	12
7	7.655	7	4	615	7	1	2.163	7	2	3.258	7	0	0	15	7	7	17	1	8
8	8.749	8	4	1,709	8	1	3.043	8	2	6.010	8	0	0	17	10¼	8	19	3	3
9	9.843	9	5	1,043	9	1	3.923	9	3	0.761	9	0	0	19	13½	9	22	0	38
10	10.936	10	6	376	10	2	0.804	10	3	3.512	10	0	0	22	0¾	10	24	2	34
20	21.873	20	12	753	20	4	1.608	20	6	7.024	20	0	1	16	1½	20	49	1	28
30	32.809	30	18	1,129	30	6	2.412	30	10	2.536	30	0	2	10	2½	30	74	0	21
40	43.745	40	24	1,505	40	8	3.215	40	13	6.048	40	0	3	4	3	40	98	3	15
50	54.682	50	31	122	50	11	0.019	50	17	1.560	50	1	3	26	3¾	50	123	2	9
60	65.618	60	37	498	60	13	0.823	60	20	5.072	60	1	0	20	4½	60	148	1	3
70	76.554	70	43	874	70	15	1.627	70	24	0.585	70	1	1	14	5¼	70	172	3	37
80	87.491	80	49	1,251	80	17	2.431	80	27	4.097	80	1	2	8	6	80	197.	2	38
90	98.427	90	55	1,627	90	19	3.235	90	30	7.609	90	1	3	2	6½	90	222	1	24
100	109.363	100	62	243	100	22	0.039	100	34	3.121	100	1	3	24	7	100	247	0	18
200	218.727	200	124	487	200	44	0.077	200	68	6.242	200	3	3	20	15	200	494	0	37
300	328.090	300	186	730	300	66	0.116	300	103	1.362	300	5	3	17	6	300	741	1	15
400	437.453	400	248	973	400	88	0.155	400	137	4.483	400	7	3	13	14	400	988	1	33
500	546.816	500	310	1,217	500	110	0.193	500	181	7.604	500	9	3	10	5	500	1,235	2	11

* In the majority of States the hundredweight rates at 100 lbs. and the ton accordingly at 2,000 lbs., but in this table the computation has been made at 112 and 2,240 lbs. respectively, as the computation on the other basis is very simple.

Our National Domain.

Graphical Presentation of the Comparative Land Surface Areas of the States and Territories of the United States and the Countries of Europe, omitting Russia and Alaska.*

Names.	Sq. Miles.
Texas	262,290
Austria	240,942
Germany	208,830
France	204,092
Spain	197,670
Sweden	172,876
California	155,980
N. and S. Dakota	147,045
Montana	145,310
Norway	124,445
New Mexico	122,460
United Kingdom	120,979
Arizona	112,920
Italy	110,646
Nevada	109,740
Colorado	103,645
Wyoming	97,575
Oregon	94,560
Idaho	84,290
Utah	82,190
Kansas	81,700
Minnesota	79,205
Nebraska	76,840
Missouri	68,735
Washington	66,880
Turkey in Europe	65,752
Georgia	58,980
England and Wales	58,309
Michigan	57,430
Illinois	56,000
Iowa	55,475
Wisconsin	54,450
Florida	54,240
Arkansas	53,045
Alabama	51,540
Roumania	50,720
North Carolina	48,580
New York	47,620
Mississippi	46,340
Louisiana	45,420
Pennsylvania	44,985
Tennessee	41,750
Ohio	40,760
Virginia	40,125
Kentucky	40,000
Bulgaria	37,860
Portugal	36,038
Indiana	35,910
Ireland	32,583
Indian Territory	31,154
South Carolina	31,048
Maine	29,895
Scotland	29,785
West Virginia	24,645
Servia	18,630
Bosnia†	16,417
Switzerland	15,976
Denmark	15,360
Belgium	11,373
Maryland	9,860
Vermont	9,135
New Hampshire	9,005
Massachusetts	8,040
New Jersey	7,525
Connecticut	4,845
Delaware	1,960
Rhode Island	1,053

EXPLANATION.—The Solid Lines Denote the U. S., the Waved Ones Europe.

*According to our scheme of computation ALASKA, area 565,862 sq. m., would be represented by a line $9\frac{3}{4}$ inches long; RUSSIA IN EUROPE, area 2,041,402 sq. m., by a line 35 inches long; RUSSIA IN ASIA, area 6,479,235 sq. m., by a line 104 inches long.

†BOSNIA and HERZEGOVINA, combined, have an area of 23,262 sq. m.

AREA OCCUPIED BY THE PRINCIPAL CROPS OF THE UNITED STATES.—YEAR 1900.

Crop.	Acres.	Quantities.
Corn	94,916,911	2,666,440,279 bush.
Hay and Forage	61,691,166	84,011,299 tons.
Wheat	52,588,574	658,534,252 bush.
Oats	29,539,698	943,389,375 bush.
Cotton	24,275,101	9,534,707 bales.
Barley	4,470,196	119,634,877 bush.
Potatoes	2,938,952	273,328,207 bush.
Rye	2,054,292	25,568,625 bush.
Buckwheat	807,060	11,233,515 bush.

RELATIVE AREA.

TABLES OF DURATION AND EXPECTATION OF LIFE.

CONSTRUCTED BY DR. FARR, F. R. S.

DURATION.

AGE.	PERSONS ALIVE AT BEGINNING OF YEAR. NO.	MALE.	FEMALE.	TOTAL DEATHS EACH YEAR.
0	1,000,000	511,745	488,255	149,493
1	850,507	428,026	422,481	53,680
2	796,827	400,505	396,322	28,238
3	768,589	386,290	382,299	18,456
4	750,133	377,077	373,056	13,315
5	736,818	370,358	366,460	9,899
6	726,919	365,325	361,594	7,768
7	719,151	361,372	357,779	6,559
8	712,592	358,062	354,530	5,458
9	707,134	355,328	351,806	4,625
10	702,509	353,031	349,478	4,028
11	698,481	351,048	347,433	3,637
12	694,844	349,272	345,572	3,431
13	691,413	347,606	343,807	3,382
14	688,031	345,969	342,062	3,468
15	684,563	344,290	340,273	3,669
16	680,894	342,509	338,385	3,957
17	676,937	340,581	336,356	4,317
18	672,620	338,469	334,151	4,720
19	667,900	336,149	331,751	5,150
20	662,750	333,608	329,142	5,583
21	657,167	330,844	326,323	5,668
22	651,499	328,043	323,456	5,748
23	645,751	325,207	320,544	5,820
24	639,931	322,339	317,592	5,886
25	634,045	319,422	314,603	5,950
26	628,095	316,516	311,579	6,009
27	622,086	313,562	308,524	6,065
28	616,021	310,581	305,440	6,121
29	609,900	307,572	302,328	6,176
30	603,724	304,534	299,190	6,231
31	597,493	301,466	296,027	6,287
32	591,206	298,366	292,840	6,343
33	584,863	295,232	289,631	6,404
34	578,459	292,061	286,398	6,466
35	571,993	288,850	283,143	6,533
36	565,460	285,596	279,864	6,601
37	558,859	282,296	276,563	6,678
38	552,181	278,944	273,237	6,756
39	545,425	275,538	269,887	6,841
40	538,584	272,073	266,511	6,931
41	531,653	268,544	263,109	7,027
42	524,626	264,948	259,678	7,127
43	517,499	261,280	256,219	7,236
44	510,263	257,534	252,729	7,348
45	502,915	253,708	249,207	7,467
46	495,448	249,796	245,652	7,592
47	487,856	245,795	242,061	7,722
48	480,134	241,700	238,434	7,857
49	472,277	237,508	234,769	7,997
50	464,280	233,216	231,064	8,141
51	456,139	228,821	227,318	8,414
52	447,725	224,195	223,530	8,590
53	439,135	219,437	219,698	8,761
54	430,374	214,552	215,822	9,259
55	421,115	209,539	211,576	9,583
56	411,532	204,395	207,137	9,909
57	401,623	199,114	202,509	10,245
58	391,378	193,686	197,692	10,593
59	380,785	188,102	192,683	10,958
60	369,827	182,350	187,477	11,338
61	358,489	176,421	182,068	11,737
62	346,752	170,303	176,449	12,149
63	334,603	163,989	170,614	12,572
64	322,031	157,474	164,557	13,002
65	309,029	150,754	158,275	13,430
66	295,599	143,833	151,766	13,846
67	281,753	136,718	145,035	14,244
68	267,509	129,421	138,088	14,607
69	252,902	121,963	130,939	14,925
70	237,977	114,370	123,607	15,184
71	222,793	106,675	116,118	15,369
72	207,424	98,919	108,505	15,468
73	191,956	91,149	100,807	15,469
74	176,487	83,416	93,071	15,363
75	161,124	75,777	85,347	15,136
76	145,988	68,294	77,694	14,789
77	131,199	61,026	70,173	14,319
78	116,880	54,036	62,844	13,726
79	103,154	47,381	55,773	13,021
80	90,133	41,115	49,018	12,214
81	77,919	35,283	42,636	11,320
82	66,599	29,922	36,677	10,358
83	56,241	25,060	31,181	9,352
84	46,889	20,711	26,178	8,324
85	38,565	16,877	21,688	7,300
86	31,265	13,549	17,716	6,298
87	24,967	10,709	14,258	5,346
88	19,621	8,325	11,296	4,459
89	15,162	6,360	8,802	3,653
90	11,509	4,770	6,739	2,933
91	8,576	3,510	5,066	2,310
92	6,266	2,531	3,735	1,781
93	4,485	1,787	2,698	1,343
94	3,142	1,234	1,908	989
95	2,153	833	1,320	713
96	1,440	548	892	500
97	940	352	588	342
98	598	220	378	228
99	370	134	236	147
100	223	79	144	92
101	131	46	85	57
102	74	25	49	33
103	41	14	27	19
104	22	7	15	10
105	12	4	8	6
106	6	2	4	3
107	3	1	2	2
108	1		1	1

NOTE.—The annual rate of mortality of males of all ages is 1 in 39.91, and of females, 1 in 41.85.

EXPECTATION.

AGE.	MALE.	FEMALE.	AGE.	MALE.	FEMALE.	AGE.	MALE.	FEMALE.	AGE.	MALE.	FEMALE.	AGE.	MALE.	FEMALE.
0	39.91	41.85	20	39.48	40.29	40	26.06	27.34	60	13.53	14.34	80	4.93	5.26
1	46.65	47.31	21	38.80	39.63	41	25.39	26.69	61	12.96	13.75	81	4.66	4.98
2	48.83	49.40	22	38.13	38.98	42	24.73	26.03	62	12.41	13.17	82	4.41	4.71
3	49.61	50.20	23	37.46	38.33	43	24.07	25.38	63	11.87	12.60	83	4.17	4.45
4	49.81	50.43	24	36.79	37.68	44	23.41	24.72	64	11.34	12.05	84	3.95	4.21
5	49.71	50.33	25	36.12	37.04	45	22.76	24.06	65	10.82	11.51	85	3.73	3.98
6	49.39	50.00	26	35.44	36.39	46	22.11	23.40	66	10.32	10.98	86	3.53	3.76
7	48.92	49.53	27	34.77	35.75	47	21.46	22.74	67	9.83	10.47	87	3.34	3.56
8	48.37	48.98	28	34.10	35.10	48	20.82	22.08	68	9.36	9.97	88	3.16	3.36
9	47.74	48.35	29	33.43	34.46	49	20.17	21.42	69	8.90	9.48	89	3.00	3.18
10	47.05	47.67	30	32.76	33.81	50	19.54	20.75	70	8.45	9.02	90	2.84	3.01
11	46.31	46.95	31	32.09	33.17	51	18.90	20.09	71	8.03	8.57	91	2.69	2.85
12	45.54	46.20	32	31.42	32.53	52	18.28	19.42	72	7.62	8.13	92	2.55	2.70
13	44.76	45.44	33	30.74	31.88	53	17.67	18.75	73	7.22	7.71	93	2.41	2.55
14	43.97	44.66	34	30.07	31.23	54	17.06	18.08	74	6.85	7.31	94	2.29	2.42
15	43.18	43.90	35	29.40	30.59	55	16.45	17.43	75	6.49	6.93	95	2.17	2.29
16	42.40	43.14	36	28.73	29.94	56	15.86	16.79	76	6.15	6.56	96	2.06	2.17
17	41.64	42.40	37	28.06	29.29	57	15.26	16.17	77	5.82	6.21	97	1.95	2.06
18	40.90	41.67	38	27.39	28.64	58	14.68	15.55	78	5.51	5.88	98	1.85	1.96
19	40.17	40.97	39	26.72	27.99	59	14.10	14.94	79	5.21	5.56	99	1.76	1.86
												100	1.68	1.76

The mean lifetime of males is 39.91 years, and of females, 41.85.

STATISTICS OF POPULATION.

A TABULAR STATEMENT OF THE

COMPARATIVE GROWTH OF THE UNITED STATES.

SHOWING THEIR RANK ACCORDING TO POPULATION AT EACH CENSUS FROM 1800 TO 1900.

States and Territories.	1800		1810		1820		1830		1840		1850		1860		1870		1880		1890		1900
Total		5,308,483		7,039,881		9,633,822		12,866,020		17,069,453		23,191,876		31,443,321		38,558,371		50,155,783		63,069,756	76,295,220
Alabama	..	.....	..	.....	19	127,901	15	309,527	12	590,756	12	771,623	13	964,201	16	996,992	17	1,262,505	17	1,513,017	1,828,697
Arizona	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	46	9,658	44	40,440	48	69,620	122,212
Arkansas	..	.....	..	.....	26	14,255	28	30,388	25	97,574	26	209,897	25	435,450	26	484,471	25	802,525	24	1.128,179	1,311,564
California	..	.....	..	.....	..	.....	..	.....	..	.....	29	92,597	26	379,994	24	560,247	24	864,694	22	1,208.130	1,485,053
Colorado	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	38	34,277	41	39,864	35	194,327	31	412,198	539.700
Connecticut	8	251,002	9	261,942	14	275,148	16	297,675	20	309,978	21	370,792	24	460,147	25	537,454	28	622,700	29	746,258	908,355
Delaware	17	64,273	19	72,647	22	72,749	24	76,748	26	78,085	30	91,532	32	112,216	35	125,015	38	146,608	42	168,493	184,735
Dist. of Columbia	19	14,093	22	24,023	25	33,039	25	39,834	28	43,712	33	51,687	35	75,080	34	131,700	36	177,624	39	230,392	278,718
Florida	..	.....	..	.....	..	.....	26	34,730	27	54,477	31	87,445	31	140,424	33	187,748	34	269,493	32	391,422	328,542
Georgia	12	162,680	11	252,433	11	340,985	10	516,823	9	691,392	9	906,185	11	1,057,286	12	1,184,109	13	1,542,180	12	1,837,353	2,216,329
Idaho	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	44	14,999	46	32,610	45	84,385	161,771
Illinois	..	.....	24	12,282	24	55,162	20	157,445	14	476,183	11	851,470	4	1,711,951	4	2,539,891	4	3,077,871	3	3,826,351	4,821,550
Indiana	21	5,641	21	24,520	18	147,178	13	343,031	10	685,866	7	988,416	6	1,350,428	6	1,680,637	6	1,978,301	8	2,192,404	2,516,463
Iowa	..	.....	..	.....	..	.....	..	.....	29	43,112	27	192,214	20	674,913	11	1,194,020	10	1,624,615	10	1,911,896	2,251.829
Kansas	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	33	107,206	29	264,399	20	996,096	19	1,427,096	1,469,496
Kentucky	9	220,955	7	406,511	6	564,135	6	687,917	6	779,828	8	982,405	9	1,155,684	8	1,321,011	8	1,648,690	11	1,758,635	2,147,174
Louisiana	..	.....	18	76,556	17	152,923	19	[illegible] 739	19	552,411	18	517,762	17	708,002	21	726,915	22	939,946	25	1,118,587	1,381,627
Maine	14	151,719	14	228,705	12	298.269	12	399,455	13	501,793	16	583,169	22	628,279	23	626,915	27	648,936	30	661,086	694,366
Maryland	7	341,548	8	380,546	10	407,350	11	447,040	15	470,019	17	583,034	19	687,049	20	780,894	23	934,943	27	1,042,390	1,189,946
Massachusetts	5	422,845	5	472,040	7	523,159	8	610,408	8	737,699	6	994,514	7	1,231,066	7	1,457,351	7	1,783,085	6	2,238,943	2,805,346
Michigan	..	.....	25	4,762	27	8,765	27	31,639	23	212,267	20	97,654	16	749,113	13	1,184,059	9	1,636,937	9	2,093,889	2,419,782
Minnesota	..	.....	..	.....	..	.....	..	.....	..	.....	36	6,077	30	172,023	28	439,706	26	780.773	20	1,301,821	1,751,395
Mississippi	20	8,850	20	40,352	21	75,448	22	136,621	17	375,651	15	606,526	14	791,305	18	827,922	18	1,131,597	21	1,289,660	1,551,372
Missouri	..	.....	23	20,845	23	66,557	21	140,455	16	383,702	13	682,044	8	1,182,012	5	1,721,295	5	2,168,380	5	2,579,184	3,107,117
Montana	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	43	20,595	45	39,159	44	132,159	243,289
Nebraska	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	39	28,841	36	122,993	30	452,402	26	1,058,910	1,068,901
Nevada	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	41	6,857	40	42,491	43	62,266	49	45,761	42,334
New Hampshire	11	183,858	16	214,460	15	244,022	18	269,328	22	284,574	22	317,976	27	326,073	31	318,300	31	346,991	33	376,530	411,558
New Jersey	10	211,149	12	245,562	13	277,426	14	320,823	18	373,306	19	489,555	21	672,035	17	906,096	19	1,131,116	18	1,444,933	1,883,669
New Mexico	..	.....	..	.....	..	.....	..	.....	..	.....	32	61,547	34	93,516	37	91,874	41	119,565	43	153,593	193,777
New York	3	589,051	2	959,049	1	1,372,111	1	1,918,608	1	2,428,921	1	3,097,394	1	3,880,735	1	4,382,759	1	5,082,871	1	5,997,853	7,268,009
North Carolina	4	478,103	4	555,500	4	638,829	5	737,987	7	753,419	10	869,039	12	992,622	14	1,071,361	15	1,399,750	16	1,617,947	1,891,992
North Dakota	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	42	2,419	45	7,091	40	68,084	41	182,719	319,040
Ohio	18	45,365	13	230,760	5	581,295	4	937,903	3	1,519,467	3	1,980,329	3	2,339,511	3	2,665,260	3	3,198,062	4	3,672,316	4,157,545
Oklahoma	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	46	61,834	398,245
Oregon	..	.....	..	.....	..	.....	..	.....	..	.....	34	13,294	36	52,465	38	90,923	37	174,768	38	313,717	413,532
Pennsylvania	2	602,365	3	810,091	3	1,047,507	2	1,348,233	2	1,724,033	2	2,311,786	2	2,906,215	2	3,521,951	2	4,282,891	2	5,258,014	6,301,365
Rhode Island	16	69,122	17	76,931	20	83,015	23	97,199	24	108,830	28	147,545	29	174,620	32	217,353	33	276,531	35	345,506	428,556
South Carolina	6	345,591	6	415,115	8	502,741	9	581,185	11	594,398	14	668,507	18	703,708	22	705,606	21	995,577	23	1,151,149	1,340,312
South Dakota	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	42	2,418	45	7,091	40	68,083	37	328,808	401,559
Tennessee	15	105,602	10	261,727	9	422,771	7	681,904	5	829,210	5	1,002,717	10	1,109,801	9	1,258,520	12	1,542,359	13	1,767,518	2,022,723
Texas	..	.....	..	.....	..	.....	..	.....	..	.....	25	212,592	23	604,215	19	818,579	11	1,591,749	7	2,235,523	3,048,828
Utah	..	.....	..	.....	..	.....	..	.....	..	.....	35	11,380	37	40.273	39	86,786	39	143,963	40	207,905	276,565
Vermont	13	154,465	15	217,895	16	235,966	17	280,652	21	291,948	23	314,120	28	315,098	30	330,551	32	33-,286	36	332,422	343,641
Virginia	1	880,200	1	974,600	2	1,065,116	3	1,211,405	4	1,239,797	4	1,421,661	5	1,596,318	10	1,225,163	14	1,512,565	15	1,645,990	1,854,184
Washington	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	40	11,594	42	23,955	42	75,116	34	349,390	517,672
West Virginia	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	..	....	27	442,014	29	618,457	28	762,794	958,900
Wisconsin	..	.....	..	.....	..	.....	..	.....	30	30,945	24	305,391	15	775,881	15	1,054,670	16	1,315,497	14	1,686,880	2,068,963
Wyoming	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	47	9,118	47	20,789	47	60,705	92,531

NOTE.—The figures in the first column under each year show the rank of the respective States and Territories according to population.

POPULATION OF THE INCORPORATED TOWNS, AND CITIES OF THE UNITED STATES OF 5,000 AND OVER;

Together with the Population of all the States and Territories According to the Twelfth (1900) Census.

For the Population of the United States, in 1900, by States and Territories. See page 582.

Alabama.

Anniston	9,695
Bessemer	6,358
Birmingham	38,415
Florence	6,478
Huntsville	8,068
Mobile	38,469
Montgomery	30,346
Selma	8,713
Tuscaloosa	5,094
Total for 1890	1,513,017
Total for 1900	1,828,697

Arizona.

Phœnix	5,544
Tucson	7,531
Total for 1890	59,620
Total for 1900	122,212

Arkansas.

Fort Smith	11,587
Helena	5,550
Hot Springs	9,973
Little Rock	38,307
Pine Bluff	11,496
Total for 1890	1,128,179
Total for 1900	1,311,564

California.

Alameda	16,464
Berkeley	13,214
Eureka	7,327
Fresno	12,470
Los Angeles	102,479
Oakland	66,960
Pasadena	9,117
Riverside	7,973
Sacramento	29,282
San Diego	17,700
San Francisco	342,782
Santa Barbara	6,587
Santa Rosa	6,673
San Jose	21,500
Stockton	17,506
Vallejo	7,965
Total for 1890	1,208,130
Total for 1900	1,485,053

Colorado.

Boulder City	6,150
Colorado Springs	21,085
Cripple Creek	10,147
Denver	133,859
Leadville	12,455
Pueblo	28,157
Trinidad	5,345
Total for 1890	412,198
Total for 1900	539,700

Connecticut.

Ansonia	12,681
Bridgeport	70,996
Bristol	6,268
Danbury	16,537
Derby	7,930
Greenwich	9,752
Hartford	79,850
Manchester	10,601
Meriden	24,296
Middletown	9,589
Naugatuck	10,541
New Britain	25,998
New Haven	108,027
New London	17,548
Norwalk	6,125
Norwich	17,251
Putnam	6,667
Rockville	7,287
South Norwalk	6,591
Stamford	15,997
Torrington	8,360
Vernon	8,483
Wallingford	6,737
Waterbury	45,859
West Haven	5,247
Willimantic	8,937
Winsted	6,804
Total for 1890	746,258
Total for 1900	908,355

Delaware.

Wilmington	76,508
Total for 1890	168,493
Total for 1900	184,735

District of Columbia.

The District	278,718
Washington City (including Georgetown)	218,196

Florida.

Jacksonville	28,429
Key West	17,114
Pensacola	17,747
Tampa	15,839
Total for 1890	391,422
Total for 1900	528,542

Georgia.

Americus	7,674
Athens	10,245
Atlanta	89,872
Augusta	39,441
Brunswick	9,081
Columbus	17,614
Griffin	6,857
Macon	23,272
Rome	7,291
Savannah	54,214
Thomasville	5,322
Valdosta	5,613
Waycross	5,919
Total for 1890	1,837,353
Total for 1900	2,216,331

Idaho.

Boise City	5,957
Total for 1890	84,385
Total for 1900	161,771

Illinois.

Alton	14,210
Aurora	24,147
Belleville	17,484
Belvidere	6,937
Bloomington	23,286
Blue Island	6,114
Cairo	12,566
Canton	6,564
Centralia	6,721
Champaign	9,098
Charleston	5,488
Chicago	1,698,575
Chicago Heights	5,100
Danville	16,354
Decatur	20,754
DeKalb	5,904
Dixon	7,917
East St. Louis	29,655
Elgin	22,433
Evanston	19,259
Freeport	13,258
Galena	5,005
Galesburg	18,607
Jacksonville	15,078
Joliet	29,353
Kankakee	13,595
LaSalle	10,446
Lincoln	8,962
Litchfield	5,918
Macomb	5,375
Mattoon	9,622
Moline	17,248
Mt. Vernon	5,216
Ottawa	10,588
Pana City	5,530
Paris City	6,105
Pekin City	8,420
Peoria	56,100
Quincy	36,252
Rockford	31,051
Rock Island	19,493
Springfield	34,159
Spring Valley	6,214
Sterling	6,309
Streator	14,079
Urbana	5,728
Waukegan	9,426
Total for 1890	3,826,351
Total for 1900	4,821,550

Indiana.

Anderson	20,178
Alexandria	7,221
Bedford	6,115
Bloomington	6,460
Brazil	7,786
Columbus	8,130
Connersville	6,836
Crawfordsville	6,649
Elkhart	15,184
Elwood	12,950
Evansville	59,007
Fort Wayne	45,115
Frankfort	7,100
Goshen	7,810
Greensburg	5,034
Hammond	12,376
Hartford	5,912
Huntington	9,491
Indianapolis	169,164
Jeffersonville	10,774
Kokomo	10,609
Lafayette	18,116
Laporte	7,113
Logansport	16,204
Madison	7,835
Marion	17,337
Michigan City	14,850
Mishawaka	5,560
Muncie	20,942
New Albany	20,628
Peru	8,463
Richmond	18,226
Seymour	6,445
Shelbyville	7,169
South Bend	35,999
Terre Haute	36,673
Valparaiso	6,280
Vincennes	10,249
Wabash	8,618
Washington	8,551
Total for 1890	2,192,404
Total for 1900	2,516,462

Indian Territory.

Ardmore	5,681
Total for 1890	180,182
Total for 1900	391,960

Iowa.

Atlantic	5,046
Boone City	8,880
Burlington	23,201
Cedar Falls	5,319
Cedar Rapids	25,656
Centerville	5,256
Clinton	22,698
Council Bluffs	25,802
Creston City	7,752
Davenport	35,254
Des Moines	62,139
Dubuque	36,297
Fort Dodge	12,162
Fort Madison	9,278
Iowa City	7,987
Keokuk	14,641
Marshalltown	11,544
Mason City	6,746
Muscatine	14,073
Oelwein	5,142
Oskaloosa	9,212
Ottumwa	18,197
Sioux City	33,111
Waterloo	12,580
Total for 1890	1,911,896
Total for 1900	2,231,853

Kansas.

Arkansas	6,140
Argonia	5,878
Atchison	15,722
Emporia	8,223
Fort Scott	10,322
Galena	10,155
Hutchinson	9,379
Iola City	5,791
Kansas City	51,418
Lawrence	10,862
Leavenworth	20,735
Newton	6,208
Ottawa	6,934
Pittsburg	10,112
Salina	6,074
Topeka	33,608
Wichita	24,671
Winfield	5,554
Total for 1890	1,427,096
Total for 1900	1,470,495

Kentucky.

Ashland	6,800
Bowling Green	8,226
Covington	42,938
Dayton	6,104
Frankfort	9,487
Henderson	10,272
Hopkinsville	7,280
Lexington	26,369
Louisville	204,731
Maysville	6,423
Newport	28,301
Owensborough	13,189
Paducah	19,446
Winchester	5,964
Total for 1890	1,858,635
Total for 1900	2,147,174

Louisiana.

Alexandria	5,648
Baton Rouge	11,269

Lake Charles	6,680
New Iberia	6,815
New Orleans	287,104
Shreveport	16,013
Total for 1890	1,118,587
Total for 1900	1,381,625

Maine.

Auburn	12,951
Augusta	11,683
Bangor	21,850
Bath	10,477
Biddeford	16,145
Calais	7,655
Eastport	5,311
Gardiner	5,501
Lewiston	23,761
Old Town	5,763
Portland	50,145
Rockland	8,150
Saco	6,122
South Portland	6,287
Waterville	9,477
Westbrook	7,283
Total for 1890	661,086
Total for 1900	694,466

Maryland.

Annapolis	8,402
Baltimore	508,957
Cambridge	5,747
Cumberland	17,128
Frederick	9,296
Frostburg	5,274
Hagerstown	13,591
Total for 1890	1,042,390
Total for 1900	1,190,050

Massachusetts.

Adams	11,134
Amesbury	9,473
Andover	6,813
Athol	7,061
Attleboro	11,335
Beverly	13,884
Boston	560,892
Braintree	5,981
Brockton	40,063
Brookline	19,935
Cambridge	91,886
Chelsea	34,072
Chicopee	19,167
Clinton	13,667
Concord	5,652
Danvers	8,542
Dedham	7,457
Easthampton	5,603
Everett	24,336
Fall River	104,863
Fitchburg	31,531
Framingham	11,302
Franklin	5,017
Gardner	10,813
Gloucester	26,121
Great Barrington	5,854
Greenfield	7,927
Haverhill	37,175
Hingham	5,059
Holyoke	45,712
Hudson	5,454
Hyde Park	13,244
Lawrence	62,559
Leominster	12,392
Lowell	94,969
Lynn	68,513
Malden	33,664
Marblehead	7,582
Marlborough	13,609
Medford	18,244
Melrose	12,962
Methuen	7,512
Middleboro	6,885
Milford	11,376
Milton	6,578
Montagu	6,150
Natick	9,488
New Bedford	62,442
Newburyport	14,478
Newton	33,587
North Adams	24,200
Northampton	18,643
North Attleboro	7,253
Northbridge	7,036
Norwood	5,480
Palmer	7,801
Peabody	11,523
Pittsfield	21,766
Plymouth	9,592
Quincy	23,899
Rockland	5,327
Salem	35,956
Saugus	5,084
Somerville	61,643
Southbridge	10,025
Spencer	7,627
Springfield	62,059
Stoneham	6,197
Stoughton	5,442
Taunton	31,036
Wakefield	9,290
Waltham	23,481
Ware Town	8,263
Watertown	9,706
Wellesley	5,072
Westboro	5,460
Westfield	12,310
West Springfield	7,105
Weymouth	11,324
Whitman	6,155
Williamstown	5,013
Winchester	7,248
Woburn	15,254
Worcester	118,421
Total for 1890	2,238,943
Total for 1900	2,805,346

Michigan.

Adrian	9,654
Alpena	11,802
Ann Arbor	14,509
Battle Creek	18,563
Bay City	27,628
Benton Harbor	6,562
Cadillac	5,997
Cheboygan	6,489
Coldwater	6,216
Detroit	285,704
Escanaba	9,549
Flint	13,103
Grand Rapids	87,565
Holland	7,790
Ionia	5,209
Iron Mountain	9,242
Ironwood	9,705
Ishpeming	13,255
Jackson	25,180
Kalamazoo	24,404
Lansing	16,485
Laurium	5,643
Ludington	7,166
Manistee	14,260
Marquette	10,058
Menominee	12,818
Monroe	5,043
Mt. Clemens	6,576
Muskegon	20,818
Negaunee	6,935
Owosso	8,696
Petoskey	5,285
Pontiac	9,769
Port Huron	19,158
Saginaw	42,345
Sault Ste. Marie	10,538
St. Joseph	5,155
Traverse	9,407
West Bay City	13,119
Wyandotte	5,183
Ypsilanti	7,378
Total for 1890	2,093,889
Total for 1900	2,420,982

Minnesota.

Austin	5,474
Brainerd	7,524
Crookston	5,359
Duluth	52,969
Faribault	7,868
Fergus Falls	6,072
Little Falls	5,774
Mankato	10,599
Minneapolis	202,718
New Ulm	5,403
Owatonna	5,561
Red Wing	7,525
Rochester	6,843
St. Cloud	8,663
Stillwater	12,318
St. Paul	163,065
Winona	19,714
Total for 1890	1,301,826
Total for 1900	1,751,394

Mississippi.

Biloxi	5,467
Jackson	7,816
Meridian	14,050
Natchez	12,210
Vicksburg	14,834
Total for 1890	1,289,600
Total for 1900	1,551,270

Missouri.

Aurora	6,191
Brookfield	5,484
Chillicothe	6,905
Clinton	5,061
Columbia	5,651
De Soto	5,611
Hannibal	12,780
Independence	6,974
Jefferson	9,664
Joplin	26,023
Kansas City	163,752
Kirksville	5,966
Louisiana	5,131
Marshall	5,086
Moberly	8,012
Nevada	7,461
Sedalia	15,231
Springfield	23,206
St. Joseph	102,979
St. Louis	575,238
Trenton	5,396
Webb City	9,201
Total for 1890	2,679,184
Total for 1900	3,106,665

Montana.

Anaconda	9,453
Butte City	30,470
Great Falls	14,930
Helena	10,770
Total for 1890	132,159
Total for 1900	243,329

Nebraska.

Beatrice	7,875
Fremont	7,241
Grand Island	7,554
Hastings	7,188
Kearney	5,634
Lincoln	40,169
Nebraska City	7,380
Omaha	102,555
South Omaha	26,001
Total for 1890	1,058,910
Total for 1900	1,068,539

Nevada.

Reno	5,076
Total for 1890	45,761
Total for 1900	42,335

New Hampshire.

Berlin	8,886
Concord	19,632
Dover	13,207
Franklin	5,846
Keene	9,165
Laconia	8,042
Manchester	56,987
Nashua	23,898
Portsmouth	10,637
Rochester	8,466
Somersworth	7,023
Total for 1890	376,530
Total for 1900	411,588

New Jersey.

Atlantic City	27,838
Bayonne	32,722
Bloomfield	9,668
Bridgeton	13,913
Burlington	7,392
Camden	75,935
Dover	5,938
East Orange	21,506
Elizabeth	52,130
Englewood	6,253
Harrison	10,596
Hoboken	59,364
Jersey City	206,433
Kearney	10,896
Long Branch	8,872
Millville	10,583
Morristown	11,267
Newark	246,070
New Brunswick	20,006
Orange	24,141
Passaic	27,777
Paterson	105,171
Perth Amboy	17,699
Phillipsburg	10,052
Plainfield	15,369
Rahway	7,935
Red Bank	5,428
Salem	5,811
South Amboy	6,349
Trenton	73,307
Uniontown	15,187
West Hoboken	23,094
West New York	5,267
West Orange	6,889
Total for 1890	1,444,933
Total for 1900	1,883,669

New York.

Albany	94,151
Amsterdam	20,929
Auburn	30,345
Batavia	9,180
Binghamton	39,647
Brookhaven	14,592
Brooklyn	1,166,582
Buffalo	352,387
Catskill	5,484
Cohoes	23,910
Corning	11,061
Cortland	9,014
Dunkirk	11,616
Elmira	35,672
Fulton	5,281
Geneva	10,433
Glens Falls	12,613
Gloversville	18,349
Haverstraw	5,935
Herkimer	5,555
Hoosick Falls	5,671
Hornellsville	11,918
Hudson	9,528
Huntingon	9,483
Ilion	5,138
Islip	12,545
Ithaca	13,136
Jamestown	22,892
Johnstown	10,130
Kingston	24,535
Lansingburg	12,595
Little Falls	10,381
Lockport	16,581
Malone	5,935
Middletown	14,522
Mt. Vernon	20,346
Newburg	24,943
New Rochelle	14,720
New York (Greater)	3,437,202
Niagara Falls	19,457
North Hempstead	12,048
North Tonawanda	9,069
Norwich	5,766
Ogdensburg	12,633
Olean City	9,462
Oneida	6,364
Oneonta	7,147
Oswego	22,199
Owego	5,039
Oyster Bay	16,334
Peekskill	10,358
Plattsburg	8,434
Port Chester	7,440
Port Jervis	9,385
Potsdam	9,054
Poughkeepsie (city)	24,029
Poughkeepsie (town)	6,820
Rensselaer	7,466
Rochester	162,608
Rome	15,343
Saratoga Springs	12,409
Saugerties	9,754
Schenectady	31,682
Seneca Falls	6,519
Sing Sing (now Ossining)	7,939
Southhampton	10,371
Syracuse	108,374
Tonawanda	7,421
Troy	60,651
Utica	56,383
Watertown	21,696
Watervliet	14,321
White Plains	7,899

Yonkers.....47,931
Total for 1890.....5,997,853
Total for 1900.....7,268,012

New Mexico.

Albuquerque.....6,238
Santa Fe.....5,603
Total for 1890.....153,593
Total for 1900.....195,310

North Carolina.

Asheville.....14,694
Charlotte.....18,091
Concord.....7,910
Durham.....6,679
Elizabeth City.....6,348
Goldsboro.....5,877
Greensboro.....10,035
Newbern.....9,090
Raleigh.....13,643
Salisbury.....6,277
Wilmington.....20,976
Winston.....10,008
Total for 1890.....1,617,947
Total for 1900.....1,893,810

Ohio.

Akron.....42,728
Allianee.....8,974
Ashtabula.....12,949
Bellaire.....9,912
Bellefontaine.....6,649
Bucyrus.....6,560
Cambridge.....8,241
Canton.....30,667
Chillicothe.....12,976
Cincinnati.....325,902
Circleville.....6,991
Cleveland.....381,768
Columbus.....125,560
Conneaut.....7,133
Coshocton.....6,473
Dayton.....85,333
Defiance.....7,579
Delaware.....7,940
East Liverpool.....16,485
Elyria.....8,791
Findlay.....17,613
Fostoria.....7,730
Fremont.....8,439
Galion.....7,282
Gallipolis.....5,432
Glenville.....5,588
Greenville.....5,501
Hamilton.....23,914
Ironton.....11,868
Kenton.....6,852
Lancaster.....8,991
Lima.....21,723
Lorain.....16,028
Mansfield.....17,640
Marietta.....13,348
Marion.....11,862
Martin's Ferry.....7,760
Massillon.....11,044
Middletown.....9,251
Mt. Vernon.....6,633
Nelsonville.....5,421
Newark.....18,157
Newburg.....5,909
New Philadelphia.....6,213
Niles.....7,468
Norwalk.....7,074
Norwood.....6,480
Painesville.....5,024
Piqua.....12,172
Portsmouth.....17,870
Salem.....7,582
Sandusky.....19,664
Sidney.....5,688
Springfield.....38,253
Steubenville.....14,349
Tiffin.....10,989
Toledo.....131,822
Troy.....5,881
Urbana.....6,808
Van Wert.....6,422
Warren.....8,529
Washington Court Ho.....5,751
Wellston.....8,045
Wellsville.....6,146
Wooster.....6,063
Xenia.....8,696
Youngstown.....44,885
Zanesville.....23,338
Total for 1890.....3,672,316
Total for 1900.....4,157,545

Oklahoma.

Guthrie.....10,006
Oklahoma City.....10,037
Total for 1890.....61,834
Total for 1900.....398,331

Oregon.

Astoria.....8,381
Baker City.....6,663
Portland.....90,426
Total for 1890.....313,767
Total for 1900.....413,536

Pennsylvania.

Allegheny City.....129,896
Allentown.....35,416
Altoona.....38,973
Archbald.....5,396
Ashland.....6,438
Beaver Falls.....10,054
Bloomsburg.....6,170
Braddock.....15,654
Bradford.....15,029
Butler.....10,853
Carbondale.....13,536
Carlisle.....9,626
Chambersburg.....8,864
Cherrytree.....5,930
Chester.....33,988
Coatesville.....5,721
Columbia.....12,316
Conshohocken.....5,762
Danville.....8,042
Dubois.....9,375
Dunmore.....12,583
Duquesne.....9,036
Easton.....25,238
Edwardsville.....5,165
Erie.....52,733
Etna.....5,384
Frankland.....7,317
Freeland.....5,254
Greensburg.....6,508
Hanover.....5,302
Harrisburg.....50,167
Hazelton.....14,230
Homestead.....12,554
Huntingdon.....6,053
Jeannette.....5,865
Johnstown.....35,936
Kane.....5,296
Lancaster.....41,459
Lebanon.....17,628
Lock Haven.....7,210
McKeesport.....34,227
McKees Rocks.....6,352
Mahanoy City.....13,504
Meadville.....10,291
Middletown.....5,608
Millvale.....6,736
Milton.....6,175
Monongahela.....5,173
Mt. Carmel.....13,179
Nanticoke.....12,116
New Brighton.....6,820
Newcastle.....28,339
Norristown.....22,265
North Braddock.....6,535
Oil City.....13,264
Old Forge.....5,630
Olyphant.....6,180
Philadelphia.....1,293,697
Phœnixville.....9,196
Plymouth.....13,649
Pittsburg.....321,616
Pittston.....12,556
Pottstown.....13,596
Pottsville.....15,710
Reading.....78,961
Sayre.....5,243
Scranton.....102,026
Shamokin.....18,202
Sharon.....8,916
Sharpsburg.....6,842
Shenandoah.....20,321
South Bethlehem.....13,241
Steelton.....12,086
Sunbury.....9,810
Tamaqua.....7,267
Tarentum.....5,472
Titusville.....8,244
Tyrone.....5,847
Uniontown.....7,344
Warren.....8,043
Washington.....7,670
Waynesboro.....5,396
West Chester.....9,524
West Pittston.....5,846
Wilkesbarre.....51,721
Williamsport.....28,757
Wilkinsburg.....11,886
York.....33,708
Total for 1890.....5,258,014
Total for 1900.....6,302,115

Rhode Island.

Bristol.....6,901
Central Falls.....18,167
Coventry.....5,279
Cranston.....13,343
Cumberland.....8,925
East Providence.....12,138
Lincoln.....8,937
Newport.....22,084
Pawtucket.....39,231
Providence.....175,597
Warren.....5,108
Warwick.....21,316
Westerly.....7,541
Woonsocket.....28,204
Total for 1890.....345,506
Total for 1900.....428,556

South Carolina.

Anderson.....5,498
Charleston.....55,807
Columbia.....21,108
Greenville.....11,860
Rock Hill.....5,485
Spartanburg.....11,395
Sumter.....5,673
Uniontown.....5,400
Total for 1890.....1,151,149
Total for 1900.....1,340,316

North Dakota.

Fargo.....9,589
Grand Forks.....7,652
Total for 1890.....182,719
Total for 1900.....319,146

South Dakota.

Lead City.....6,210
Sioux Falls.....10,266
Total for 1890.....328,808
Total for 1900.....401,570

Tennessee.

Bristol.....5,271
Chattanooga.....30,154
Clarksville.....9,431
Jackson.....14,511
Knoxville.....32,637
Memphis.....102,320
Nashville.....80,865
Total for 1890.....1,767,518
Total for 1900.....2,020,616

Texas.

Austin.....22,258
Beaumont.....9,427
Bonham.....5,042
Brenham.....5,968
Brownsville.....6,305
Cleburne.....7,493
Corsicana.....9,313
Dallas.....42,638
Denison.....11,807
El Paso.....15,906
Fort Worth.....26,688
Galveston.....37,789
Greenville.....6,860
Hillsboro.....5,346
Houston.....44,633
Laredo.....13,429
Marshall.....7,855
Palestine.....8,297
Paris.....9,358
San Antonio.....53,321
Sherman.....10,243
Temple.....7,065
Terrell.....6,330
Texarkana.....5,256
Tyler.....8,069
Waco.....20,686
Total for 1890.....2,235,523
Total for 1900.....3,048,710

Utah.

Logan.....5,451
Provo.....6,185
Salt Lake City.....53,531
Total for 1890.....207,905
Total for 1900.....276,749

Vermont.

Barre City.....8,448
Bennington.....5,656
Brattleboro'.....5,297
Burlington.....18,640
Montpelier.....6,266
Rutland.....11,499
St. Albans.....6,239
St. Johnsbury.....5,666
Total for 1890.....332,422
Total for 1900.....343,641

Virginia.

Alexandria.....14,528
Charlottesville.....6,449
Danville.....16,520
Fredricksburg.....5,068
Lynchburg.....18,891
Manchester.....9,715
Newport News.....19,635
Norfolk.....46,624
Petersburg.....21,810
Portsmouth.....17,427
Richmond.....85,050
Roanoke.....21,495
Staunton.....7,289
Winchester.....5,161
Total for 1890.....1,655,980
Total for 1900.....1,854,184

Washington.

Everett City.....7,838
New Whatcomb.....6,834
Seattle.....80,671
Spokane Falls.....36,848
Tacoma.....37,714
Walla Walla.....10,049
Total for 1890.....349,390
Total for 1900.....517,672

West Virginia.

Charleston.....11,099
Fairmont.....5,655
Grafton.....5,650
Huntington.....11,923
Martinsburg.....7,564
Moundsville.....5,362
Parkersburg.....11,703
Wheeling.....38,878
Total for 1890.....762,794
Total for 1900.....958,800

Wisconsin.

Appleton.....15,085
Ashland.....13,074
Baraboo.....5,751
Beloit.....10,436
Chippewa Falls.....8,094
Eau Claire.....17,517
Fond du Lac.....15,110
Green Bay.....18,684
Janesville.....13,185
Kaukauna.....5,115
Kenosha.....11,606
La Crosse.....28,895
Madison.....19,164
Manitowoc.....11,786
Marinette.....16,195
Marshfield.....5,240
Menasha.....5,589
Menominee.....5,655
Merrill.....8,537
Milwaukee.....285,315
Neenah.....5,954
Oconto.....5,646
Oshkosh.....28,284
Portage.....5,459
Racine.....29,102
Sheboygan.....22,962
Stevens Point.....9,524
Superior.....31,091
Watertown.....8,437
Waukesha.....7,419
Wausau.....12,354
Total for 1890.....1,686,880
Total for 1900.....2,069,042

Wyoming.

Cheyenne.....14,087
Laramie.....8,207
Total for 1890.....60,705
Total for 1900.....92,531

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